PETER M. FISCHER AND TERESA BÜRGE (eds.)

“Sea Peoples” Up-to-Date

New Research on Transformations in the Eastern Mediterranean in the 13th–11th Centuries BCE

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ÖSTERREICHISCHEN
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Proceedings of the ESF-Workshop
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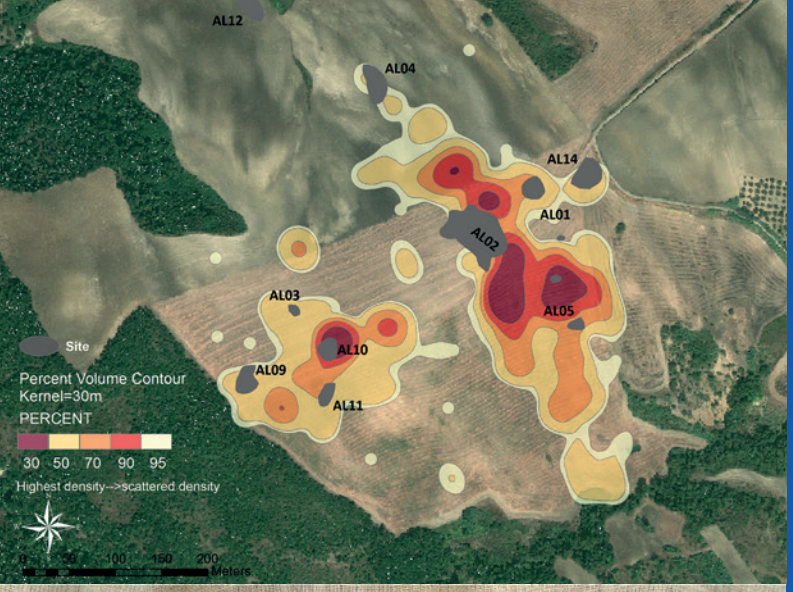
General Abbreviations

BCE	Before Common Era
BP	Before Present
CE	Common Era
EB	Early Bronze Age
IA	Iron Age
LB	Late Bronze Age
LC	Late Cypriot Period
LH	Late Helladic Period
LM	Late Minoan Period
MB	Middle Bronze Age
MC	Middle Cypriot Period
c.	circa
vs.	versus

Bibliographical Abbreviations

AASOR	*Annual of the American Schools of Oriental Research*
ADAJ	*Annual of the Department of Antiquities of Jordan*
Aegaeum	*Aegaeum: Annales d'archéologie égéenne de l'Université de Liège*
AJA	*American Journal of Archaeology*
ʿAtiqot	*ʿAtiqot: Journal of the Israel Department of Antiquities*
BAAL	*Bulletin d'Archéologie et d'Architecture Libanaises*
BAR-IS	*British Archaeological Reports, International Series*
BASOR	*Bulletin of the American Schools of Oriental Research*
Berytus	*Berytus: Archaeological Studies*
BiblArch	see *NEA*
BSA	*The Annual of the British School at Athens*
DaM	*Damaszener Mitteilungen*
E&L	*Egypt and the Levant*
IEJ	*Israel Exploration Journal*
IstMitt	*Istanbuler Mitteilungen*
JAS	*Journal of Archaeological Science*
Levant	*Levant: Journal of the British School of Archaeology in Jerusalem and the British Institute at Amman for Archaeology and History*
NEA	*Near Eastern Archaeology* (formerly *BiblArch*)
OJA	*Oxford Journal of Archaeology*
OpAthRom	*Opuscula: Annual of the Swedish Institutes at Athens and Rome*
OREA	*Oriental and European Archaeology*
PEQ	*Palestine Exploration Quarterly*
RDAC	*Report of the Department of Antiquities, Cyprus*
SIMA	*Studies in Mediterranean Archaeology*
SIMA-PB	*Studies in Mediterranean Archaeology, Pocket-Books*
SMEA	*Studi micenei ed egeo-anatolici*
Syria	*Syria. Revue d'art oriental et d'archéologie*
ZDPV	*Zeitschrift des deutschen Palästina-Vereins*



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This volume is the outcome of an international workshop held at the Austrian Academy of Sciences in Vienna in November 2014. Since the first use of the term 'Sea Peoples' (*People's de la Mer*) 1867 by French Egyptologist Emmanuel de Rougé,[1] the topic has not lost its popularity, with plenty of attention in recent years, including now published workshops at Louvain-la-Neuve[2] (in 2014) and Warsaw[3] (in 2016). The present volume wanted to go beyond the information provided by the texts and aimed at presenting new archaeological data and their analysis, covering a wider geographical region and implying a more holistic approach than ever before. As the subtitle indicates, the specific aim of the volume is to study the various political, economic, social and cultural transformations in the Eastern Mediterranean from the 13th to 11th centuries BC[4] that can be connected to the Sea Peoples phenomenon.

At the outset, the editors Peter M. Fischer and Teresa Bürge are to be commended for finding such a large panel of experts with such a wide interest and expertise, thus highlighting the strong multi- and inter-disciplinary nature of the workshop and the publication. The twenty-one contributions have been organised into five thematic sections

[1] Rougé (de) 1867:36.
[2] Driessen 2018.
[3] Niesiołowski-Spanò and Węcowski 2018.
[4] i.e. Late Bronze Age / Early Iron Age transition. In the following pages, abbreviated as Late Bronze Age = LBA / Early Iron Age = EIA.

(Overviews: From Italy to the Levant; Climate and Radiocarbon; Theoretical Approaches on Destruction, Migration and Transformation Culture; Case Studies: Cyprus, Cilicia and the Levant; Material Studies). The volume opens with two welcome introductions that aptly set the scene. The first is by Reinhard Jung (pp. 23-42) who, in a masterly fashion, provides an overview that is useful for both the expert and the novice. Starting with a history of research of the Sea Peoples phenomenon, he also discusses the geographical problems of their ethnonyms, accepting only that of the *Lukka*=Lycia as certain and two others (*Aqajawaša*=somewhere in the Aegean world?; *Denyen*=Mycenaean Greece or Cilicia?) as possible. He next turns to various classes of material remains that in his view allow a connection with migrating peoples, including various Aegean types of pottery – especially kitchen vessels (cooking jugs and amphora), handmade and burnished pottery of Italian type – as well as offensive weapons.[5] This also involves the 'double-headed bird boat' which Jung, in contrast to earlier studies that attributed an Aegean connection,[6] links with Italy. The question is, however, how far we can interpret such evidence before falling into the 'pots equal people' trap. An example: while it can be assumed that peoples of foreign origin probably preserved some of their consumption habits in their new habitats, to connect the consumption of pork by Philistine communities, rarely attested before in Canaanite settlements, as a practice initially introduced by settlers from Cyprus and the Aegean,[7] although attractive, lacks definite proof of causality. The second part of his paper summarizes the state of research on the Sea Peoples phenomenon in various Mediterranean regions. He highlights a lack of knowledge in some areas. For example, there is very little archaeological evidence for Lycia, the probable 'land of the *Lukka*', and most information comes from cuneiform and hieroglyphic sources.[8] It is in this regard, that the ongoing *Çaltılar Archaeological Project* is promising since the hill had been occupied over a long period spanning the Bronze Age – Iron Age[9] and is located inland from the coast where the Kumluca,[10] Uluburun and Cape Gelidonya wrecks were found. A second introduction, by Malcolm H. Wiener (pp. 43-74) carefully reviews the evidence for potential causes of collapse at the end of the Bronze Age, usually including climate change, drought, famine, earthquakes and epidemics. While showing great expertise in textual and archaeological sources, he also seems to disagree with Jung in certain details. Hence, Wiener seems to accept the *Shardana*=Sardinians, underlining the interactions between the island and the Italian peninsula on the one hand, and the Aegean-Cypriot area on the other. He also follows Molloy in arguing that 'mercenaries were among the new arrivals in Greece in the late LHIIIB and LHIIIC' (p. 55), given the new military assemblages and cooking wares. Wiener also uses textual data (Linear B) and material remains to suggest that preparations (construction of defensive walls, weapons production, etc.) were being made to protect against enemy attacks. The detailed overview describing traces of destruction and abandonment which span the 14th to the 12th century BC would have benefitted from a site map, however. He also presents a very useful summary of the evidence of re-occupation during LH IIIC in each of the Aegean regions after the collapse and convincingly points at the central role Cyprus played in this process, as a 'node of exchange networks and movement of settlers' (p. 60). Finally, Wiener lists all the arguments in favour of a predominant position of Mycenae in the LBA Aegean as the capital of an empire,[11] a position also defended by Kelder, Eder and Jung,[12] but each for different reasons. Wiener's paper can be regarded in connection with that by Helene Whittaker (pp. 75-84) who also concentrates on the Greek mainland, arguing for a chaotic situation in the aftermath of the collapse for each palace individually and seeing the breakdown 'in terms of discrete and unconnected episodes of destruction in different parts of the Greek mainland rather than of a sudden unitary catastrophe' (p. 75). Here too an interpretative map distinguishing the localised events would have been welcome. Whittaker advances the hypothesis that the Sea Peoples, although responsible for the destructions, did not settle on the Greek mainland, hence coming close to hypotheses already expressed by Yasur-Landau.[13] To some extent, however, her review would have been more optimally placed in the 'Case Studies' section of the volume.

The second section, 'Climate and radiocarbon', comprises two papers by authors who did not actually participate in the workshop. David Kaniewski and Elise Van Campo (pp. 85-94) discuss both marine and terrestrial data from the Mediterranean and Levant that hint at a period of decreasing humidity during the LBA and EIA, generally referred to as the 3200

[5] See also Mehofer and Jung this volume.
[6] Like M. Weede and others who believe that they were Helladic ships. See, recently, Emanuel 2014.
[7] See also Faust 2018.
[8] Gander 2010.
[9] Cf. Hodos 2015.
[10] Cf. Öniz 2019.
[11] *Contra*: e.g. Zurbach 2019: 143-146 who argues a more nuanced position.
[12] Kelder 2010; Eder and Jung 2015.
[13] Yasur-Landau 2010.

calBP event. Again the absence of an explanatory map can be deplored. A main conclusion is that 'there are no detailed paleoclimate records from Greece showing unambiguous climate information during the crisis years' (p. 90). Sturt W. Manning, Catherine Kearns and Brita Lorentzen's paper (pp. 95-112) discusses how a plateau in the calibration curve explains why the radiocarbon resolution around 1200 BC remains poor. Nevertheless, Bayesian chronological modelling (with a well-defined sequence of radiocarbon dates that can be placed in the calibration curve), does provide a time frame with dates ranging from *c.* 1220 to 1110 BC. Manning *et al.* tend to agree with the conventional absolute chronology, where Late Cypriot IIC starts in the late 14th century BC, ending early in the 12th century when some major coastal sites were abandoned. What is clear from these papers is that the Sea Peoples phenomenon was a long term process stretching over almost a century rather than a short-time event.

The third section ('Theoretical approaches to Destruction, Migration and Transformation of Culture') starts off with a paper by Jesse Michael Millek (pp. 113-140) on the LBA/EIA transition in the Southern Levant. First, the author reviews some hypotheses on the possible causes of such destruction and associated phenomena (earthquakes, crisis architecture and termination rituals, natural and accidental fires) before dwelling on intentional human destruction in the framework of warfare. His approach may be compared with that by Igor Kreimerman[14] but they arrive at different conclusions. In particular, Millek argues that there is no direct archaeological evidence to assume that 16 Canaanite sites allegedly destroyed by the 'Sea Peoples' were indeed so. He stresses a continuity of local ceramic traditions with potentially some 'peaceful intrusion' of '*Philistine*' or 'Sea Peoples' material culture (such as LHIIIC:1b or Philistine Bichrome pottery) into a 'Canaanite' site during the EIA. Against the flow of recent overviews on the end of LBA in the Southern Levant, his minimalist stance should be highlighted. At the end of his paper, he also deliberates on: 'how to describe' and 'how to interpret' a destruction layer, a substantial crucial point for a field archaeologist. In a broader way, and taking into account some fifty sites in the Southern Levant, such a question is also discussed in his recently published PhD dissertation.[15] His paper should be considered with the two following ones. Assaf Yasur-Landau (pp. 141-148) plots some of the theoretical concepts of intercultural contact (*hybridization*, *creolization* and *entanglement*) that have been applied to the study of Philistines. However, a recontextualization of these concepts – created for different spaces and times (such as the 'middle ground' between Indians and European colonizers in the Great Lakes region)[16] – would allow for a better understanding of the significance of these denominations.[17] As Yasur-Landau points out, the use of the concept of *connectivity*[18] may present a useful avenue of research for the coming years. Likewise, the excavators of Tell es-Safi/Gath, Aren M. Maeir and Louise A. Hitchcock (pp. 149-162), reflect on the complex processes that led to the development of Philistine culture and its gradual entanglement with the other material cultures of the region (Israelite/Judahite and Canaanite). The question of the ethnicity of these different communities cohabiting in the Southern Levant is particularly discussed, beyond the simplistic stance of compartmentalizing cultural identities. In the final chapter of this section, Lorenz Rahmstorf (pp. 163-173) compares the migration processes of the Sea Peoples with that of Anglo-Saxons immigrating from north-western Germany and Denmark to England in the 5th and 6th centuries AD. By taking into account archaeological data, written sources and a variety of scientific analyses (strontium isotope and DNA studies),[19] his study clearly confirms the usefulness of comparative research that focuses on common phenomena and problems of migration processes.

The core of the volume consists of a series of Eastern Mediterranean case studies. Hence, Peter M. Fischer (pp. 177-206) focuses on the new evidence from seven seasons of excavations (2010– 2016) at Hala Sultan Tekke,[20] on Stratum 2, dated to *c.* 1200 BC (transition LC II/IIIA), and Stratum 1, dated to *c.* 1150 BC (transition LC IIIA1/2), including domestic and industrial structures. He underlines the presence of numerous clay sling bullets found in the destruction layer (Stratum 2) of several districts of the 'port city', which probably suggests a phase of warfare before the abandonment of the settlement. According to Fischer, the remainder of the population either joined the Sea Peoples who attacked Egypt or migrated to the Southern Levant to settle there. A useful review of phases of destruction, rebuilding and abandonment of various sites on the island is furthermore given but again a map is absent. Artemis Georgiou (pp. 207-227) also deals with Cyprus, but her approach is quite

[14] Kreimerman 2017.
[15] Millek 2019.
[16] Cf. White 1991.
[17] E.g. Bats 2017.
[18] Since the fundamental work of Horden and Purcell 2000.
[19] For Philistia, see recently Feldman *et al.* 2019.
[20] See the recent work of Fischer 2019.

different and usefully illustrated by photographs and maps. Focusing on the Paphos region,[21] she contrasts the unprecedented flourishing of Palaepaphos during the 12th century BC with the breakdown of other well-established urban centres on Cyprus such as Alassa, Kalavasos and Maroni. The construction of the 'island's first truly monumental structure' (Sanctuary I) at Palaepaphos is emphasized as is the appearance of individual shaft graves, interpreted as the burials of migrants. During this troubled period, two short-lived settlements (Maa-Palaeokastro and Pyla-Kokkinokremos) are founded. The former is considered as the new commercial harbour of the Paphos polity. The following papers discuss Anatolia and the Levant. Hence, Gunnar Lehmann (pp. 229-255) defines the latest LBA phase in the 12th century BC as (Cilician) Late Bronze Age III, the period following the collapse of the Hittite empire. Focusing on the recent excavations at Kinet Höyük, Lehmann argues for a slow decline of the local LBA culture intimately connected with an increased Cypriot and Aegean influence. Rather than an incursion by the Sea Peoples, the final destruction of the site is blamed either on an earthquake or a violent attack. J.D. Hawkins's reading of a recently discovered inscription in the temple of the Storm God in Aleppo (Syria) is discussed by Diederik J.W. Meijer (pp. 257-262), concentrating on two rulers, both named Taita, with the ethnicons *Palistin* and *Walistin*.[22] Concerning the question of the potential connection between the northern polity of 'Palistin' and the Philistines of the southern Levant, Meijer stresses the difficulty of recognizing 'what is Philistine', developing his point on ethnicity and material culture.[23] After considering the textual and material evidence, he concludes that Philistine presence in the Amuq region is 'archaeologically invisible' (p. 261). The claim, by the author, that the Peleset were already known from the records of Ramesses II and Merneptah (p. 258) is erroneous since it is only during the reign of Ramesses III that they were mentioned, as well as in the *Onomasticon of Amenope*.[24] Meijer's paper has in the meantime been superseded by more recent discussions.[25] Francisco J. Nuñez (pp. 263-283), co-director of the excavations at Tyre, provides a critical analysis of available data on the Northern and Central Levant. His critical approach is particularly instructive, highlighting the importance currently given to stratigraphic facts and the presence of foreign elements in local material culture. Perhaps he insists a little too much on the homogeneity of Levantine material culture during the LBA (p. 266), in contrast to its diversity in the Iron Age.[26] Moreover, when he quotes some written sources, it would also have been opportune to cite editions of hieroglyphic texts directly[27] instead of citations without references. Nuñez argues that the newcomers (if they belonged to the Sea Peoples) did not cause all the destructions identified in the Levant[28] and stresses the absence of destructions in the central region. This, together with the strong continuity in material culture during the LBA/EIA transition, are used to argue that the North Canaanite/Phoenician cities of the central Levant remained untouched, allowing Phoenician cities to consolidate their positions, once freed from Egyptian hegemony. In a joint paper, Ayelet Gilboa and Ilan Sharon (pp. 285-298) argue that the Canaanite Carmel Coast region in Northern Israel should be considered as forming part of the 'Phoenician' cultural sphere, which is usually limited to the Southern Lebanon in the EIA. Using both cultural-stylistic and petrographic data from ceramic evidence, the excavators of Tel Dor highlight the place this port town occupied in inter-regional exchanges with Cyprus and Egypt after the LBA collapse and its function as a hub during the EIA. By reassessing the *Report of Wenamun*, which refers to Dor's inhabitants as *Tjeker/Skl*, the authors argue that this is a geographical term referring to the Carmel coast region (as a coterminous of EIA 'Phoenicians') However, the Wenamun account should be used cautiously: it's more a work of literature than an historical document.[29] They also argue that 'the confluence of evidence (transformation from commercial town to administrative centre, the virtual end of overseas contacts and the 'Israelisation' of the ceramic repertoire)' around the mid-9th century BC 'is best explained by a takeover of the Carmel and Sharon regions by the Northern Israelite Kingdom' (p. 293). This would also explain, for the cities of the southern Lebanon, the rise of a 'Phoenician thalassocracy'. Teresa Bürge (pp. 299-327) highlights the high degree of continuity from the Late Bronze to Iron Age at Tell Abu el-Kharaz in the Central Jordan Valley, despite an occupational lacuna between 1300 and 1100 BC. Her study focuses on a large storage compound constructed against the city wall that dates to phase IX (*c.* 1100 BC) and consists of 21 rooms.[30] Her ceramic analysis shows the coexistence

[21] Georgiou 2012.
[22] *Contra* Adams and Cohen 2013:662, n. 19.
[23] See also Maeir and Hitchcock this volume.
[24] Adams and Cohen 2013:662-664.
[25] He neglects the majority of recent literature on the topic. Also, see Janeway 2017 focusing on Tell Tayinat.
[26] Steiner and Killebrew 2014:497-594.
[27] E.g. for the *Papyrus Harris I*, see Grandet 1994.
[28] For a similar approach concerning the southern Levant, see Millek this volume.
[29] Cf. the cautionary position of Adams and Cohen 2013:661, n. 16.
[30] These are the first results of her unpublished PhD dissertation

of both local traditions and innovations that appear to have an Aegean and Cypriote connection. Some of the radical changes in cooking and dietary habits as well as in the use of foreign-type loom-weights are interpreted as suggestive of a limited migration of Eastern Mediterranean individuals (perhaps the offspring of original Sea Peoples or Philistines) to the Jezreel Valley. The section finishes with an attempt to propose a new historical reconstruction for the area north of Ekron during the LBA/EIA transition by Wolfgang Zwickel (pp. 329-352). Despite some factual errors (as the reference to *Papyrus Harris 500* [BM 10600] on p. 333 instead of *Papyrus Harris I* [BM 9999]),[31] bibliographical omissions (such as E. Morris' study)[32] and outdated information on Tell Keilah[33] (referred to as 'Kegila', a site under excavation since 2014),[34] there are some interesting suggestions. The destruction of the Egyptian fortress and administrative centre at Jaffa *c.* 1150 BC put an end to the Egyptian hegemony over the southern Levant and provided the opportunity, Zwickel argues, for the Sea Peoples to construct the Pentapolis of the Philistine confederacy in the coastal region. Gezer, Kegila and Beth-Shemesh, located in the Western Highlands, remained independent Canaanite city-states until at least the late 11th century BC before joining the Judahite kingdom. His reconstruction of the historical developments is heavily dependent on Biblical sources (stressed explicitly on p. 343) and should be handled with the necessary caution. Finally, Zwickel argues that the coastal region between Ekron and Tell Qasile was occupied by a Sea Peoples group, between the Philistine Pentapolis (in the south) and the Tjekker at Dor (in the north). Following the written (Biblical) tradition, he argues that this group founded new cities. Reviving the hypothesis of a linguistic parallel between the Sea Peoples' group of the *Dananu/Denyen* and the biblical Danites, he adds some fresh support to the old theory which maintained a Cilician origin for this group.[35]

The last section, 'Material Studies', offers a series of fresh analyses on pottery, metal and other objects, either imported or locally-produced during this period. Hence, with her well known expertise, Penelope A. Mountjoy (pp. 355-378) offers her view about the Sea People phenomenon from a ceramic perspective. A number of motifs (like the quirks, loops, tassels) on Philistine pottery from Ekron, Ashkelon and Ashdod[36] is said to derive from Cyprus and in particular from Enkomi. Other motifs, as the double-stemmed spirals, however, have an East Aegean/West Anatolian origin, while a mainland Greek origin is attributed to the antithetic spiral. A special Cretan connection is highlighted by several motifs such as the floating semi-circles, thread chevrons, birds with almond body, etc. Some shapes too like the basin ('kalathos'), the tray and the shallow angular bowl that are found in Philistine sites are said to derive from respectively Anatolia, the Aegean or Cyprus. All this evidence combined makes her suggest an East Aegean/West Anatolian origin of at least some of the migrating groups. NAA analysis, moreover, showed a clear connection between some of the Cypriot harbours as that at Kition – Hala Sultan Tekke and the Levant, suggestive either for trade or for population movements. Philipp W. Stockhammer (pp. 379-388) focuses on shallow open bowls and Simple Style stirrup jars to argue that different actors used Aegean-pottery shapes for diverse practices during the late 13th and early 12th century BC in the Southern Levant. The Philistine feasting dishes of Aegean type should be understood as the product of transcultural entanglement, in others words 'the translation of Canaanite practices into the stylistic vocabulary of Aegean-type pottery' (p. 384). Stockhammer claims that these different groups of actors had complex relationships with the Aegean and Cyprus, but remain misunderstood beyond the use of common expressions as 'Sea Peoples' and 'Philistines' in scholarship. In an important paper that highlights the role played by Italian military innovations in the technological development of Aegean' weaponry, the origin of some bronze objects such the Naue II swords is discussed by Mathias Mehofer and Reinhard Jung (pp. 389-400). They see them as belonging to a metallurgical *koinè* (so-called 'Urnfield bronzes') that existed during the later 13th and 12th century BC. Using XRF and lead isotope analyses, they were able to demonstrate a northern Italian origin of some of the bronzes found in the Aegean alongside the local production by Aegean smiths of Italian type bronzes with locally available copper (from Cyprus) during the LH IIIC period. Gert Jan van Wijngaarden (pp. 401-412) finally uses ivory objects as an example to reconsider the presence of exotica in Mediterranean archaeological contexts. He argues that the change of international contacts at the end of the LBA was accompanied by a significant shift in the value system and the social practices related to the consumption of exotica. Whereas exotica were considered agents of a distant world during the LBA, this notion no longer applies

(Bürge 2016).

[31] Cf. annotated edition of Grandet 1994.

[32] Morris 2005.

[33] Cf. Na'aman 2010.

[34] Cf. Blétry *et al.* 2018.

[35] *Contra*: e.g. Grandet 2017:184-185.

[36] For a detailed study, see now: Mountjoy 2018.

afterwards. While in Italy finished ivory objects were originally imported, they are now made locally from imported raw materials. On the Greek mainland, one notices an obvious decrease of imports and locally-produced ivory objects after the fall of the Mycenaean palaces. All exotica in the LH IIIC Aegean are antiques and their age seems to have become the primary characteristic for their social role. However, these developments in Italy and the Aegean are both seen as the result of a same mechanism: a shift in the social role of exotic artefacts.

Despite a few shortcomings in some of the individual papers, the volume offers plenty of new thoughts and perspectives on the Sea Peoples phenomenon, both with regional/specialised analyses and with comprehensive overviews. It is somewhat to be regretted that Manfred Bietak, although present at the workshop, did not contribute a paper on Egypt. A specific chapter on the historiography of Sea Peoples research would also have been welcome in addition to the extensive introduction by Burge & Fischer, as well as a discussion on the North Sinai.[37] The absence of an index of toponyms and ethnonyms (a recurrent problem of the CCEM collection) would also have improved the user-friendliness of the volume. However, the importance given to data provided by recent excavations in combination with new analyses of older excavation material and archives is undoubtedly the strongest point of this collection of papers. All in all, they considerably improve our understanding of the 'Sea Peoples' phenomenon, beyond the textual evidence. There is a final reason why this volume should not lack from libraries dealing with the LBA/EIA transition in the Mediterranean world and that is its relevance for present-day history. At the time of writing these few paragraphs, the world has been in the grip of a pandemic outbreak (Covid-19) with an impact on society unprecedented since WWII. Warfare, climate change, migratory flows and related political crises are all happening within a '*temps long*' that is just as complex and dramatically similar to the collapse of the flourishing ancient civilizations in the 12th century BC and, consequently, gives us much to think about for the coming decades.

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Vyron Antoniadis. *Knossos and the Near East: A Contextual Approach to Imports and Imitations in Early Iron Age Tombs.* Pp. xii + 170, with b/w ills and col. plates. 2017. Oxford: Archaeopress. ISBN 978-1-78491-640-4, paperback £30.

Barbara Bohen. *Kratos and Krater: Reconstructing an Athenian Protohistory.* Pp. xvi + 250, with b/w ills and one col. plate. 2017. Oxford: Archaeopress. ISBN 978-1-78491-622-0, paperback £40.

Xenia Charalambidou and Catherine Morgan (eds). *Interpreting the Seventh Century BC: Tradition and Innovation.* Pp. viii + 460, with col. and b/w ills. 2017. Oxford: Archaeopress. ISBN 978-1-78491-572-8, paperback £75.

The Aegean and Mediterranean world between 1000 and 600 BCE (the Early Iron Age and the earliest part of the Archaic period) continues to attract considerable scholarly attention. And for good reason. The period between 1000 and 600 BCE is the formative period in Greek history, where those institutions we most firmly associate with Greek culture (the sanctuary, the polis, the alphabet and the literature that resulted from it) took their definitive form. It is also a period where investigation has to be undertaken primarily by archaeologists. As all these books testify, the volume of relevant archaeological material increases exponentially every year, as does the sophistication of archaeological methods and theories. This does not quite mean that archaeologists can ignore texts. What to us now appear to be 'texts' however

Reflections on the Outcomes of the Workshop: Problems and Desiderata

Peter M. Fischer and Teresa Bürge

Introduction

The editors of this volume but also scholars who participated in the workshop use the term 'Sea Peoples phenomenon' in a broader sense to include not only the 'Peoples of the Sea/Islands' as they are called in narratives. According to texts of the New Kingdom from the reigns of Merneptah and Ramesses III, and a letter from Ugarit (RS 34.129) these seafaring peoples are restricted to the designations Sherden-Shardana, Eqwesh and Tjekker-Shekelesh (Kitchen 1983: 104.13; *id.* 1982: 22.8; Bordreuil 1991: no. 12). Other groups of peoples included here are the Denyen-Danuna, Lukka, Karkisha, Teresh, Peleset-Philistines and Weshesh – as they are mentioned chronologically in Egyptian texts from the 18th to the 22nd Dynasties (see overview in Adams and Cohen 2013). Therefore, in this volume the Sea Peoples phenomenon should be considered an encompassing term, which – in addition to the written records on mainly hostile activities of various groups in the Eastern Mediterranean – is synonymous with the consequences of the 'crisis years', the period around 1200 BCE and most of the 12th century BCE, i.e. the last phase of the Late Bronze Age. Nevertheless, there are several authors of papers which are published in this volume who use the term 'Sea Peoples' in the same sense as our 'Sea Peoples phenomenon'.

The period of the advanced civilizations of the Late Bronze Age has rightly been termed the first era of 'internationalism'. This 'Golden Age', which in the Eastern Mediterranean lasted from roughly the 16th to the 12th centuries BCE, is characterized by far-reaching intercultural connections involving large parts of today's Europe, Egypt, the Near East and areas beyond. This highly developed and complex period ended in years of widespread crisis at the dawn of the Iron Age. It should, however, be highlighted that the outcomes of events, for instance upheaval and migration, which are generally accepted to have taken place at the outgoing Bronze Age, are not mirrored uniformly around the Eastern Mediterranean. This postulate is clearly reflected in the present volume. When studying literature dealing with the outgoing Bronze Age, it instantly becomes obvious that topics such as 'migration', 'cultural and political changes', 'warfare', 'worsening climate', 'drought, famine and epidemics', 'absolute and relative chronology', 'cultural synchronization', and their mutual interactions dominate the discussion. This was also the case during our workshop.

In geographical terms, the Sea Peoples phenomenon is commonly associated with a quite vast area stretching from the Italian peninsula over the Balkans, the Aegean, Anatolia and Cyprus, to the Levant and Egypt. It can be concluded from the present volume that the workshop treated all these regions with the exception of the Balkans (although touched upon; e.g. Jung and Wiener in this volume), where in the future much more research has to be undertaken in order to bridge the area between the Italian peninsula and the Aegean.

In the last two decades, research dealing with the Sea Peoples phenomenon has undergone a renaissance compared to the period between the 1960s and the 1990s when 'any theory considering migrations and invasions in connection with the great upheavals of the Eastern Mediterranean around 1200 BCE was banished and avoided' (as pointed out by S. Deger-Jalkotzy in the first introductory lecture; not published in this volume). The speaker rightly pointed to biased research, which started already in the 19th century, and highlighted publications of more or less well-founded hypotheses on the Sea Peoples (phenomenon).

In the following period of renewed interest and research dealing with the Sea Peoples phenomenon and related subjects three major meetings took place in order to elucidate the riddle of the events at the end of the Late Bronze Age. One, entitled *The Sea Peoples and Their World. A Reassessment*, was held in Philadelphia in 1995 (ed. Oren 2000). This publication provided a good overview of the state of research on the Sea Peoples some 20 years ago. However, many problems remained unsolved and a number of hypotheses to be proved. Six years later, in 2001, another important workshop entitled *The Philistines and Other 'Sea Peoples' in Text and Archaeology* was organised in Israel (eds. Killebrew and Lehmann 2013). In the proceedings, which were published only shortly before

our workshop, the editors emphasized the problem of the 'unidirectional and overly simplistic interpretation of the Philistine phenomenon that has dominated scholarship during the twentieth century.' We agree and recommend extending this statement to embrace not only the Philistines and their habitat in the Southern Levant but also the entire Sea Peoples phenomenon. In 2006 another meeting entitled *Cyprus, the Sea Peoples and the Eastern Mediterranean* was held in Toronto (ed. Harrison 2006–2007). This meeting concentrated on the 'Sea Peoples' in the Eastern Mediterranean with specific emphasis on Cyprus and the northern and southern Levant.

Amongst the immense amount of literature on the Late Bronze to Iron Age transition in the Eastern Mediterranean and beyond the volumes edited by Ward and Joukowsky (1992), Gitin *et al.* (1998), and Bachhuber and Roberts (2009) should also be mentioned. Other important monographs include, inter alia, those by Killebrew (2005), Yasur-Landau (2010) and most recently Cline (2014).

Since then, new results from excavations and altered interpretations of previously excavated material and results have added to our knowledge. All this and the fact that in 2010 the convenor took over the excavations at the Cypriot key site of Hala Sultan Tekke, which flourished at the outgoing 13th and the first half of the 12th centuries BCE (Fischer and Bürge forthcoming), led to the idea of arranging the Vienna workshop. The Vienna workshop differs from the previous meetings in that it covered a wider geographical area with a more holistic approach.

Below, the editors present and briefly discuss all the papers included in this volume and distributed amongst the five sections: *Overviews: From Italy to the Levant* (R. Jung; M. Wiener; H. Whittaker); *Climate and Radiocarbon* (D. Kaniewski and E. Van Campo; and S.W. Manning, C. Kearns and B. Lorentzen); *Theoretical Approaches on Destruction, Migration and Transformation of Cultures* (J.M. Millek; A. Yasur-Landau; A.M. Maeir and L.A. Hitchcock; and L. Rahmstorf*); Case Studies: Cyprus, Cilicia and the Northern and Southern Levant* (P.M. Fischer; A. Georgiou; G. Lehmann; D.J.W. Meijer; F.J. Núñez; A. Gilboa and I. Sharon; T. Bürge; and W. Zwickel); and *Material Studies* (P.A. Mountjoy; P.W. Stockhammer; M. Mehofer and R. Jung; and G.J. van Wijngaarden). References are only sporadically provided since they appear in each paper.

Overviews: From Italy to the Levant

As regards the presentation of the individual papers of this meeting, it should be helpful for the reader to start with two overviews, which summarize published research and which cover a vast geographic area: one is by R. Jung and the other by M.H. Wiener. A third paper by H. Whittaker is included in this section since it provides a synopsis on the situation in mainland Greece at the time of the destructions of the Mycenaean palaces and their aftermath.

Jung presents the history of research approaches to clarify certain aspects of the Sea Peoples phenomenon: one is to geographically locate the Sea Peoples' ethnonyms by means of references to contemporary and later written sources. In order to achieve this goal two research trends can be discerned: one is an 'economic-modernist' and the other deals with the methodology of migration studies. The advocates of the former are profoundly skeptical towards written and archaeological evidence for the movement of population groups but recent archaeological research in the Levant demonstrates 'that the (tremendous) changes in material culture visible in these regions around and after 1200 BCE do not easily fit a predominantly economic explanation' (Jung in this volume), on which we, the editors, certainly agree. The latter, i.e. migration studies, tests migration models against the archaeological evidence. There are various classes of material remains that can be connected to immigrating peoples. These include ceramic wares of Aegean type including kitchen ware, and handmade and burnished pottery. This handmade and burnished pottery originates from southern mainland Italy and more precisely from the so called *Subapennine* culture group of Recent Bronze Age date, but also from the central Balkans which, so far, has been found exclusively in Troy. There are, however, also local variants in some remote areas in central Greece. Much of this pottery, if not all in certain regions, is locally made from roughly around 1200 BCE and onwards. Other finds from the Eastern Mediterranean, which were mentioned by Jung in support of the migration hypothesis, are new types of bronzes, termed Urnfield bronzes or bronzes of the metallurgical koiné, for example, fibulae, Naue II swords and spearheads with cast sockets. Another group are ships of foreign design as they are depicted on Egyptian reliefs. The second part of his paper summarizes the state of research on the Sea Peoples phenomenon in various geographical regions.

In the other overview, M.H. Wiener considers the evidence for and possible interactions between potential causes of collapse at the end of the Bronze Age. These include climate change, drought, famine, earthquakes, epidemics, the evidence for major preparations for attacks followed by destructions and abandonments, migrations, the nature and movements of the Sea Peoples, and the aftermath of the collapse and its implications, and the role of Mycenae before the palatial collapse. As regards climate change, a number of studies point to a period of extra-dry conditions around 3200 BP (e.g.

Kaniewski and van Campo in this volume; Weiberg *et al.* 2016). No doubt a worsening climate can result in drought and famine and affect a weakened population by epidemics. Drought has also been proposed as a factor in the collapse of the Terramare Culture of central-northern Italy climaxing c. 1150 BCE based on several studies of changes in water levels and other indicia (e.g. Cardarelli 2010: 468–470). The post-1200 BCE abandonment of the Po Plain involving the dispersal of far more than 100,000 people requires thorough consideration. It is obvious that in already overextended and overexploited areas, minor climatological fluctuations even of limited duration could have had a major impact on economy and, ultimately, survival. It is not unlikely that warfare and migration followed the shortage or even total absence of essential foodstuffs. Wiener rightly points to a cumulative effect with a picture which can be portrayed as follows: food shortage leads to overuse of available land; to rebellions by troops, populace, or captives; or to the loss of legitimacy of rulers believed to have lost divine favour. Lethal epidemics can more easily establish themselves among populations in the wake of famine and malnutrition.

As concluded from the archaeological evidence supported by contemporary texts, the movement of people mainly from north-west to south-east drastically increased and marked the end of the Bronze Age. Many sites in the Eastern Mediterranean suffer destructions during the 12th century BCE and were abandoned (see e.g. the situation in Cyprus, Fischer in this volume; as regards the Southern Levant see Millek in this volume; see also Cline 2014: 132–137). After the collapse of the Hittite empire, which includes the destruction and abandonment of major sites such as Hattusa, Alacahöyük, and Alişar, the Phrygians arrive from the Balkans (see references in Wiener this volume). Troy was destroyed c. 1200–1180 BCE, and when it is substantially reoccupied in the second half of the 12th century BCE new elements appear in the material culture. These include Knobbed Ware, Handmade Burnished Ware, and multi-cell architecture with orthostates, all with parallels in Thrace, the Balkans, and the Lower Danube region. Egyptian narratives mention attacks and destruction prior to the famous battle against invading 'Sea Peoples' who at the end could be defeated or at least brought to a halt in battles at the mouth of the Nile in 1186 BCE (Wiener presents a higher date than that suggested, for instance, by Cline, viz. 1177 BCE; Wiener 2014; Cline 2014). Based on decades of archaeological work in the field the editors agree with Wiener as regards migration which should be considered much more thoroughly than is often the case when interpreting primary material from excavations: usually, invaders leave very little trace in the archaeological record, which has been demonstrated time and again by more recent events in historical times.

During the meeting the identity of various groups of the Sea Peoples has been discussed by several scholars. Some of these groups seem to have been professional pirates or mercenaries of mixed background. Amongst the latter were displaced Mycenaeans from mainland Greece (Wiener in this volume). Wiener argues with a papyrus from the British Museum which appears to show Mycenaeans fighting alongside Egyptians (Schofield and Parkinson 1994). In addition to traces of Mycenaeans in Cyprus, Minoans also seem to have been present there judging, for instance, from finds of standing horns of consecration from, for instance, Kition and Myrtou-Pigadhes, and from around 1200 BCE a structure at Hala Sultan Tekke with lead waterproofing and drainage and painted plaster resembling a lustral basin which resemble Minoan counterparts of older date (without the leaden sealing).

In her paper H. Whittaker summarizes the situation in mainland Greece at the time when the palatial rule collapsed and describes the chaotic situation in its aftermath. According to Whittaker the present state of research seems to offer little evidence on the Greek mainland of the settlement of new groups of people in the post-destruction period. Again, the editors would like to refer to the observation that it is difficult to find traces of invaders in the archaeological record. It seems to be a common position amongst Aegean archaeologists that the Sea Peoples are considered as diverse groups of pirates who originated from outside the Aegean world. Eventually, Mycenaeans join them as the collapse of palatial rule resulted in them taking to the seas and contributing to the general confusion and violence that characterised the Eastern Mediterranean at the end of the Bronze Age (e.g. Tartaron 2013: 64–65). Whittaker advances the hypothesis that if the Sea Peoples were responsible for the destructions that took place on the Greek mainland at the end of the Late Helladic IIIB period, they did not stay to found viable communities but moved on to other parts of the Mediterranean. The archaeological record of the Argolid implies that the consequences of the destructions were less severe there than at Pylos and in Messenia. It could be the case that – although they caused much damage on the Mycenaean centres – invaders were often repelled. We agree with Whittaker that a likely scenario could have been that some of the Mycenaean palatial elites were able to organise enough military resistance against the invaders to force them to move on. The archaeological remains of the Late Helladic IIIC period support this hypothesis.

One of the reviewers of the proceedings of our meeting, who was selected by the Austrian Academy of Sciences, commented on some of the overviews that

they summarize 'well-known' evidence rather than presenting new solutions to old problems. We cannot agree with this remark because of the simple fact that all scholars dealing with research on this turbulent period in human history must be familiar with earlier research and hypotheses which these papers present in a condensed approach. In addition, the papers by Jung and Wiener in particular, provide readers with a vast bibliography based on which further studies can be undertaken and which can be utilised even by 'specialists' who are dealing with this topic but who are not specialised in all subjects nor greatly familiar with the evidence from geographical areas outside their expertise.

Climate and radiocarbon

As analysed and summarized by D. Kaniewski and E. Van Campo in this volume, marine and terrestrial data from the Southern Levantine coast, the Aegean Sea, the Dead Sea, the Levant, Cyprus, Egypt, Turkey, and Iran hint at a period of decreasing humidity from the end of the Late Bronze Age to the Iron Age. This climatic development is commonly referred to as the 3.2 kyr calBP event (see also Weiberg *et al.* 2016). The exact dating of this climatic event, however, remains problematic (see Manning *et al*. in this volume; Knapp and Manning 2016). Whenever a generally worsening climate emerged, such an event was certainly one of several factors resulting in the turbulent transformation of societies from the Late Bronze to the Iron Age. Fischer (in this volume) goes one step further and suggests – if we accept that the 3.2 kyr calBP event, which for a considerable length of time struck the entire area from Italy over the Aegean to encompass all of the Eastern Mediterranean, and the available data seem to confirm this situation – that a possible scenario could have been that this climatological change was not only a contributory factor but maybe the trigger for people to start to move south-eastwards during the latter part of the 13th century BCE in the hope of improved conditions. Climate does not change 'overnight', therefore it is obvious that this process was going on during a lengthy period of time and is not confined to single years.

One major problem, namely correlating these data with other absolute or relative evidence, is thoroughly discussed in the paper by S.W. Manning, C. Kearns and B. Lorentzen. Unfortunately, the radiocarbon resolution around 1200 BCE is very poor because of a plateau in the calibration curve and a couple of wiggles which make the period from c. 1220 to 1110 BCE largely very similar in apparent radiocarbon age. Considering the shape of the calibration curve it is at present only possible to employ Bayesian chronological modelling in order to get more precise dates. This means that a stratigraphically defined sequence of radiocarbon dates can be placed in the calibration curve in order to provide a set of narrow date ranges (Bayliss 2009; Bronk Ramsey 2009). In their paper Manning *et al.* propose reconsidering (lowering) the radiocarbon dates from the Level 7A destruction at Tell Tweini, Syria, which has been attributed to the Sea Peoples, to somewhere in the period from 1176 to 1108 calBC (from 1194–1190 BCE according to Kaniewski *et al.* 2011; see also Kaniewski and Van Campo in this volume). However, Manning *et al.* incline to agree on the conventional absolute chronology, where Late Cypriot IIC starts in the later/late 14th century BCE and ends when some major coastal sites were abandoned around 1200 BCE and maybe some years or even decades later.

Theoretical Approaches to Destruction, Migration and Transformation of Culture

In the literature, destructions are very often interpreted as caused by attacking forces. In his paper J.M. Millek stresses that destruction layers in the Eastern Mediterranean from around 1200 BCE are amongst the most commonly cited explanations concerning the collapse of the Late Bronze Age societies (see several papers in this volume). He examines the available archaeological records by studying assumed destruction layers of 16 sites in the southern Levant which are cited in various publications as having been destroyed (also by the Sea Peoples). The aim of his paper is to examine whether any of the destruction events in the Southern Levant can be attributed to specific invaders and more precisely to the arrival of the Sea Peoples. Millek comes to the conclusion that the majority of them cannot be attributed to enemy attacks or more specifically the Sea Peoples.

From Millek's paper it could be deduced that the end of the Bronze Age in the southern Levant was less violent than often quoted. One of the problems, as we see it, is the limitations which are imposed by the archaeological evidence, i.e. the actual find context as the excavator uncovers it in the field. Such contexts are often blurred by later activities and natural erosion and do not always reflect as clearly as one might wish the real events that took place. How much can we expect to find of a once substantial destruction layer caused by a conflagration in an unprotected area which has been exposed to erosion or in an area where post-destruction occupation disturbed the original context? The minimalistic approach to such or similar contexts may lead to an under-interpretation of events which actually took place, not to mention that 'it is relatively easy to demonstrate that each individual circumstance of alleged destruction could have been caused by other factors: equally, they are consistent with a horizon of destruction as implied by the Egyptian sources' (with

reference to one of the reviewers of this paper). This position can be equated with the interpretation of a set of radiocarbon dates: it would certainly be wrong not to present the most likely date *within* a series of other possible and presented dates based on the author's overall research outcomes.

The paper by A. Yasur-Landau reports on recent advances in the theoretically informed study of intercultural contact and migration in the Eastern Mediterranean. The use of terms such as hybridity, creolization, and entanglement when studying changes in material culture 'emphasized the complexity of the outcomes of intercultural contacts, and acted, to a degree, as a deterrent to simplistic reconstructions of past contacts'. He continues to argue on these terms and whether they have outlasted their usefulness which in the author's view is still open to debate. It seems that new theoretical approaches to the study of interactions require at least a recontextualization of these terms within new frameworks. The study of nuances in migration in order to create a typology of migration by comparative migration studies could be one way to go (van Dommelen 2012: 395 and further references in Yasur-Landau's paper). It is evident that the study of migration, including the study of the Philistines, based on a theoretical framework dealing with migration alone and its identification in archaeology is certainly not enough considering the complexity of the situation around 1200 BCE and later additional phenomena such as trade, piracy and warfare must be taken into account. Yasur-Landau presents six parameters concerning any 'interaction event' including the number of involved peoples, the duration of the event, the cultural distance between these peoples, the segment of population involved, and the balance of power between the involved cultures and the level of pluralism and tolerance within the interacting societies. It may be that the two main tools at our disposal, namely the material remains and historical sources, are not enough to assess the significance of each of his presented parameters as valuable as they may appear.

A.M. Maeir and L.A. Hitchcock present new results on the appearance, formation and transformation of Philistine Culture. Their paper begins with a summary of the profound changes which started to take place in the Southern Levant at the beginning of the 12th century BCE. These include the gradual waning of the Egyptian control of Canaan, a drawn-out process of destruction and/or depopulation of many of the Canaanite city states, the appearance of 'new groups' in the region in the inland and along some of the coastal regions, and the advent of so-called Sea Peoples represented by the Peleset in the southern Coastal Plain of Canaan. In this region, Philistia, the new immigrants adapted and developed foreign material culture including architecture, cooking habits and new technology, all of which were non-local features of a wide diversity from various regions in the Eastern Mediterranean. The authors portray the Philistine culture as 'entangled' and define it as based on a relatively wide set of material attributes (see the discussion of this term above and in Yasur-Landau in this volume). It is now clear from the excavations at the major Philistine city of Gath that the Philistines continued to exhibit foreign traits and practices for some hundreds of years until the late Iron Age and not – as earlier suggested – until Iron Age IIA, viz. roughly the 10th century BCE. To summarize, following the collapse of the Late Bronze Age political systems, during the early Iron Age in Philistia a complex process of cultural negotiation between various foreign and local groups took place, resulting in a mixed cultural identity. The authors point to the unsolved problems of defining who belonged to which group(s), whether a region can be defined as 'Philistine' or not, and how these processes developed. Ethnic identities existed during the Iron Age but according to the authors they are difficult to define. New results from ongoing excavations and innovative approaches will certainly bring us further in the study of these complicated issues.

In the final part of this section L. Rahmstorf discusses and compares the migration processes of two populations: the Sea Peoples in the Eastern Mediterranean in the 12th century BCE and the Anglo-Saxons immigrating from north-western Germany and Denmark to England in the 5th and 6th centuries CE. In his comparative approach he analyses written sources, scientific analyses such as DNA and strontium isotope studies, as well as data from settlements, burials and specific groups of artefacts. In general, the data for the Anglo-Saxon migration are far more plentiful than those available for the Sea Peoples phenomenon. The former includes plenty of detailed written sources – especially as regards the point of origin from which the migration started –, linguistic studies, DNA studies and well documented data from cemeteries, which may help in understanding which information is missing for the reconstruction of the Sea Peoples' migration. However, Rahmstorf shows that the Anglo-Saxon migration, too, is far more difficult to reconstruct than we may expect. This applies for instance to the style of domestic architecture which settlers may take from their countries of origin. However, it also undergoes rapid changes and adapts to the new environment, the landscape, climate and available resources, also depending on a possible transformation of social organisation. Another issue is assimilation of newcomers and indigenous population, their interaction and acculturation, which can be traced in Romano-British and Anglo-Saxon burials. As regards the study of the Sea Peoples phenomenon

one should have this situation in mind. To sum up, the comparative approach of the Anglo-Saxon and the Sea Peoples' migration offers the possibility of discussing common phenomena and problems of migration processes and shows in what way such processes can be traced in archaeological (and historical) records.

Case Studies: Cyprus, Cilicia and the Levant

Cyprus certainly played a crucial role in and was heavily affected by the transformations in the Eastern Mediterranean around 1200 BCE due to its central geographic position and its long tradition as a hub in trade of a variety of products and the export of, in particular, copper, pottery and textiles (Fischer and Bürge forthcoming). An overview of possible destruction events and abandonments of Late Cypriot settlements in this period with a special focus on Hala Sultan Tekke is provided by P.M. Fischer. The sites, which in addition to Hala Sultan Tekke are discussed by the author, include Tomba tou Skourou, Maa-Palaeokastro, Palaepaphos, the Kourion area, Kalavasos-Ayios Dhimitrios, Maroni-Vournes, Kition, Pyla-Kokkinokremos, Sinda and Enkomi, and destructions and/or abandonments in the transitional period from the LC IIC to IIIA, roughly around 1200 BCE, are listed. However, these events do not need to have been contemporary across the whole studied area and are not points of events but rather periods of time of varying lengths at various sites. Thus, the transitional Late Cypriot IIC/IIIA can be characterized as a *period* of destructive events along the southern Cypriot littoral from Maa-Palaeokastro to the west over Hala Sultan Tekke to Enkomi to the east.

At Hala Sultan Tekke, on the south-eastern coast, two destruction layers could be demonstrated supported by radiocarbon: the older was dated at around 1200 BCE at roughly the start of the transitional Late Cypriot IIC/IIIA (see though the dating limitations of absolute dates because of the plateau in the calibration curve pointed out by Fischer in this volume; see also Manning *et al*. in this volume); the more recent layer of destruction is dated in Late Cypriot IIIA1/2 around the middle of the 12th century BCE. At the same time there is evidence of silting up of the economically essential harbour of the city (Devillers *et al.* 2015) which in combination with likely climatic changes led to the abandonment of the city around 1150 BCE. Again, climate change around 1200 BCE as argued by Kaniewski and Van Campo in this volume leading to drought and damage to crops was most likely only a contributory factor which finally led to the abandonment of this large city, and migration. One cannot rule out that both destructions of Hala Sultan Tekke might have been caused by migrating people. Fischer forwards the hypotheses that the population left together with or were forced to leave by the invaders, or that the inhabitants of Hala Sultan Tekke followed in their wake after their city had been destroyed. The Levant and Egypt may have been their goal.

A. Georgiou presents her view from the Paphos region of southwestern Cyprus at the transition from the 13th to the 12th centuries BCE. According to her, the 12th century BCE saw a phase of unprecedented flourishing for the regions of Palaepaphos and similarly of Kition on the southeast coast, expressed by the monumental expansion of their respective sacred urban structures. This is explained by Georgiou as an effect of the abandonment of the urban centres to the east of Paphos, at Alassa-Paliotaverna, Kalavasos-Ayios Dhimitrios and Maroni-Vournes, together with the regional economic systems of the Kouris, Vasilikos and Maroni river valleys respectively. Following the eradication of the regional economic systems to the east of Paphos, the polity was empowered by internal population movements and monopolised the resources over an enlarged territory. The abandonment of the neighbouring urban centre at Alassa and the depletion of the regional system of the Kouris river valley may also have resulted in the inclusion of this territory in the polity of Paphos. At the dawn of the 12th century BCE, the Paphian centre remained the only territorial polity on the western half of the island's southern coast, and together with Kition and Enkomi had a prominent role in the new commercial strategies that ensued from the collapse of the Late Bronze Age state-level economy according to author. She states that 'the events cumulatively referred to as the 'crisis years did not have a uniform, nor, by extension, a devastating, impact on the island'.

The acceptance of the dominating position of the Paphos polity in the western part of the island in this period as a result of the abandonment of nearby urban centres must lead to the question, why the nearby urban centres of Alassa-Paliotaverna, Kalavasos-Ayios Dhimitrios and Maroni-Vournes were abandoned? We see an effect of events but research has not yet succeeded in explaining the causes behind them. More research is certainly needed.

One of the regions which has often been neglected in the discussion of the Sea Peoples phenomenon is Cilicia (see though the contribution by French 2013). In his paper G. Lehmann discusses new results from the excavations at Kinet Höyük, which in the Late Bronze Age belonged to the province of Kizzuwatna, one of the most important provinces of the Hittite empire. The province is strategically located between Anatolia, Syria and Cyprus. The region went through profound cultural and political changes in the transition from the Late Bronze Age to the Iron Age, i.e. approximately during the 12th century BCE. The archaeological evidence includes continuing, yet declining elements of the material

culture of the Late Bronze Age along with new influences from the Mediterranean in general and the Aegean and Cyprus in particular. These include 'LH IIIC' pottery, which replaces Cypriot pottery imports of the Late Bronze Age. This new pottery is locally produced or imported from Cyprus and the east Aegean (see e.g. Mommsen *et al.* 2011). Other items which originate in the Aegean, such as cooking jugs, loom weights or fibulae, only occur in small numbers and were partly locally produced and partly imported from the Aegean or Cyprus. From the early Iron Age on there are strong stylistic connections of locally produced pottery with Cypriot elements, which bear witness to intense economic contacts with Cyprus. Neither the amount nor the character of Aegean-type objects can as yet provide evidence of large-scale Aegean migration during the 12th and 11th centuries BCE. A somewhat contrasting view has been forwarded by Janeway (2013, 2017) who argues for the traditional migration model and against the socio-economic paradigm, a view based on his conclusions of the study of the ceramic material from Tell Taʿyinat in the neighbouring Amuq Valley of the northern Levant.

D.J.W. Meijer rejects in his contribution a direct association of the presence of 'LH IIIC' pottery at a specific site or region – regardless of the amount – and the presence of Sea Peoples. Other archaeological evidence of 'Sea Peoples' in the Northern Levant is as yet scarce, except for the Hieroglyphic Luwian inscription of King Taita in the Storm-God temple in the Aleppo citadel, where – according to D. Hawkins' interpretation (2011) – he claimed to be the ruler of an entity called 'Palistin'. Meijer points out the difficulty of interpreting historical sources, especially if they are unique and fragmentary, and of connecting these sources with the archaeological evidence.

F.J. Núñez provides a detailed overview on the historical and archaeological situation in the Central and Northern Levant just before the end of the Late Bronze Age, the available sources for studying the transitional period and the role and impact of the 'Sea Peoples' as part of the transformations from the Late Bronze to the Iron Age. There is a clear continuity from the Late Bronze Age to the early Iron Age, which in fact is often regarded as an 'epilogue' of the Late Bronze Age. However, considering a more holistic approach, the region certainly was influenced – economically, politically, and/or culturally – by the Sea Peoples phenomenon, even if – so far – clear-cut archaeological traces are lacking.

The paper by A. Gilboa and I. Sharon highlights the intense maritime traffic between the Carmel coast and Cyprus during the Early Iron Age as reflected in the pottery and discusses the impact of the 'Sea Peoples phenomenon' on commercial spheres in the Mediterranean. The authors argue that the archaeological evidence from Tel Dor can clearly be associated with the 'Phoenician' cultural sphere of the early Iron Age. The Egyptian term Tjeker, designating one of the 'Sea Peoples' groups, should be regarded as congruent with the early 'Phoenicians' (or their 'predecessors') and perhaps does not indicate an intrusive ethnic population in the Levant but should rather be seen as a geographical term, namely regions (and peoples) in the Syro-Phoenician sphere of culture.

As regards the Southern Levant, the region east of the Jordan River has not received much attention in the debate on the 'Sea Peoples phenomenon' nor, in general, on transformations from the Late Bronze to the early Iron Age. This is partly due to the state of research and published evidence (see though e.g. Fischer 2013) and partly due to the relative 'remoteness' of this region from the eastern Mediterranean although the Jordan Valley is less than 80 km from the Mediterranean littoral. The earliest Iron Age phase at the site of Tell Abu al-Kharaz in the Jordan Valley – presented in a paper by T. Bürge – contradicts in many respects the prevailing view of a cultural decline in the early Iron Age. There is evidence of planned and organised architecture which hints at a rather complex and hierarchical social organisation. The finds indicate a high degree of continuity from Late Bronze Age tradition, at the same time a number of innovations could be traced, which reflect an amalgamation of new, mainly 'western', and traditional, local traits. This combination of continuity and innovation is consistent with finds from other sites in the Jordan and the Jezreel Valleys. The innovations may be explained by movements of a limited number of peoples starting around 1200 BCE from the Eastern Mediterranean through the Jezreel Valley to Transjordan, which eventually also became affected by the 'Sea Peoples phenomenon'. Much more research and accessible publications from other sites dealing with the Transjordanian archaeological evidence are needed in order to understand the general situation in this vast area at the transition from the Late Bronze to the early Iron Age (see though e.g. Fischer *et al.* 2015).

W. Zwickel discusses the settlement history and the acculturation of the northern so-called Philistine territory from a mainly historical point of view. He seeks an explanation for the different degree of 'visibility' of the Philistines and Danites in historical and archaeological sources and comes to the conclusion that the Danites integrated themselves and assimilated with the new tribal society, which developed during the Iron Age I in the Southern Levant. In contrast, the Philistines remained foreigners in the eyes of the indigenous people trying to establish their own independent social and political entity in the area (cf. the paper by Maeir and Hitchcock in this volume).

Material Studies

In addition to its importance for establishing relative chronologies, pottery is the most important single class of material remains which is currently used to trace cultural transformations, economic patterns, interaction, migration and other issues. P.A. Mountjoy traces the provenance of motifs on Philistine pottery and connections of different 'Aegean-style IIIC' pottery styles between various regions: There are stylistic affinities between the East Aegean/West Anatolia and Philistia, a strong connection to Cyprus, and a group of Philistine motifs which originate from Crete and came to Philistia via Cyprus, whereas direct connections from the Greek mainland to Philistia seem to be rare. Supported by the results of NAA of Aegean-style pottery the important role of large Cypriot ports, such as Hala Sultan Tekke (see Fischer in this volume) or Kition, could be confirmed. The trade routes from Cyprus to the Levant may also have been followed by migrants.

P.W. Stockhammer also includes the use of specific vessel types on specific occasions and in various regions and societies during the later part of the 13th to the first half of the 12th centuries BCE. He comes to the conclusion that in regions outside Philistia, i.e. the Jezreel and the Jordan Valleys, specific Aegean-type pottery was used by different groups, partly in connection with trade by highly mobile people with close connections to Cyprus as part of an 'international' material culture and partly in burial contexts where these vessels imitate Cypriot and Northern Levantine practices. In contrast, in Philistia, where specific Aegean vessel shapes such as kylikes, cups or stirrup jars, are almost totally missing, but bowls are extremely frequent, it seems that Canaanite practices were simply transferred into Aegean shapes and styles by the inhabitants of the Philistine settlements.

Next to pottery, other groups of objects have also received attention in the 'Sea Peoples' debate. The contribution by M. Mehofer and R. Jung focuses on swords of Naue II-type, which belong to the Urnfield bronzes, also referred to as metallurgical koiné. These swords spread together with other bronze objects from northern/central Europe, Italy and the Balkans to the eastern Mediterranean during the end of the 13th and the 12th centuries BCE. In contrast to the dominating opinion that these bronzes originate from the Balkans, Mehofer and Jung were able to demonstrate, that they can in fact be traced back to Italy. Interestingly, these weapons – of which some were produced in Italy and others in other regions according to Italian prototypes – were spread during the same period and in the regions where groups of Sea Peoples are attested in Egyptian, Hittite, Cypriot and Ugaritic sources. The question remains whether the spread of the Urnfield bronzes and the migration of peoples can be directly linked and subsumed as 'Sea Peoples phenomena'.

The role of exotic artefacts, particularly ivory, is discussed by G.J. van Wijngaarden. The spread and appreciation of these objects, especially to Italy, the Aegean and Cyprus, before the end of the Late Bronze Age and the collapse of palatial systems was characterized mainly by the value of distance (see also Burns 2010; Steel 2013). Towards the end of the Late Bronze Age we can observe an increased local production in all three regions. In the case of ivory this cannot be simply explained by the collapse of trade routes, since the raw material has had to be imported from far away in any case, but the role and value of these objects changed. In addition, local production of exotica required information about materials, styles and techniques, specific skills and know-how, which were possibly transmitted – at least partly – by population movements.

Concluding remarks

Regardless of the multitude of methods and approaches employed, and the regional differences and contrasting views considered in the attempt to elucidate or solve the riddle of the causes behind and the effect of the 'crisis years' around 1200 BCE and later, there are a number of unanswered questions and problems which we would like to address and summarize:

(1a) Terminology: The term 'Sea Peoples' is still widely used, although it is not entirely clear whether the identity or origin of these 'peoples' can be established with any certainty. Some scholars include in this term a number of (in)homogenous ethnic groups; others consider 'them' simply an effect of various, often disastrous, events; others again combine considerations of ethnicity and origin with migration and cultural transformations and their effects. As outlined above we would suggest agreement on the all-embracing term 'Sea Peoples phenomenon', which does not exclude any of the prevailing hypotheses until we find a final solution to this problem, which at present is not to hand.

(1b) Terminology: Another terminological problem concerns the locally made Aegean-style pottery types which appear around 1200 BCE in various regions of the Eastern Mediterranean. This represents a recurring problem. Depending on regions and research traditions in the volume authors use the term Aegean-style, (local) LH IIIC with subdivisions, locally made Mycenaean pottery and additional subdivisions, Philistine with subdivisions, and the unfortunate term White Painted Wheel-made III which is used in Cypriot pottery studies but which the editor (P.M. Fischer) replaced with two subgroups, White Painted Wheel-made Geometric

Style (similar to the original Mycenaean decorative scheme) and White Painted Wheel-made Pictorial Style (a local decorative invention; Fischer 2012).

(2) The amount and availability of material and written sources are not consistently distributed over all areas, which suggests that a number of hypotheses and explanations are somewhat tendentious (see e.g. the scarce evidence from the central Levant). In addition, the intensity of research varies significantly between different regions. One example is the considerable number of publications on the era of the Philistines in the Southern Levant, where we have both written and archaeological evidence and intense ongoing research. However, this can lead to a distorted and perhaps also prejudiced picture of the 'Sea Peoples phenomenon'.

(3) Unfortunately, depending on the plateau in the calibration curve together with wiggles which start in the second half of the 13th century and continue into the second half of the 12th century BCE, the absolute chronology of this period suffers from a wide range of possible dates. At present, this makes our understanding of the sequence of certain events or their possible synchronism, such as destructions or the appearance and use of certain objects and styles, quite ambiguous.

In conclusion, it became clear at the end of the conference and during our final discussion that we are dealing with very complex changes from the Late Bronze to the Iron Age. These changes include many factors and manifest themselves over decades and not years: One single wave of migration, one general military campaign and other simple explanations can and should be dismissed. The breakdown of Late Bronze Age societies and the transformative processes that followed in its wake occurred in a vast area – on that we all agree – but they are mirrored in differing ways at local level.

Future research, which should be based on continued careful excavation of relevant sites, scientific material investigations including DNA and Strontium isotope analyses, and sequencing of radiocarbon dates based on firm stratigraphical evidence, followed by immediate publication, will certainly bring us further in our assignment to advance the state of research on the Peoples phenomenon.

As regards the editor's (P.M. Fischer) research in the coming four years, in which also the co-editor (T. Bürge) is involved, we are very happy to announce the receipt of an advanced grant from the Swedish Research Council to P.M. Fischer, which enables us to continue to study the Sea Peoples phenomenon (with focus on Cyprus) supported by a team of international specialists. In the course of this project radiocarbon dating, INAA, MC-ICP-MS, petrography, climatology, Strontium isotope and DNA analyses, in addition to conventional archaeological and historical methods will be utilized.

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The Sea Peoples after Three Millennia: Possibilities and Limitations of Historical Reconstruction

Reinhard Jung

Abstract

This paper presents a description and critical discussion of recent research on the so-called Sea Peoples in two thematic chapters. The first deals with research issues and starts with the continuous attempts to geographically locate the Sea Peoples' ethnonyms by means of references to contemporary and later written sources. Regarding the proposed reasons for the presence of those groups of persons in the eastern Mediterranean and their activities, we can single out two current trends of research, an economic-modernist one and a second one influenced by the methodology of migration studies. The overview continues by presenting the discussions centered on different traits of material culture that might be connected to the Sea Peoples. These are certain categories of Aegean-type pottery – especially kitchen vessels – as well as handmade pottery of Italian type, but also offensive weapons and protective armor as well as specific types of ships (all depicted in Egypt and compared by archaeologists to contemporaneous artefacts). The second part of the paper proceeds by geographical region in an anti-clockwise manner, from Egypt and the Levant to Cyprus and Asia Minor, to the Balkans and Greece, in order to end in the central Mediterranean regions of Italy.

Introduction

The intention of this paper is to give a short overview of recent research on the Sea Peoples. However, this contribution can only highlight some selected aspects and provide some thoughts: many more issues are treated in the papers collected in this volume. As this workshop has shown, the subject of the Sea Peoples touches upon a wide array of archaeological, philological and historical issues. Some of the most debated ones are

– the origin of the different groups of Sea Peoples
– our understanding of the social and historical phenomenon of the Sea Peoples
– the impact the actions of the Sea Peoples had on the state societies of the eastern Mediterranean
– problems related to the detection of migration by archaeological methods
– settlement dynamics of migrants in various areas of the eastern Mediterranean
– the role different Mediterranean and South-European regions played at the onset or the end of the activities of the Sea Peoples (Italy, the central Balkans, Greece, Asia Minor, Cyprus, Syria, Lebanon, Palestine and Egypt).

Research Issues

The puzzle of assigning a region of provenance to the multitude of ethnonyms that are reported by the texts found mainly in Egypt and Syria (Adams and Cohen 2013) is still exerting its fascination on philologists and historians. Current theories oscillate between the central Mediterranean, the Aegean and Asia Minor, which is in principle not totally different from the start of the debate in the 19th century. A recurrent feature of those discussions to this very day is the connection that scholars try to establish between group designations found in inscriptions on architecture and on clay tablets from the 2nd millennium BCE to texts of the classical Greek and Latin sources dating mainly to the mid and advanced 1st millennium BCE – the earliest texts being of course the Homeric epics of the 8th or 7th centuries BCE.

As a recent example one may cite 'Turša' and 'Peleset' known under Merneptah and Ramesses III that are again connected to 'Τυρσηνοί' and 'Πελασγοί' or 'Πελαστοί'. In doing this the late Itamar Singer continued a research tradition going back to the 18th century, while he enriched it with a number of new details from current research in a paper published in 2013 (Singer 2013). Basing himself on Homer and later authors, Singer argued that both groups Turša and Peleset originated in western Asia Minor and they spread to Thessaly, Crete and ultimately to Italy, where they became known as Pelasgians and Tyrsenians. Other scholars, by contrast, hold that Italy has not been the destination, but the land of origin of these or other Sea People groups (Drews 1993: 48–72; Cline 2014: 8).

To my knowledge, even today, after many decades of excavation in the Near East, it remains a fact that contemporary written sources of the 2nd millennium BCE provide information on the provenance of the Sea Peoples only in one certain and two further possible in-

stances. We are on secure ground in the case of the Lukka that are named under pharaoh Merneptah (for the Great Libyan War Inscription at Karnak see Kitchen 2003: 2–10) and can be linked to Lycia in southwestern Asia Minor with the aid of Hittite tablets (Hawkins 1998: 1; Gander 2010). A geographic localization may also be feasible in the case of the Aqajawaša – again listed under Merneptah (see Kitchen 2003: 2–10; 16–19 ["Athribis Stela"]). However, this is possible only if the connection between Aqajawaša and Aḫḫiyawa known from Hittite inscriptions and located in Greece (Hawkins 1998) is regarded as philologically acceptable (Stadelmann 1968: 157–160; Lehmann 1985: 50–55; Bryce 2005: 336, 338; Singer 2006: 252). Finally, the Dnu<n>/Denyen of Ramesses III (Edel 1985: 225) have been connected to the land of 'Tanaya' that is known from the inscription at the Kōm el-Hetan temple of Amenhotep III (1386–1348 BCE, Schneider 2010: 402) and refers to Mycenaean Greece (Haider 1988: 73). However, the prevailing opinion prefers a connection to the land of Danuna known from an Amarna letter and a letter written by Ramesses II and found at Hattuša. The land of Danuna is in turn linked to the term 'Adaniya', likewise attested in Hittite texts of the 2nd millennium and designating either a city in Kizzuwatna or the entire region of Kizzuwatna, or a part of it. Kizzuwatna includes the region of later Cilicia, while the name 'Adaniya' is probably preserved in that of the historic city of Adana (Singer 2013: 323; against the link between the land of Danuna and Kizzuwatna/Cilicia see now Simon 2015, who argues in favor of a localization of Danuna in northwestern Syria on the one hand and a separation from the Denyen intruders on the other hand). For all the other Sea People ethnonyms it is not possible to establish a region of origin by referring exclusively to contemporary written sources of the 2nd millennium BCE.

When it comes to understanding the social and political dimensions of the actions of the warriors and their followers that we call Sea Peoples, we may discern two currents. One strand of interpretation may be called economic-modernist and takes a profoundly skeptical stand towards written and archaeological evidence for the movement of population groups. Very little historical agency is allotted to those latter groups. Rather, economic explanations are favored for explaining much of the material culture change around the shores of the eastern Mediterranean (e.g. Sherratt 2003). The adherents of this research direction explain the adoption of new pottery types of Aegean origin and of new bronze types of non-Aegean origin in regions such as Cyprus and the southern Levant by a model that brings in private entrepreneurship. Private traders of pottery and bronze objects are thought to have undermined the centrally organized palace economies that were characterized by politically staged exchange mechanisms between kings, in which copper, tin and gold were traded. The advocates of that interpretative model locate those private, freelance traders preferably on the island of Cyprus, from where they sailed around the eastern Mediterranean bypassing rigid state control and contributing to the breakdown of the inflexible palace economies, thus setting free energies for the creation of a new form of market economy leading into the Iron Age. Reminding ourselves that these papers were published in the 1990s and in the first decade of the 21st century, we may not help to recall the breakdown of the political-economic system of the Warsaw Convention and the voices celebrating uncontrolled markets and total capitalist freedom.

Research into the crisis of the Late Bronze Age states had stimulated the summarized economic interpretation of some of the phenomena that were traditionally linked to the activities of the Sea Peoples. However, during the last few years there was also skepticism expressed regarding the initiative of Cypriot traders and especially the assumption that those Cypriots should have undermined palatial trade. Philologists and historians working on the tablets from Ugarit found no evidence of any subversively decentralized role of Cypriots, quite the opposite, i.e. Ugaritic – Cypriot relations are documented to "rather frequently involve the kings of Ugarit and Alašiya directly" (Routledge and McGeough 2009: 26). On the archaeological side, recent research in present-day Israel, Cyprus and Syria could show that the changes in material culture visible in these regions around and after 1200 BCE do not easily fit a predominantly economic explanation.

The colleagues in Israel rightly remarked on the fact that the so-called Philistine monochrome pottery, characteristic of those settlements that are historically known as belonging to the Philistine pentapolis, differs markedly in vessel-type frequencies from the previously imported Mycenaean assemblages (Dothan and Zukerman 2004: 45). The latter were predominantly imported from the Argolid according to chemical analyses by NAA (Jung 2015: 243–245, fig. 1), while NAA and petrographic analyses proved that the Philistine monochrome pottery was produced locally (Killebrew 2013). The fact that those locally produced pots did not continue the repertoire of the imported Mycenaean pots, but make up a repertoire of new Mycenaean shapes – in some cases slightly adapted to a local style and exhibiting a variety of Aegean and also Cypriot influences – argues against the interpretation of that local painted pottery as import substitutes as the economic-

modernist interpretation would have it (Dothan and Zukerman 2004: 45). Similar observations could be made in southern and northern coastal Syria and in Cyprus on locally produced pottery that adheres to Mycenaean prototypes (Jung 2011a, 2011b). It is true that on Cyprus Mycenaean-type and Mycenaeanizing pottery was already locally produced during LC IIC, in the 13th century BCE, but it is important to stress that the large increase in production of such locally produced Mycenaean-type pottery did not continue previous trends. Rather this production introduced a new repertory with completely new percentages of vessel types.

A fresh wind came into the debate on Philistine material culture, when modern migration studies were used to classify models of migration and test them against the archaeological evidence at the different settlements (Yasur-Landau 2007). It was realized that food preparation and consumption habits are often preserved by immigrants in their new cultural milieu, even when they try to adopt many other habits of their region of immigration. This is when the study of cooking pots, a class of pottery that had previously rather been neglected in virtually all countries around the eastern Mediterranean, became an important indicator of social change. Some stimulus came from feasting and consumption debates in Aegean archaeology and especially from scholars working on Minoan Crete, where kitchen pottery had been analyzed in order to trace Mycenaean influence during the Minoan post-palatial period (Borgna 1997). Scholars realized that a new shape of cooking pot and new types of fixed hearth installations made their appearance in the early phases of the Philistine sites. The new cooking pot shape was without predecessors in the region and could be directly related to Mycenaean prototypes, namely the cooking jug FT 65 and the cooking amphora FT 66. These flat-bottomed cooking pots had to be used in a totally different way from the round-bottomed cooking pots of Canaanite tradition. They were adapted to a use on the fixed hearths (Killebrew 1999). At Ekron, Ashkelon, Ashdod and Gath technological and petrographic analyses showed that also the manufacture of the Mycenaean-type cooking pots was different from that of the Late Bronze Age Canaanite cooking pots in terms of clay paste preparation by the potters (Ben Shlomo 2011: 277–278; Master 2011; Killebrew 2013). The same applies to the few Mycenaean-type cooking pots manufactured at Tell Kazel in Syria when compared to the round-bottomed cooking pots of local tradition (Badre *et al.* 2005: 19; 25; 27, fig. 3; 28, fig. 4,1; 34, fig. 9,2; Jung 2011b: 124, fig. 4,2; 127).

At the Iron Age I sites in Philistia archaeozoologists supplemented the pottery evidence by zoological data in order to reconstruct the diet of the inhabitants. Their most debated finding was the presence of pig bones (of domestic pigs) in the earliest strata of the Iron I settlements, as it seemed to show that the diet of the presumed newcomers differed in at least one animal species from the traditional diet in many Late Bronze Age settlements (Hesse 1990: 209–218; Hesse and Wapnish 1997). Indeed, the progress of archaeozoological research showed that from Ashkelon in the south up to Ugarit in the north the Late Bronze Age populations of the Levantine coastal regions consumed domestic pig rarely, if at all (see Vila and Dalix 2004; Chahoud and Vila 2011–2012 – both also including the central and northern Levant). By contrast, pork was consumed in the Aegean, the hypothetical home region of the Philistines, and in Cyprus during LC IIIA, the phase in which a similar immigration originating in the Aegean affected the island according to some scholars (Yasur-Landau 2010a: 295–299).

Regarding changes in kitchen ware, very similar observations could subsequently be made in Cyprus. Both, in Cyprus and in Philistia the new Mycenaean-type cooking pots replaced earlier round-bottomed cooking pot types to a considerable extent during LC IIIA and Iron Age IA, i.e. during the first half of the 12th century. In 13th century Cyprus handmade round-bottomed cooking pots of Cypriot tradition were directly set into the hearth fire, as burning marks attest. During the 12th century flat-bottomed cooking pots of Mycenaean type were used on carefully constructed hearth platforms that were introduced to the island contemporaneously with those cooking jugs and amphorae (Jung 2011a) (Fig. 1).

In other Levantine regions, the picture is different. Although in Cilicia and along the Syrian and Lebanese coasts Mycenaean-type pottery had been locally produced since the early 12th century, this phenomenon remained largely limited to fine-ware pottery. Only occasionally were cooking pots of Mycenaean type produced and used. A regionally much diversified picture emerges in terms of pottery use (Fig. 1). This is also true in quantitative terms, although even today excavation publications often do not provide sufficient statistical data to enable direct site-to-site comparisons. In general, it seems that the locally produced Mycenaean and Mycenaeanizing pottery classes make up a large or even dominant part of the whole pottery repertoire at Iron IA sites in the historical Philistine pentapolis and in many settlements on Cyprus.

The same seems to be true for a few settlements in northern coastal Syria and in the north Orontes valley such as Ras Ibn Hani (du Piêd 2011) and Tell Taʿyinat (Janeway 2011). However, in these cases we are dealing nearly exclusively with painted Aegean-type pot-

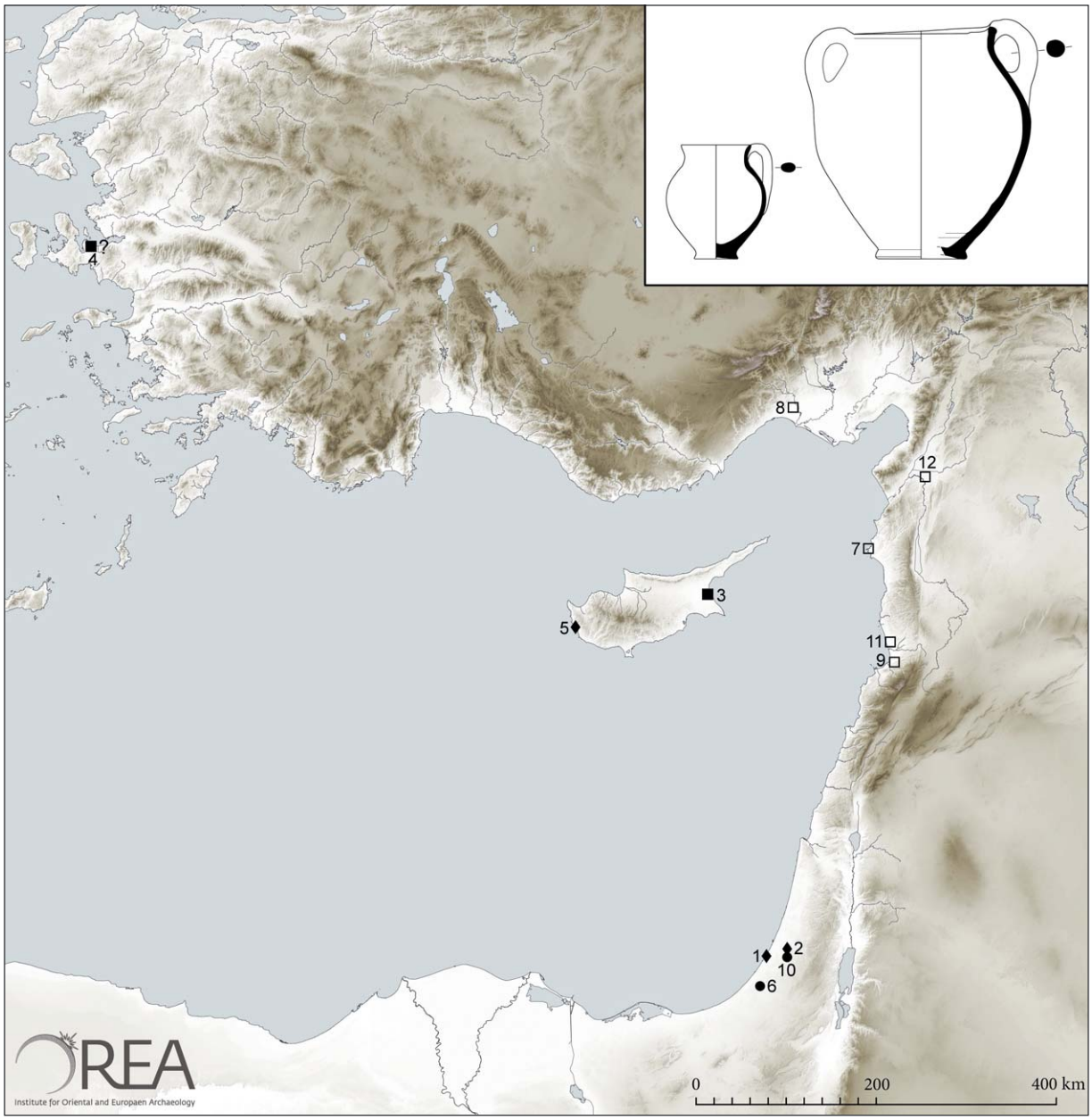

Fig. 1 Mycenaean-type cooking pots (FT 65 and 66) from settlements east of present-day Greece. Presence among the cooking pots in the single settlements: ■ – exclusive; ♦ – predominant; ● – frequent; □ – rare (mapping R. Jung, graphics M. Börner): 1. Ashkelon, Iron Age I (Master 2011: 261–263); 2. Ekron, early 12th century (Dothan and Zukerman 2004: 30; Dothan *et al.* 2006: 78; 87–88; Ben-Shlomo 2011: 276); 3. Enkomi IIIA, LC IIIA (R. Jung); 4. Liman Tepe, LH IIIC (Mangaloğlu-Votruba 2011: 47; 69, fig. 2,b and personal communication by S. Mangaloğlu-Votruba, who made a cautious remark regarding the small extension of the excavated LH IIIC strata); 5. Maa-Paleókastro, LC IIIA (R. Jung); 6. Qubur el-Walaydah VII, Iron Age IB, Field 1 (Lehmann 2011: 290–295); 7. Ras Ibn Hani (du Piêd 2006–2007: 180 with n. 15); 8. Tarsus, LB II (Goldman 1956: 217, fig. 324,1220. 1221; fig. 389,1220. 1221, and personal communication A. Özyar and E. Ünlü); 9. Tell ʿArqa, Phase 11 (Charaf 2011: 207; 215–216, fig. 5,5 and 6); 10. Tell es-Safi (Gath), Iron Age I Early–Middle (Zukerman 2012: 286–290, fig. 13.4); 11. Tell Kazel, LB II/IA I and IA I (R. Jung); 12. Tell Taʿyinat, Field Phase 5, Iron Age I (Janeway 2011: 176–177; 185, fig. 3,7. 8)

tery. At Tell Kazel in southern coastal Syria the situation is again different. Here we find about one third of unpainted pots among the local Mycenaean table wares. However, in contrast to Ras Ibn Hani, the whole of the local Mycenaean pottery makes up only a small percentage of the pottery total at the beginning of the Iron Age (Jung 2011b).

Comparing the Aegean to the Levant we may note an interesting fact. While along the eastern Mediterranean coasts various fine and coarse-ware classes of pottery of Aegean type or inspiration are taken to represent one of the most visible correlates of Sea Peoples settlement, in the Aegean other artifacts come into discussion, when scholars try to find traces of those invaders. The identification of a non-Aegean pottery class at several Late Bronze Age sites on the Greek mainland dates back to the late 1960s and early 1970s. For more than two decades the search for the origin of that pottery class called Handmade Burnished Ware or Handmade and Burnished Pottery developed in various directions including Troy, the central Balkans, the Adriatic coasts and southern Italy. At the beginning of the 1990s Klaus Kilian was able to demonstrate that at LH IIIB and IIIC Tiryns the main inspiration for the potters of that Handmade and Burnished Pottery came from southern Italy (Kilian 2007: 54–55; 75–80 [printed posthumously]). A similar result had been reached by Birgitta Hallager for LM IIIB–C Khaniá (Hallager 1983). Others followed that approach and added discussions of further sites on the Greek mainland and on Crete.[1] It turned out that at most of the late palatial and early post-palatial sites the Handmade and Burnished Pottery can be connected to Recent Bronze Age southern Italy, while there are a number of sites with a second handmade pottery class, the types of which cannot be convincingly related to any region outside the Mycenaean orbit (Fig. 2). Nearly everywhere in the Aegean, where either chemical or petrographic analyses have been undertaken, the Handmade and Burnished Ware of Italian type was found to be of local manufacture (Jung 2006a: 24 with bibliography). Regarding the fact that its whole technology differs from Aegean potting traditions, which were using the fast wheel, and that its typology has barely any relation to Mycenaean and Minoan shapes, this pottery is now commonly taken to have been used by people of foreign – in this case Italian – origin, who preserved some of their consumption habits. This argument appears analogous to the one used in the Levant and Cyprus to explain the presence of the slightly later locally produced Mycenaean and Mycenaeanizing pottery of the Iron Age I period.

Once the problem of origin seemed to be solved for a major part of the Handmade and Burnished pottery, detailed topographical studies, first at Tiryns, later at Khaniá and other sites, started with the aim of illuminating the social position of the people using those vessels in the context of Mycenaean society. Studies covering a large part of the settlement, including different quarters and preferably houses with secure floor deposits, are still a *desideratum* for new archaeological fieldwork. The debate is going on, and opinions still diverge (Kilian 2007: 50–52; Stockhammer 2008 vol. I: 288–294; Rahmstorf 2011: 316–318; 328–329, figs. 2–4; D'Agata *et al.* 2012).

The earliest appearance of the Italian-type Handmade and Burnished pottery during the last phases of the palace period was found to coincide both chronologically and topographically with the appearance of new bronze types termed Urnfield bronzes or bronzes of the metallurgical koiné, such as fibulae, Naue II swords, spearheads with cast sockets and other items. A debate evolved around the question of the way in which pottery and bronzes were related to immigrant groups and whether these immigrants can be seen as warriors that eventually became involved in some of the Sea Peoples' groups attacking Egypt and the kingdoms of the Levantine coasts. Some would rather see an involvement of traders (recently Iacono 2013, who does not, however, deny the presence of Italian immigrants in Greece), while others interpret these objects as related to some warrior groups and their followers, who were present as immigrants at several Mycenaean settlements. Such a presence of warriors originating in Italy is explained in different ways, supported also by sociological models of migration studies (Peroni 1983: 258–271; Bettelli 1999: 468–472; Jung 2009a; Jung and Mehofer 2013).

Several classes of Handmade and Burnished Pottery are still sometimes mapped together without differentiation between their different typological repertoires (Rahmstorf 2011: 319, 330, fig. 6; Broodbank 2013: 463–464, fig. 9.15; Iacono 2013: 64, fig. 5.2). It could be shown, however, that in the Aegean we may differentiate between technological and typological traditions of different origin: One tradition of handmade pottery –

[1] Bettelli 1999: 117–127, figs. 54–56; Jung 2006a: 32–39; 179–187; 199–204; 208–210, pl. 26; Bettelli 2009; D'Agata *et al.* 2012.

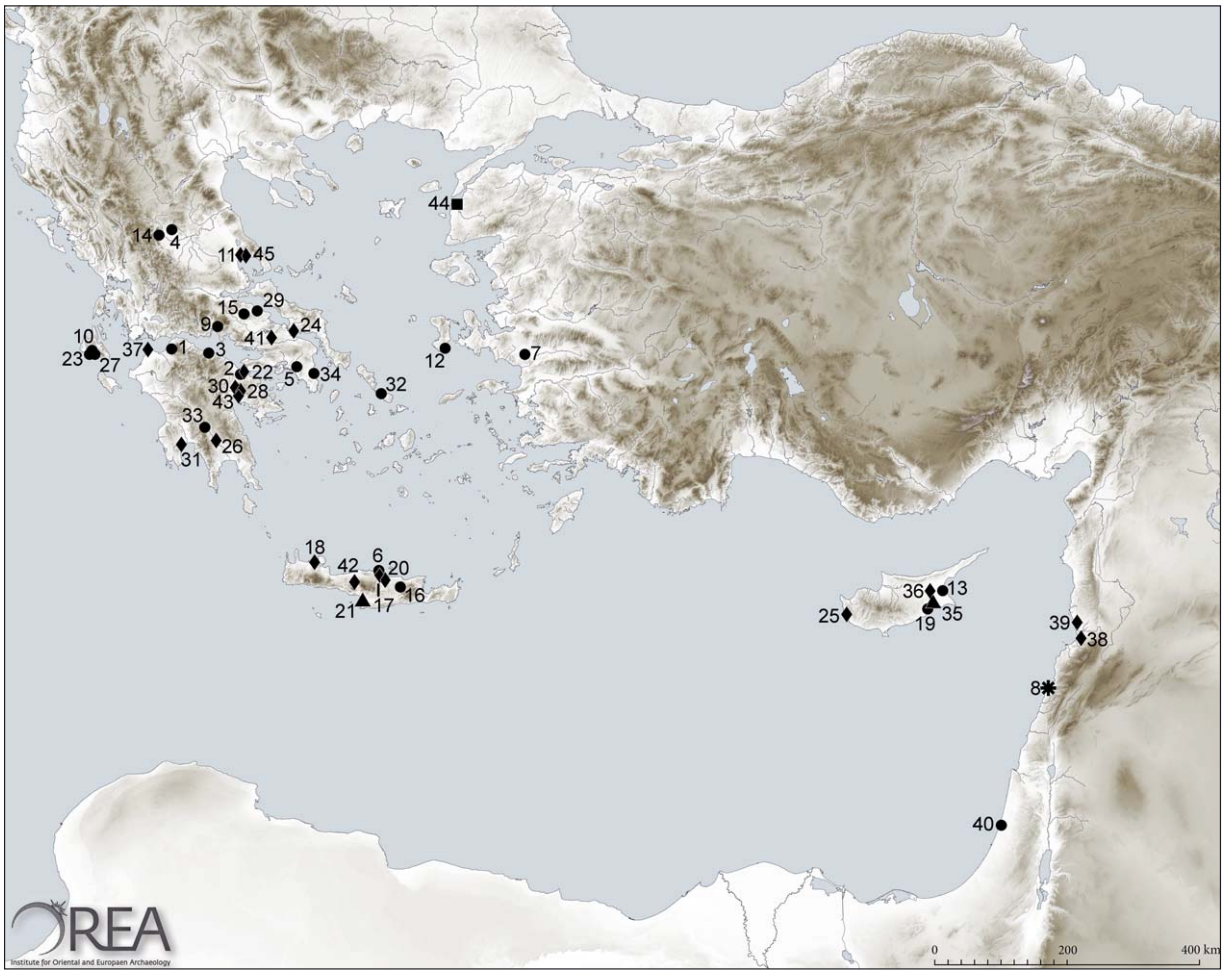

Fig. 2 Handmade and Burnished Pottery in the eastern Mediterranean from the later 14th to the early 11th century BCE (northern and north-western Greece not mapped; Submycenaean contexts excluded): ♦ – Italian mainland types; ▲ – Sardinian types; ❋ – Sicilian types; ■ – Balkan types; ● – local and non-classifiable types (bibliography as quoted and according to Jung 2006a: 255–256; so-called *céramique à la stéatite* of northern Syria not mapped, cf. Rahmstorf 2011: 319; 330, fig. 6) (mapping R. Jung, graphics M. Börner): 1. Achaia Clauss (Paschalidis and McGeorge 2009: 85); 2. Acrocorinth (Jung 2006a: 255, pl. 26); 3. Aeyíra (Jung 2006a: 255, pl. 26); 4. Aghreliá (Jung 2006a: 255, pl. 26); 5. Athens (Jung 2006a: 255, pl. 26); 6. Ayía Pelayía (Jung 2006a: 255, pl. 26); 7. Bademgediği Tepe (Jung 2006a: 255, pl. 26); 8. Beirut (Badre 1998: 76–77, fig. 4a–b; Jung 2009a: 134–135, fig. 3:3); 9. Delphi (Jung 2006a: 256, pl. 26); 10. Dhiakáta (Jung 2006a: 256, pl. 26); 11. Dhimíni (Jung 2006a: 256, pl. 26); 12. Emporió (Jung 2006a: 256, pl. 26); 13. Enkomi (Pilides 1994: 87–88, cat. nos. 23–26, fig. 19,1–4; Pilides and Boileau 2011: 117; 124, fig. 1; 126, fig. 4); 14. Exálofos (Jung 2006a: 256, pl. 26); 15. Kalapódhi (Jung 2006a: 256, pl. 26); 16. Kastélli, Pedhiádha (Jung 2006a: 256, pl. 26); 17. Kastrokefála (Kanta and Kontopodi 2011: 130; 141, fig. 8g); 18. Khaniá (Jung 2006a: 256, pl. 26; Hallager 2011: 371–372, pl. 128,80-P1046+. 77-P2049; D'Agata *et al.* 2012: 299–309); 19. Kítion (Pilides 1994: 85–87, cat. nos. 1–22, figs. 16–18); 20. Knossós (D'Agata *et al.* 2012: 308–309, fig. 7B); 21. Kommós (Jung 2006a: 256, pl. 26); 22. Korákou (Jung 2006a: 256, pl. 26); 23. Lakkíthra (Jung 2006a: 256, pl. 26); 24. Lefkandí (Jung 2006a: 256, pl. 26; Popham *et al.* 2006: 215–218, fig. 2.42,2–4, pl. 49–50; Bettelli 2009: 113–114, fig. 12,6); 25. Maa-Palaeókastro (Pilides 1994: 88–89, cat. no. 28, fig. 20,1); 26. Menelaion (Jung 2006a: 256, pl. 26; Catling 2009 I: 380–383; II: 235, fig. 239,PE272; 236, fig. 240,PE276; 297, fig. 301,A266. A268); 27. Metaxáta (Jung 2006a: 256, pl. 26); 28. Midea (Jung 2006a: 256, pl. 26; Demakopoulou *et al.* 2003: 10–11, fig. 9; 14–15, fig. 22); 29. Mítrou, SH IIIC (Jung 2006a: 256, pl. 26); 30. Mykene (Jung 2006a: 256, pl. 26); 31. Nichória (Jung 2006a: 256, pl. 26); 32. Pánormos, Tholosgrab A (Despinis 1981: 235, pl. 142α. γ); 33. Pellána (Demakopoulou 1982: 116–117, cat. no. 13, pl. 59,135); 34. Peratí (Jung 2006a: 256, pl. 26); 35. Pyla-Kokkinókremos (Karageorghis 2011; Hermon *et al.* 2011); 36. Sínda (Pilides 1994: 88, cat. no. 27, fig. 19,5); 37. Teichos Dymaion (Jung 2006a: 256, pl. 26); 38. Tell ʿArqa (Charaf 2011); 39. Tell Kazel (Badre 2006: 83–89; 91 with figs. 14; 16,1. 2. 5.6; 17,1–6; 19,1–5); 40. Tel Qasile (Mazar 1985: 43–44; 198–199, fig. 29,20–22; 208–209, fig. 34,12.13); 41. Thebes (Jung 2006a: 256, pl. 26); 42. Thrónos Kephála (D'Agata *et al.* 2012: 310–316 with figs. 9 and 11,2. 3. 5); 43. Tiryns (Jung 2006a: 256, pl. 26; Kilian 2007); 44. Troy (Jung 2006a: 256, pl. 26; Hänsel 2008; Hnila 2012); 45. Vólos, Kástro/Paliá (Jung 2006a: 256, pl. 26)

which is present at the largest number of sites – is related to southern mainland Italy and more precisely to the so-called *Subapennine* culture group of Recent Bronze Age date. A second tradition of handmade pottery has a central Balkan origin and, so far, is confined to Troy (for recent studies on the Trojan finds see Hänsel 2008; Hnila 2012). A third one is probably a local invention at several sites in central Greece and perhaps related to people living in remote areas barely known through archaeological research (Jung 2006a: 40–47; for a different yet also local explanation of this category see Lis 2009). Detailed distribution maps of these categories are available today (Jung 2006a: 46–47 pl. 25–26; Lis 2009: 150–157 fig. 18.2; D'Agata *et al.* 2012: 296–297 fig. 1A; for an update see Fig. 2).

One may note that the chronological and geographic distribution of both the handmade pottery of Italian type and the bronzes of the metallurgical koinè followed a west-east direction, reaching Cyprus and the Levantine shores slightly later than Greece. The so-called Urnfield bronzes are not numerous in the Levant, but this scarcity may very well be due to the fact that we know only few tomb contexts dating to early Iron I in those regions.

It is further important to remark on the fact that the distribution of Italian-type handmade pottery is very uneven to the east of Greece. At two sites in Cyprus some single sherds or vessels conform to the *Subapennine* typological repertoire, at one site to a *Nuragic* type, while a few more pieces from those and other sites might belong to this group (Fig. 2), but are difficult to classify due either to their non-specific shape or to their fragmentary preservation (cf. Pilides 1994; Jung 2009b: 78; Kilian 2007: 67–68). In view of this rarity in Cyprus, the larger quantities found at two sites in the Akkar Plain, i.e. of dozens of sherds and vessels at Tell ʿArqa and six at Tell ʿArqa, are remarkable and cannot be explained by a simple model suggesting that all of the pottery classes of western derivation must have come via Cyprus. The handmade and burnished pottery from the Akkar Plain compares very well with the repertoire of southern continental Italy – note especially the carinated cup and bowl shapes (Charaf 2011: 204; 212, fig. 2,1. 2; Badre 2006: 87–88, fig. 17,6; Fig. 3:1). Only at a few Aegean sites such as Tiryns, Dhimíni and the Spartan Menelaion provide us with similar quantities and a comparable typological variety. In the Near East Tell Kazel and Tell ʿArqa are the only sites that yielded Recent Bronze Age Italian-type handmade pottery (the handmade pots from Tel Qasile being unrelated to Italian pottery traditions, see Fig. 2:40), while it is especially remarkable that at both sites this class had been locally produced according to petrographic and chemical analyses (Badre *et al.* 2005; Boileau *et al.* 2010; Mommsen 2011). The technology of some pots from Tell Kazel even exhibits specific characteristics paralleled in southern Italy, but not among the local pottery classes, e.g. grog temper. It even seems that the predilection for carniated bowls in the *Subapennine* pottery manufacture inspired potters at Tell Kazel to produce similar shapes on the wheel by using technology and style otherwise reserved for the local Mycenaean pottery (Fig. 3:2).

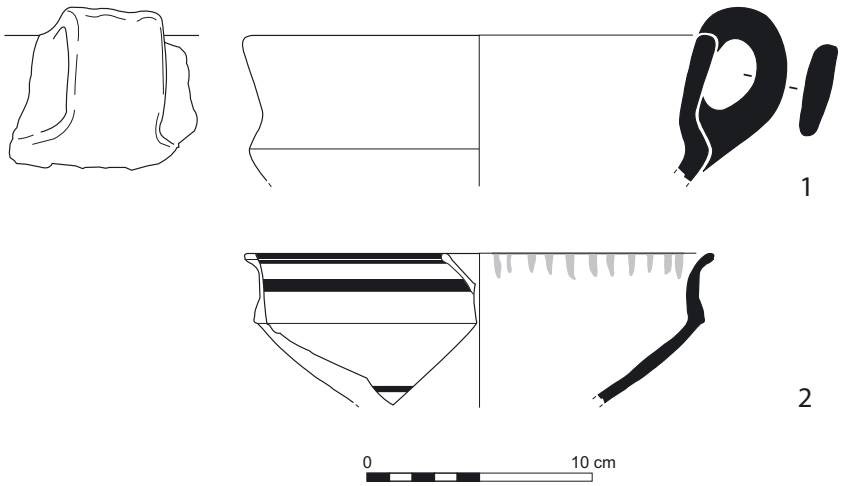

Fig. 3 Pottery from Tell Kazel: 1 – handmade carinated bowl of *Subapennine* type from Tell Kazel (first published in Badre 2006: 88, fig. 17,6 – but restored with two handles); 2 – wheelmade and painted carinated bowl of local Mycenaean style (Scale 1:3, drawings R. Jung and R. Yassine)

Contemporaneously with the Italian-type handmade pottery, locally produced Mycenaean-type pottery appeared at both sites in the Akkar Plain (for Tell ʿArqa see Charaf 2007–2008: 76–80, fig. 4,i. k). In addition, at Tell Kazel there is a second pottery class of Italian derivation, so far not found at Tell ʿArqa. In discussions of the Tell Kazel material it has sometimes been overlooked that two distinct classes of Grey Ware are present at the site. One consists of Trojan shapes (a kylix and amphoroid kraters with incised wavy line decoration) known from several Levantine sites. According to chemical analyses by NAA these vessels had indeed been imported from the Troad (Badre 2006: 87–88, fig. 16,8; Badre *et al.* 2005: 19; 31, fig. 7,3. 4; Mommsen and Pavúk 2007). The second Grey Ware category of Tell is of unknown provenance (the NAA results did not match any known chemical group), differs clearly in terms of technology from the Trojan fabrics and has no parallels at other Levantine sites so far (Badre *et al.* 2005: 19; 31, fig. 7,1.2; Badre 2006: 87–88, fig. 17,7. 9. 10. 12; Jung 2012: 111, fig. 10.4,3. 5. 8. 10). The shapes of this second Grey Ware class are either Mycenaean (deep bowl FT 284/285) or *Subapennine* Italian ones (carinated bowls, carinated cup and jug), and they seem to functionally supplement the handmade *Subapennine* vessels, together with which they were found in the same stratigraphic contexts (Badre 2006: 87; Jung 2012: 109–112, fig. 10.4). They add another remarkable element of Italian derivation and moreover one that can be specifically related to the Ionian coasts of southern Italy. In the Aegean this class has parallels in a comparable variety and with similar quantities especially at Dhimíni.

The discussion of the evidence from the Akkar Plain serves to highlight with an example that the local material culture and thus the historical processes took very different paths in the various regions along the Levantine coasts between Antioch and Gaza. In contrast to the stratigraphic appearance of local Mycenaean and Mycenaeanizing pottery at the southern coastal sites of Palestine (in Iron Age I strata), at Tell Kazel the locally produced Mycenaean-type ceramics and the handmade Italian-type pottery were not only found in Iron Age I contexts, but also inside the final LB II destruction level – in both cases in small percentages compared to the local ceramic repertoire. Although they appear to be products of some small groups of immigrants with an Aegean and a central Mediterranean cultural background, these vessels cannot be convincingly explained as products of the invaders mentioned in Ramesses' III year eight inscription at Medinet Habu for stratigraphical reasons (for Ramesses' III regnal years see now Schneider 2010: 402: 1195–1164 BCE). The inscription refers to a destruction of Amurru, i.e. the region of the Akkar Plain, by the Sea Peoples, who subsequently set up their encampment in this region (Edel 1985: 225, 235–236). A connection of the Aegean- and Italian-type artifact classes to the wider phenomenon of the Sea Peoples may nevertheless exist, if one keeps in mind that migrants tend to move where they find contact persons, people that can transmit knowledge to them about the goal of emigration, perhaps some first adventurers, 'pioneers' that have emigrated earlier (c.f. Burmeister 1996; Yasur-Landau 2007). If the current picture is not heavily distorted by certainly existing research gaps, these early immigrants to this central Levantine region ought to have come by sea from the Aegean and Italy or perhaps from Italy with a subsequent longer or shorter intermediate stay in the Aegean, as in the wider region of the central to northern Levant and Cyprus there is nowhere a comparative assemblage of western-type artifacts belonging to the realm of everyday life. A basically maritime expansion starting from the central Mediterranean and from the Aegean is also in agreement with the laconic information of the written and iconographic sources,[2] and has been convincingly argued with regard to the exceedingly difficult land routes leading through Asia Minor (Mountjoy 2015: 64; 70–71, figs. 21–22).

Coming now to the weapons carried by the Sea Peoples on the Egyptian reliefs, a short comment may suffice. Similarly to what has been written about the hairstyles of the Sea Peoples' women at Medinet Habu (Sweeney and Yasur-Landau 1999), one can state that the weaponry consists of a mixture of different military traditions. Few types have good parallels among Levantine and among Mycenaean weapons respectively (Mehofer and Jung, in the present volume), but many of them cannot be related to 14th and early 13th century warrior equipments from the Aegean, Asia Minor, the Near East and Egypt. Instead, they are new in all of these regions. This is true for the long or short swords with tapering shoulders and converging cutting edges (Jung 2009a: 130–135, figs. 1–2 – quoting Sicilian and southern continental Italian parallels); for the round shield (with the earliest eastern Mediterranean attestations in Mycenaean Greece

[2] Except for the land battle scene, which, however, shows the land transport only for the way from a Levantine region to Egypt.

during the second half of the 13th century, Jung and Mehofer 2008: 127–130); for the horned helmets (in Cyprus and the Aegean mainly depicted during the late 12th century, i.e. later than in Egypt;[3] Borchhardt 1972: 37–38; 113–115, pls. 12,3; 13; 14,1–3; Mountjoy 1999: 355–356, fig. 122,128); and finally for the composite helmets consisting of metal stripes, rivets and organic fibers (with the possibly earliest depiction on a krater from Bademgediği Tepe in western Asia Minor that differs slightly from the Medinet Habu depictions and is difficult to date: in LH IIIC Early to Middle, see Mountjoy 2007: 226; 242, fig. 14; Mountjoy 2015: 67; 74–75, figs. 25–26).

This last helmet type, which we may call 'type Pórtes' after the best-preserved specimen (Moschos 2009: 356–359, figs. 1 and 2a), has no direct parallel in the central Mediterranean. However, we have to keep in mind the almost total lack of defensive armor in 14th to 12th century southern Italy (most probably due to the burial rites practiced in those areas), and we may quote possible 14th century forerunners found in northern Italy, i.e. organic caps with rows of rivets worn by sword-bearing warriors (Jung 2009b: 78–79; 82–84; 89, fig. 2; 93, fig. 8).

The swords carried by the Šardana on the early 13th century reliefs compare well with the abovementioned southern Italian and Sicilian weapons. Such a sword is also part of the earlier Uluburun shipwreck assemblage (Vagnetti and Lo Schiavo 1989: 222–224, fig. 28.2) dated to the Amarna Age by a Nefertiti scarab and to LH IIIA2 by means of the associated Mycenaean pottery. The presence at Beirut (Fig. 2:8), in a context of the same date, of an imported Sicilian vessel together with local, Cypriot, and Mycenaean pottery also points at maritime traffic between the Levant and Sicily (Badre 1998: 76–77, fig. 4a–b; Jung 2009a: 130–136, figs. 1–3; Boileau *et al.* 2010: 1684–1685; 1688). However, the evidence at both ends does not suggest that regular Sicilian-Levantine exchange activities were taking place. It is therefore perhaps no coincidence that the earliest texts mentioning the Šardana (in the form of Širdanū) testify to their presence in a military context in the central Levantine region, a few kilometers to the north of Beirut, at Bylos, and dates again from the Amarna Age.[4]

Apart from weaponry, another aspect discussed in recent years is the Sea Peoples' ships (Fig. 4:1). Michael Wedde compared the late Mycenaean ship iconography attesting to the use of war ships with crews of about 50 men (i.e. pentekonters in ancient Greek terminology) to the famous Ugarit letters that report attacks by 7 and 20 ships respectively (Wedde 1999: 468–470, pl. 87; Wedde 2000: 74–75; 104–107; 168). This leads us to the wide-spread belief that the Sea Peoples' ships depicted at Medinet Habu can be assigned to Aegean types. Sandars compared the ship painted on a stirrup jar from the Aegean island of Skyros with the ships of the Sea Peoples, but thought the latter had been built in the Levant (Sandars 1985: 130–131, fig. 85). However, a problem arises with this and similar interpretations, for the late Mycenaean and Minoan ships invariably have only one protome of a dragon or phantastic creature on the stem post, while all the Sea Peoples' ships on the Medinet Habu reliefs have two identical bird head protomes on the symmetrically shaped stem and stern posts.[5] Vassilis Petrakis and, in a similar way, Assaf Yasur-Landau argued that the Egyptians had altered or misunderstood the phantastic stem posts of the Aegean ships when creating their reliefs (Petrakis 2006: 203–206; Yasur-Landau 2010b: 402). Shelley Wachsmann, instead, believed that at least one ship with two bird

[3] However, the person with a horned helmet depicted on a pictorial krater of Cypriot style at Hala Sultan Tekke, Area 6-West/CQ2, Stratum 2 (Fischer and Bürge 2014: 81–83, figs. 27–28) most probably dates from the first half of the 12th century BCE (for the date of Level II to LC IIIA1 see Fischer and Bürge 2014: 83–84, fig. 30). One bird with a 'humped back' on the krater compares quite well to a bird on a deep bowl from well TE VIII at Palaepaphos/Koúklia-Evrétis and thus indicates the same time span (Maier 1973: 75, pl. 15,3; for the date of birds showing the same style see also Vermeule and Karageorghis 1982: 167, cat. nos. XIII.10–XIII.11; Güntner 2000: 290; Mountjoy 2005: 107–108). The Cypriot krater may thus give us an example of a horned helmet approximately contemporaneous or only slightly more recent in date than the Medinet Habu reliefs.

[4] Amarna letters nos. EA 81, Z. 16; EA 122, Z. 35; EA 123, Z. 15 (Moran 1987: 261; 334–335).

[5] A wrong drawing of a depiction on a krater sherd from Tiryns was sometimes used to argue that there were Mycenaean ships with two bird head protomes (Bouzek 1985: 177, fig. 88,6; Wachsmann 1997: 354 fig. 26). The published photo proves otherwise (Slenczka 1974: pl. 39,1e) and correct drawings have already been published (e.g. by Wedde 2000: 124; 324, cat. no. 640; Petrakis 2006: 203; 205, fig. 11; 219, cat. no. 15). Instead of interpreting this depiction as a bird boat as Wedde and Petrakis do (*op. cit.*), it can be argued that the motif is in fact a double whorl-shell with additional bird heads. Hartmut Matthäus was the first to suggest this possibility. He then dismissed it, but without compelling arguments (Matthäus 1980: 319–320).

head protomes and symmetrical stem and stern posts did arrive with the Sea Peoples at the Egyptian coasts. He followed a much older school of thought (Kimmig 1964: 224) in linking this ship type to depictions of the so-called bird boats or *Vogelbarken* from the regions of the Urnfield cultures in central and southeastern Europe (Wachsmann 1997: 351–354). The advocates of this theory sought the origin of the Sea Peoples' ships with two symmetrical bird heads in the Carpathian Basin and central Europe (see also Bouzek 1985: 178–180, fig. 89–90; 212–213), while the western Mediterranean was neglected in this perspective. However, in continental Italy the stylized bird boat with two protomes has a long history going back to Middle Bronze Age 3 (contemporary with LH IIIA). Many examples are attested for the Recent (Fig. 4:3–4) and the Final Bronze Age (Fig. 4:2) periods, that are contemporary with LH IIIB and IIIC. Isabella Damiani discussed these motifs and also recognized the possibility of connections with the Medinet Habu ships. However, she preferred an Egyptian inspiration for the Italian motif rather than the opposite, although she had already admitted that there are no other parallels in Egyptian iconography for the symmetrical double-headed boat or ship (Damiani 2010: 315–322, pl. 112C; 113–114; 457; 459, fig. 95, 3–5).

While it is nearly impossible to create an explanatory model, in which the archaeological evidence in Italy would support any Egyptian ideological and iconographic influence on local Bronze Age iconography, the reverse way taken by the ships themselves (perhaps via the Aegean) is very plausible. Some Final Bronze Age representations on razors (e.g. Fig. 4:2) and on a pottery vessel from Italy show a stylized human figure on the double-headed bird boat (Jockenhövel 1974: 81–82; 87; Bianco Peroni 1979: 21–23, pl. 8:95. 96; 112B). Although these last-mentioned objects are slightly more recent in date than the Medinet Habu reliefs, they tend to support the notion that the earlier bird boat motifs from Italy are indeed also stylized ship representations. The incised representation on a cup from the settlement of Filo Braccio located on the Aeolian Island of Filicudi north of Sicily and dated to the first half of the 2nd millennium BCE (Martinelli *et al.* 2010: 308–312, fig. 15–16) might even suggest that double-headed ships were in use throughout the second millennium in the central Mediterranean (Fig. 4:5). The information of the Medinet Habu inscription according to which the different attackers came from some unspecified islands would fit with an ultimate Italian origin of their ships. The non-Aegean type of those ships and of several weapons and elements of armor of the crew would also fit such a scenario.

We do not know if different ship types were used in the various attacks on the Egyptian coast reported by the written sources. There may well have been more than one type involved, if we take into consideration the fact that the sea battle showing a single ship type on the side of the attackers is the only depiction of a sea battle between the Sea Peoples and the Egyptians (Nelson 1930: pl. 39). The careful examination and new reconstruction by Shelley Wachsmann of a wooden ship model on a cart that was found at the middle Egyptian site of Gurob proves that the Mycenaean galley of Wedde's type VI was also known in 13th/12th century calBC Egypt (Wachsmann 2013 – including also ^{14}C-dates of the wood). This model has – among others – a bow projection and a stempost with a stylized protome, on which the beak or snout of the animal is added separately, while it has no sternpost and is thus clearly differentiated from the Italian-type double-headed ships. Type VI is the Mycenaean warship par excellence and also depicted in sea battles in the Aegean, on the aforementioned krater from Bademgediği Tepe and on a LH IIIC Advanced krater from the central Greek settlement of Pýrghos Livanatón (Dakoronia 2006: 171–172, fig. 1; Wedde 2000: 54–56; 62, fig. 15; Wachsmann 2013: 63, fig. 2.34; 74–75; Mountjoy 2015: 64–65; 72, fig. 23).

The different regions

The Sea Peoples will probably never lose their fascination for archaeologists, philologists and historians (cf. Cline 2014). Personally, I think this is for two reasons. First, they constitute one of the few subjects where prehistory meets history. Historical sources from some regions stimulate interpretations regarding neighboring regions, which themselves do not provide us with texts. In a fruitful interdisciplinary dialogue with text-based disciplines archaeology can hope to get closer to a more detailed reconstruction of historical processes that may at least partially go beyond the reconstruction of long-term processes of culture change and a history of *longue durée* towards recognizing true political developments and even in some cases historical events. However, the lacunae in our record are immense and lead us to the second reason for the fascination exerted by the Sea Peoples. Those lacunae exist in each region of their former activity, they challenge us to complement knowledge from one region with that from another, a task not without methodological difficulties. It may be useful, in the end, to recall the situation of the various areas starting with Egypt. Here, we possess the largest amount of historical information from textual sources and from iconography. However, we are largely missing traces

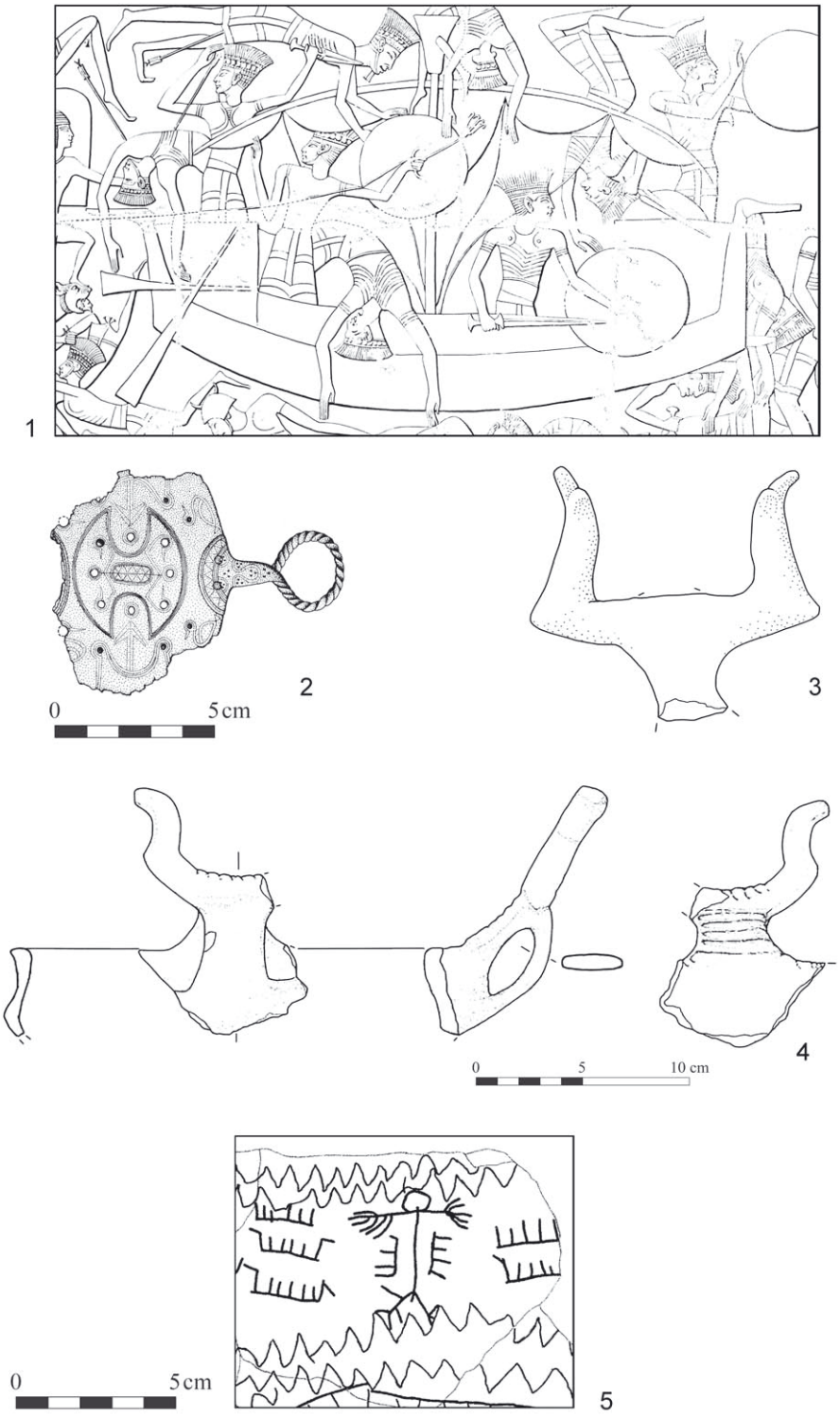

Fig. 4 1 – Sea Peoples' ship on the north wall of Ramesses' III Temple at Medinet Habu (after Nelson 1930: pl. 39); 2 – bronze razor showing double-headed bird boats with a human figure standing on it, Italy, find place unknown (in the Royal Scottish Museum, Edinburgh; after Bianco Peroni 1979: pl. 8:96); 3. 4 – protomes in the shape of double-headed bird boats from Recent Bronze Age pottery cups, found at San Polo Servirola (3) and at Villa Persolino (4) (after Damiani 2010: 318, pl. 113:12; 320, pl. 114:8); 5 – incised motifs possibly representing the sea, ships and a human being on an Early Bronze Age 2 cup from Filo Braccio on the island of Filicudi (after Martinelli *et al.* 2010: 310, fig. 15:1–2).

of the *dramatis personae* in the archaeological record, we know how they should look like, but we can barely identify them in tombs or settlements (see, however, two swords from Lower Egypt, Mehofer and Jung, in the present volume). This is not only true for the so-called Sea Peoples, but maybe even more so for their allies at the time of Merneptah, the Libu, whose material culture is almost completely unknown to modern research.

In neighboring Palestine, named after one of the immigrant groups, archaeologists have gathered and published an impressive amount of detailed stratified data from most of their historically known settlements and from a series of other sites (for the last decade see e.g. final site publications by Dothan and Ben-Shlomo 2005; Meehl *et al.* 2006; Stager *et al.* 2008; Maeir 2012). They are reporting on all fields of archaeological and archaeometric research, as the acts of this conference demonstrate. Strangely enough, there is still a dearth of both written sources (Cross and Stager 2006) and tomb contexts (Laemmel 2013) that could be connected to those people who had come over the sea during the 12th century BCE, while written sources of the preceding Late Bronze Age do exist from several sites.

Further to the north the archaeological map is not dotted in the same density with research excavations, while the fewer sites do provide most relevant data both in terms of archaeological finds and texts – first and foremost Ugarit, of course. Recent years saw the excavations of other sites with final Late Bronze Age II and Iron Age I levels providing finds relevant for the subject of the Sea Peoples. One can name the inland settlements of Tell Afis in Syria and Tell Taʿyinat in modern Turkey (Pedrazzi 2007–2008; Venturi 2007; Harrison 2010; Janeway 2011), the inland cremation necropolis of Tell al-Nasriyah (Faivre 2013) as well as the coastal settlement sites of Tell Tweini, Ras Ibn Hani and Tell Kazel in Syria and Tell ʿArqa in Lebanon (du Piêd 2011; Badre 2006; Jung 2006b, 2010, 2011b; al-Maqdissi *et al.* 2010). All these sites provide us with Aegean-type artifacts, mainly painted pottery, and those in the Akkar Plain also with Italian-type handmade pottery (see above). Another important excavation was that of the Temple of the Storm God on the citadel of Aleppo with its most important inscription linking up with other inscriptions mentioning a "land Walistīn" or "Palistīn" in northern Syria at the very end of the second millennium (Kohlmeyer 2009: 197–200; Hawkins 2009 and Meijer, in the present volume). Research in Syria has been violently interrupted by the war. In many regions all archaeological legacy is being destroyed and/or sold out by a fascist movement as well as by the regional and international powers fueling the forces of destruction. However, many data collected in the excavations up to 2010 still await edition and interpretation, and Syria will continue to enrich the debate on the Sea Peoples even in these dark times.

Opposite, on the island of Cyprus, the situation is in some way similar to the one in Israel. A whole series of settlements dating from the late second millennium has been excavated, while in several of them field work is going on, providing new important data (e.g. Karageorghis *et al.* 2014). Again, the number of excavated tombs dating from the 12th century is comparatively small, when compared to the huge extensions of excavated settlement areas. Regrettably, there are no texts, which we would be able to understand. Letters sent from Cypriot Alašiya were found in Syria and Egypt, but so far no international correspondence has been unearthed in Alašiya itself.

Compared to its vast territory Asia Minor is almost an empty space with regard to our subject, but without the texts from the Hittite capital we would find ourselves more or less in a state of ignorance regarding the historical development of the great northern power of the Late Bronze Age world. Today we would like to know more about the coastal regions that are so relevant to our endeavor, but progress is constantly made by means of new excavations in Cilicia and in some regions of the west coast (Stampolidis *et al.* 2015). We may note a specific lacuna in the land of the Lukka, one of the very few Sea Peoples of which we think we know the region of origin.

Since the time of Nancy Sandar's masterful synthesis (Sandars 1978 and 1985) and Bernhard Hänsel's fundamental typological and chronological study (Hänsel 1976) archaeology in the northern Aegean and the adjacent regions of the central Balkans has been progressively advancing. Regional chronologies are constantly being built up (e.g. Sava 2002; Jung *et al.* 2009; Hänsel *et al.* 2010). This is a necessary precondition for linking the historical development of the societies in southeastern Europe to that of the neighboring Mediterranean countries. On this new chronological basis one may ask again, in which way people living north of Greece and Asia Minor became direct actors in the historical events at the end of the Mediterranean Bronze Age or contributed in an indirect way to their course.

The regions of Bronze Age southern and central Greece are densely explored, and new excavations bring to light both archaeological remains and new Mycenaean archives such as the ones from Thebes in Boeotia and Ayios Vassílios in Laconia (the latter, however, antedating the fall of the Mycenaean state

system by at least one century). While the Mycenaean texts – especially those from Pylos – do provide us with information relevant to our subject (Deger-Jalkotzy 1978: 14–52), true historical records are missing among the Linear B tablets. The archaeological evidence is rich, however. Therefore, one must ask why the Egyptian iconography of the Sea Peoples so far barely finds any good parallels among the artifacts and the iconographic record antedating the attacks during the reign of Ramesses III. Warrior burials and pictorial pottery showing an equipment similar to the one depicted at Abydos, Abu Simbel and Medinet Habu mostly date from the advanced post-palatial period (Giannopoulos 2008).

Recent research has shown that we may trace back to the central Mediterranean some of the novelties that reached the eastern Mediterranean during the later 13th and the 12th centuries. However, we are still in need of much more data, as the diversity of southern Italian Bronze Age sites dating from that period is considerable, a fact that makes extrapolations and historical conclusions based on the comparatively few published sites a difficult undertaking. Again, we are almost totally lacking cemetery data and there is barely any iconography that could be called by that term.[6] The major exception to the last point is Sardinia, but here we are still facing huge chronological problems. The hypothesis of a connection between Šardana and *Nuragic* Sardinians is as old as the archaeology of the Sea Peoples (Müller 1893: 376–379), but it could not be proven so far. The dating of *Nuragic* bronze figurines is still hotly debated. The proponents of the high chronology set the start of their production in the eleventh century BCE based on some early contexts (Lo Schiavo 2013: 683). Although a series of these figurines depict warriors with horned helmets, round shields and body armor, most of this equipment cannot be dated in terms of Sardinian relative chronology, because the figurines lack contexts, while the depicted weapons and elements of armor are not represented by artifacts *in corpore* on the island. However, some warriors hold swords that are clearly identifiable as types of the Atlantic Bronze Age II (Lo Schiavo 2005: 346–348, fig. 5a,1). Thus, these warrior figurines postdate the first representations of the Šardana warriors in Egypt by roughly two hundred years and the reliefs of Medinet Habu by about one hundred years. On the island no functional swords are known from the periods of the Sardinian Recent Bronze Age and the early Final Bronze Age – except for a single fragment that might belong to the Italian and continental type Allerona/Stätzling (Lo Schiavo *et al.* 2004: 377–378, fig. 4,5), but could also be a continental type Letten sword (cf. Schauer 1971: 144–147, 166–167). Therefore, at the moment we have no firm evidence at hand to prove any involvement in the eastern Mediterranean piracy of warriors coming from Sardinia.

Prospect

Current research into the subject of the Sea Peoples shows two main tendencies. One is to seek explanations for the spread of the Sea Peoples on a larger geographic scale. Recent attempts in this direction often restricted the explanatory models to one principal factor behind the dynamics of the phenomenon, such as a military innovation or a climatic deterioration. By contrast, the second tendency is exploring the local and site-specific social and ideological developments (hybridization, entanglement etc.) during the time of the Sea Peoples, thereby stressing local and regional peculiarities, often connected with a criticism of the schematism of overarching models and many historical narratives, while sometimes questioning the very utility of the heuristic concept called 'Sea Peoples'.

Regarding the discussion on migration, it was rightly criticized that pointing at a crisis situation in the Aegean without searching for the deeper roots of the phenomenon is not enough (Broodbank 2013: 462). The same applies to recent re-elaborations of earlier theories about climatic events prompting economic and social crisis situations in the eastern Mediterranean and the Levant (Kaniewski *et al.* 2010; for a critique of the low chronological resolution of climate data see Knapp and Manning 2016: 102–112). Surprisingly, the climate debates center on the time around 1200 BCE, although Egyptian sources first mention Sea Peoples ethnonyms in the 14th and early 13th centuries (see above). Moreover, several specialists demonstrated that good indicators for rapid climate change date to the second part of the 11th and the first decades of the 10th centuries rather than the time around 1200 (Weninger *et al.* 2009: 44–49, fig. 27). Although the non-Aegean elements in

[6] A few exceptions tend to confirm this rule. There are some incised animal motifs on vessels of the Sicilian Middle Bronze Age Thapsos culture group (Voza 1972: 182–183, fig. 6; 194, fig. 13a; 197; Voza 1973: 42–43, cat. no. 126, pl. 8,126), contemporary with LH IIIA and earlier LH IIIB (Jung 2006a: 174–175), and fragmentarily preserved humans and animals painted on Italo-Mycenaean pottery in LH IIIB and perhaps also LH IIIC styles from Recent Bronze Age Termitito (Vagnetti 2001: 108–110, figs. 2–10). Warrior depictions are absent from continental Italy and Sicily.

the material culture of the Sea Peoples' representations (starting with the Šardana at Abydos and Abu Simbel) and the distribution of non-Aegean bronze and pottery types from Italy to the eastern Mediterranean from the 14th century onwards are well-known facts today, all too often the economic and social developments in the central Mediterranean are simply neglected in the explanatory models.

This current state of the art brings up the future challenge to combine the impressively accumulated archaeological evidence and the insight into local processes with a fresh approach to include all the regions around the Mediterranean in an archaeological-historical perspective in order to create a new, internationalist viewpoint on the dynamics of economic, social, and political processes that evolved in the areas of southern Europe, western Asia and northern Africa during the last centuries of the second millennium BCE.

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Causes of Complex Systems Collapse at the End of the Bronze Age

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Abstract

This paper considers the evidence for, and possible interactions between, potential causes of collapse at the end of the Bronze Age. These include widespread, prolonged climate change or intense, brief, and/or localized weather instability; drought, erosion, land degradation, over-exploitation, and/or destruction of drainage systems, each potentially leading to famine; epidemics; ongoing warfare, including evidence of preparation for sieges and the putative presence of mercenaries; migrations; earthquakes and their possible consequences; the composition of and attacks by the Sea Peoples; and the inherent vulnerability of complex systems.

The evidence for climate change and drought at the end of the Bronze Age

We begin with the enigmatic scientific evidence for drought in the Mediterranean region, followed in the next section by the textual evidence for grave food shortages. Early agroeconomies were highly vulnerable both to droughts and to long-term temperature declines since general cooling shortens the crop-growing season. The impact of climate change in other epochs has been profound. For example, the sixth century CE witnessed the consequences of climate change, together with the plague of Justinian, invasions, and migrations (McCormick *et al.* 2012; Cook 2013). Pueblo society in the American Southwest experiences the 'Great Drouth' of 1276–1299 CE, as seen in tree rings at that time, when population declined significantly (Cook *et al*. 2007: 109). In the 14th century CE climate deterioration, along with endless warfare, piracy and the conquest of Greece by the Ottoman Empire, is believed to have depopulated much of the Greek countryside (Bintliff 2015: 259). The 14th–15th centuries also saw decades-long drought, interspersed with intense monsoons, in Cambodia having a grave impact on its capital Angkor, known as the 'hydraulic city' (Buckley *et al*. 2010: 6748). During the 'Little Ice Age' of 1550–1750 CE, marked by prolonged freezing winters and colder, damper summers in at least much of Europe and China, famines were common. Population collapse occurred in Germany, France, the Netherlands, Denmark, England, Poland, Castile, and Catalonia (Zhang *et al.* 2011; Steensgaard 1978). Smallpox, plague, typhus, and measles attacked many weakened by starvation. Population may have been reduced by a third (Parker 2013). Intensive warfare followed, taking still more lives. Conversely, warming climate in the 18th century CE was accompanied by population increase. Exceptionally dry conditions may produce different effects from exceptionally cold conditions (McCormick *et al.* 2012). Dry winters followed by warm, dry springs may set the stage for devastating wildfires, potentially a graver threat in the Bronze Age when firefighting capabilities were minimal.

Volcanic eruptions sometimes produce major climate disturbances. "High dust loads of volcanic origin in the upper atmosphere are known to reduce the amount of solar radiation that can reach the ground, resulting in cooling of the lower layers of the atmosphere…. Air temperatures in the northern hemisphere have been below normal for about two months following great volcanic eruptions. The lower temperatures may last for several years" (Repapis *et al.* 1989: 216). The major eruption of the Laki fissure in Iceland in 1783 CE impacted Indian Ocean monsoon circulation and is believed to have led to starvation in Ottoman Egypt (Mikhail 2015). An eruption of the Icelandic volcano at Katla near Laki has been radiocarbon-dated to c. 1220 ±12 BCE (Global Volcanism Program 2013; for comments on the precision of radiocarbon dating, see Wiener 2010; 2012; 2014b). At present, there is no way of estimating any impact on the Eastern Mediterranean area of this eruption.

In a paper published in 1966, Carpenter proposed that drought had struck Greece c. 1200 BCE, a suggestion seconded by Weiss (1982) and more recently with new environmental evidence by Roberts *et al.* (2011). Carpenter suggested specifically the occurrence of an orthographic climate shift toward rainfall on west-facing slopes on high ground, but a loss of

rainfall elsewhere. Accordingly, parts of the Argolid, Messenia, and Laconia could have been deprived of rainfall, even though the parts of Messenia and Laconia which may have been affected in this manner are normally well watered by rivers. Shrimpton (1987), Drews (1993: 79–80), Dickinson (2006: 46), and Knapp and Manning (2016) have disputed Carpenter's analysis but a subsequent study offered some potential support for the Carpenter hypothesis. Unusually dry conditions with 60 percent of normal rainfall affected the Peloponnese from November 1954 until March 1955, creating a pattern similar to that proposed by Carpenter (Bryson *et al.* 1974). At Alepotrypa Cave in Laconia, there is evidence of a period of extra-dry conditions c. 3200 BP (Weiberg *et al.* 2016). Intensive sampling of the archaeobotanical assemblage in the Late Helladic (LH) IIIB2 (c. 1200 BCE) destruction level at Midea revealed large quantities of legumes and fruits but no cereals, a highly unusual situation suggestive of intense grain shortage (Margaritis *et al.* 2014).

Messenia on present evidence appears to have been significantly depopulated after the destruction of the palace at Pylos c. 1200 BCE with some areas apparently abandoned (Hope Simpson 2014: 15, 40). (Regarding the date of 1200 BCE, see Wiener 2014a, 2015b, placing the accession of Ramesses II in 1290 BCE and the destruction of Ugarit c. 1201–1200 BCE and the attack of the Sea Peoples at the Nile Delta in 1186 BCE.) Only about 10 percent of the sites of the palatial period appear occupied in LH IIIC (Eder 2006: 556–557). It is worth noting that Messenia suffers a similar depopulation at the time of the climate event in Early Helladic III, a thousand years earlier (Wiener 2013a; 2014b). Laconia suffers a drastic decline in sites and occupation at the end of LH IIIC as well (Eder 2006: 550). On Crete, climate proxies suggest that winters became colder in the 13th century BCE and that the period c. 1150–900 BCE saw hotter and drier weather, with perhaps an extreme c. 1050 BCE (Moody 2005). B. Weninger (pers. comm. of 8 August 2016) believes that Crete and the north coast in particular experienced extremely cold winters between 1050 and 980 BCE, based on the analysis of GISP2 ice cores (Mayewski *et al.* 1997; 2004), when the population of Crete also approaches its second–first millennium BCE nadir (Wiener forthcoming). While the indications of drought at the end of the Bronze Age are suggestive, there remains a wide area of doubt.

Drought at this time has also been proposed as a factor in the collapse of the Terramare Culture of central-northern Italy climaxing c. 1150 BCE, based on several studies of changes in water levels and other indicia (Cardarelli 2010: 468–470). The Po River appears to have shifted its course at this time. It is important to note that the Po River valley was intensively occupied c. 1200 BCE, with an estimated population of over 100,000. Because occupation was at full carrying capacity of the land, any significant climatic disruption would have had severe consequences. Polities often have enough grain in store to survive one catastrophic harvest, but even two very poor years in succession, or two out of three when there has been no opportunity to replenish stores, may cause severe strain. Cardarelli (2010: 471) notes that such years have been documented in the Po Plain in the 15th and 16th centuries CE. The post-1200 BCE total abandonment of the area involving the dispersal of over 100,000 people requires consideration and explanation. In the period immediately following the abandonment of the Terramare, settlement sites at the fringes of the Po River valley, such as Fondo Paviani south of Verona and Frattesina to the north, expand and contain locally made Mycenaean LH IIIC-type pottery of good quality (Cardarelli 2010: 506). Some of the former inhabitants of the Po River valley also move to Apulia and others in all likelihood to Achaea, while small numbers may become Sea Peoples (see below).

Cores drilled in the Larnaca Salt Lake in Cyprus indicate that drought affected Cyprus in the centuries around 1200 BCE, and there may be some evidence for drought in this general period in Syria as well (Kaniewski *et al.* 2010; 2013, but the evidence is disputed in Knapp and Manning 2016: 102–112). An investigation of Mediterranean water temperatures via isotopic analysis and changes in aquatic species indicate that the Mediterranean cooled in places by as much as 2º C between about 1350 and 1125 BCE (Drake 2012). Recent work on a core drilled from the Sea of Galilee has added significantly to the scientific evidence for drought in Canaan via the extraction and analysis of pollen grains dated by radiocarbon analysis of short-lived material (Langgut *et al.* 2013). The results indicate that the driest period between the beginning of the Middle Bronze Age and the middle of the Iron Age occurred c. 1250–1100 BCE. The Dead Sea reached its lowest level in 1208–1205 BCE (Zwickel 2012). Dramatic changes in the settlement pattern in the entire southern Levant including the Judean Highlands may have been caused in part by dry climate conditions (Langgut *et al.* 2014). A catastrophic climate event in this region two millennia later between 950 and 1072 CE raises interesting general questions concerning the impact of droughts versus temperature

in the Eastern Mediterranean (Ellenblum 2012). Unusually cold weather in the northern part of the zone played as great a role in the destruction of crops as the lack of rainfall; and the dry period was not continuous, but rather was interrupted with years of normal rainfall, which however proved insufficient to arrest the overall decline.

It is worth noting that the areas of Greece which today enjoy relatively high amounts of rainfall such as sites in the Euboean Gulf, Achaea (which today is particularly well watered), and Elis fared comparatively well in the 12th century BCE. Although many of the sites were destroyed by fire at the end of LH IIIB (see below), a considerable number of the coastal localities continued to be occupied and provide signs of wide-ranging contacts, such as Xeropolis at Lefkandi. Direct access to seafood sources may also have been relevant in a period of putative agricultural scarcity. Conversely, "the well-established statistical relationships between island size and effective rainfall" (Bevan and Conolly 2013: 27, citing, e.g., Williamson and Sabath 1982) may have played a role in the abandonment of Aegean islands such as Melos in late LH IIIC. Other potential sources of weather disturbance should be noted, while acknowledging that evidence of effects is presently lacking. Moreover, factors other than adverse weather may significantly reduce food supplies, for example swarms of locusts or abandonment of crop rotation in times of food shortage. Extreme climate as well as other natural disasters may have metaphysical consequences as well via fears of loss of divine favour. The massive amount of ritual construction during a period of famine in the last days of the Hittite capital of Hattusa, discussed below, may be an example.

In sum, while the available evidence suggests a shift to cooler and drier conditions in various areas at the end of the Bronze Age, it is not possible at present to gauge the significance, direct or indirect, or the extent in space or time of the impact. Of course the effect of a climate event of whatever magnitude will depend on the resilience of a society. In an already fragile and overextended polity (see below), perhaps deprived of access to distant sources of supply of grain and metals, a climate event of even limited magnitude and duration could have a major impact, economically and ideologically.

The textual and archaeological evidence for famine

There is abundant textual evidence of famines in various areas during the course of the 13th and 12th centuries BCE. Already in the latter part of the 14th century BCE, malnourishment beginning in childhood is seen in parts of the population in the South Tombs Cemetery at Amarna (Kemp 2012: 227). Few remains of butchered animals were found, raising the possibility of a lack of protein in the diet (Dabbs *et al.* 2015: 39). Hittite, Ugaritic, and Egyptian texts speak of extreme food shortages in Hatti throughout much of the 13th century BCE (Singer 2000; 1999: 715–719; Bryce 2002: 93–97, 254–256; Divon 2008). The Egyptian pharaoh Merneptah (c. 1224–1214 BCE) refers to grain shipments sent "to keep alive the land of Hatti" (Bryce 2005: 39), while the Hittite King Tudhaliya IV (c. 1248–1220 BCE) wrote to the ruler of Ugarit in the Levant demanding a ship and crew to transport 450 tons of grain. The grain would have had to travel by sea (perhaps to the port of Ura in southwestern Turkey) and then, if intended for Hattusa, be brought overland a distance of over 500 km. The Hittite queen Puduhepa writes to Ramesses II (1290–1224 BCE) inviting him to keep her daughter's promised dowry of horses, cattle, and sheep because there is nothing in Hatti with which to feed them (KUB 21.38, cited in Czyzewska 2007: 37), perhaps referring to grass as well as grain. The reign of Tudhaliya IV also sees a spate of dam building at Hattusa and another dam built at Alacahöyük, suggesting that a period of intense drought contributed to the famine (Emre 1993; Yildrim and Gates 2007: 297). A last despairing Hittite letter from Hattusa speaks of starvation (Cohen and Singer 2006). The ruler of Carchemish in southern Anatolia asks for horses from Ugarit, but when they arrive, complains that the horses are starved (Singer 2000: 24). To the extent that Late Bronze Age rulers depended on chariot forces to keep order and repel enemies, a lack of grain (which horses consume in large amounts) may have weakened many states via its impact on chariots in particular (Drews 1993: 111–112). In Emar on the Euphrates a text describes starvation, and the price of grain measured in silver triples in three years' time shortly before the site's destruction, probably by Hurrian/Aramaean tribes, c. 1195 BCE (Singer 2000: 24–25, cited in Kaniewski *et al.* 2010).

As in all such cases, questions arise as to whether famine and any resulting revolts opened the way to conquest and destruction, or whether warfare and loss of surrounding territory caused or abetted the famine, and finally whether war and famine are inextricably interconnected (or conversely, whether famine in some cases may inhibit campaigns). In Assyria, drought and starvation are reported in the reign of Adad-Nenari (c. 1305–1274 BCE) and starvation in

the reign of Tukulti-Ninurta (c. 1243–1207 BCE). In Egypt, grain prices as compared to non-food products had begun to increase c. 1180 BCE, eventually reaching between 8 and 24 times the prior standard price, before falling rapidly c. 1110 to 1080 BCE (Butzer 2012, but with dates adjusted in accordance with Wiener 2014a; 2015b). The failure to provide food to the craft workers at Deir el-Medina in the 29th year of the reign of Ramesses III c. 1164 BCE (Dabney 2012; for date, again see Wiener 2014a; 2015b) led to a strike; the failure to provide supplies to troops stationed in Nubia resulted in the abandonment of their posts and the loss of Nubia and the gold which had financed the Egyptian state (Dabney 2012). The surviving Linear B tablets from Pylos give no indication of a general food shortage c. 1200 BCE (notwithstanding the small rations for the foreign women and children), but Pylos may have benefited from the fact that its region lies to the west of a mountain range in a region of prevailing westerlies. Of course adverse climate may have played a role in the major abandonment of Messenia and Laconia in the following centuries (Eder 2006: 550, 556–557; Hope Simpson 2014: 15, 40).

Warfare and migrations may be both the result and the cause of food crises, and particularly where the carrying capacity of the land is already stretched to the utmost. The effects may be cumulative, with food shortages leading to overuse and degradation of available land; to rebellions by troops, populace, or captives; and/or to the loss of legitimacy of rulers believed to have lost divine favour. Palatial centres, with their demands for labour for construction of defensive fortifications, road networks, and dams (and in the case of Mycenae prior to c. 1300 BCE, elaborate tombs), may have been particularly affected by food shortages. In this connection it is important to note the destruction at Mycenae of a series of dams built earlier in the 13th century BCE, which controlled the flow of the Chavos River and created an artificial pond securing the water supply for the settlement and irrigation for the surrounding fields via a significant modification of the landscape (C. Maggidis, pers. comm. of 9 November 2015); at Tiryns (where, however, the dam may not have been related to agriculture; see Maran 2010: 728–729); possibly at Pylos; and in particular the destruction and abandonment at some point after the middle of the 13th century BCE of the great drainage system of the Kopais Basin, one of the engineering marvels of antiquity (which the Romans attempted but failed to replicate), together with the destruction of its commanding citadel of Gla. Surely the construction of these great irrigation and drainage works and their protective citadel suggests the importance attached to obtaining supplies of grain. The complexity of large irrigation systems and the need for constant maintenance render them highly vulnerable to external disturbance. Marketou has attributed the decline of Ialysos on Rhodes in the 13th century BCE to lack of water following the collapse of the flood control system (Marketou 1998: 61–63). The surge in dam-building in the final phase of Hittite occupation at their capital of Hattusa discussed below, involving the erection of 13 dams may be an indication of drought (as well as the difficulty of importing food).

Improvements in navigation and/or increases in numbers of ships facilitate deliveries of food supplies, whereas interruptions of deliveries, whether caused by the activities of Sea Peoples raiders or otherwise, may contribute to famine. Palatial societies require large amounts of grain to feed their many labourers and usually troops. Food is sometimes shipped great distances, as shown by the Near Eastern texts noted above. The amount of grain storage at Assiros in Macedonia in LH IIIB appears to exceed local needs (Wardle 1983: 297–298; Jones *et al*. 1986), suggesting the possibility that Assiros may have served as a grain collection point for a larger, perhaps distant, centre such as Mycenae and the Argolid. At Kynos in East Lokris and Knossos in Crete, equids first appear in what seems to be consumption debris in IIIC (V. Isaakidou, pers. comm. of 1 November 2012). Of course invaders also need to eat and may become desperate for food, as in 1633 CE during the Thirty Years' War when starving Imperial troops consumed their pack animals (Wilson 2009: 346). John Bintliff in particular has suggested that food supply stress in a high population zone such as LH III Greece may have been a primary cause of population collapse in the Final Bronze Age (Bintliff 2012).

Earthquakes

"Earthquake swarms" (Nur and Cline 2000) have been proposed as a major factor in the destructions c. 1200 BCE and subsequent collapse, and there is indeed strong evidence of major earthquake damage at Mycenae (Iakovidis 1983: 71). The number of sites destroyed at this time in various areas argues against earthquake destruction as the major general factor in the 1200 BCE collapse, however (Dickinson 2010: 488). There is no evidence of earthquake at Thebes, for example (Aravantinos 2015: 41). Moreover, resilient societies generally rebuild after earthquakes. We should nevertheless allow for the possibility that earthquakes played a role in damaging the great Kopais drainage system, the dams at Mycenae and Tiryns, and aquifers supplying groundwater (Gorokhovich

and Ullmann 2010), in which case earthquakes could have played a critical role in the loss of vital food supplies.

The evidence for epidemics and their interactions

Epidemics spread more readily in a populace weakened by famine and malnourishment. Food shortages, whether due to climate change, limits on carrying capacity, warfare (including its potential impact on critical drainage systems), and/or disruption of essential exchange networks, may thus be linked to epidemics. The virulence of epidemics may be affected by climate in ways distinct from its impact on food supplies. For example, small differences in temperature and precipitation can change dramatically the reproductive cycle of fleas and their rodent hosts, with an attendant major impact on the prevalence of plague (Frankopan 2016: 183). Recent research suggests that the *Yersinia pestis* plague bacteria can be traced in Europe back to 3800–2700 BCE, but that the most virulent flea-borne variety cannot be shown to exist prior to 1000 BCE (Rasmussen *et al.* 2015), which falls within the period when Aegean population reaches its nadir (Dickinson 2006: 93–98). Population in Greece appears to increase rapidly in the 8th century BCE, about the length of time required for the population of Europe to return to prior levels after the Black Death of the mid-14th century CE (Cantor 2002). Epidemics have often been particularly virulent in the aftermath of war. Dysentery, typhus, typhoid, and smallpox are among the diseases known to have affected ancient armies (Gabriel and Metz 1991: 142). The sack of Rome in 1527 CE was followed by plague; during the Thirty Years' War that ravaged Europe between 1618 and 1648 CE, three people died of plague, typhus, and dysentery for every combat death (Wilson 2009); and the influenza epidemic of 1918 CE immediately following World War I killed 40–50 million people in a matter of months (Potter 2001: 576).

The 'Black Death' which devastated Europe in 1347–1351 CE and continued in various places throughout Europe and the Ottoman Empire until c. 1650 CE was spread by warfare and migration, but most importantly by trade and transportation of goods within polities (Varlik 2015: 44–47). Grain trade in particular was associated with the spread of plague as a consequence of the attraction of grain storage facilities to rodents and their fleas. (Migrating birds, which feed on dead rodents, sometimes spread plague over great distances [Varlik 2015: 46–77]). Maritime trade moving from east to west is believed to have been a principal cause of the spread of the Black Death plague to Crete and mainland Greece between 1374 and 1453 CE (Varlik 2015: 125–126).

Plague has been proposed as an explanation for events in the reign of Amenophis III in Egypt in the first half of the 14th century BCE (Kozloff 2006). In the following Amarna Age (c. 1353–1336 BCE), when a new capital of Egypt was created at Amarna, a study of burials shows an uncharacteristically high rate of death among older children and young adults, suggestive of plague (in addition to the malnutrition described above), at a time when the Hittite emperor Mursili II prays to be relieved of "the plague of Egypt." Plagues in Egypt prior to the departure of Moses and his followers are reported in the Book of Exodus. Mistreatment of the workers constructing the new city of Amarna in haste no doubt contributed to the spread of the plague, since the burials displayed extremely short stature and work-related stress and trauma. Amarna texts (e.g., EA 95, 96, 137, 224, and 362) speak of plague in Byblos, Amurru (covering parts of present-day Syria and Lebanon), and Megiddo – areas in which tularemia is proposed as the cause of the plague (Trevisanato 2007). The 'Hittite plague' of the last half of the 14th century BCE, which took the lives of two successive Hittite kings, is well known, as is the first recorded evidence of germ warfare, with Hittites and Arzawans each trying to send infected rams behind enemy lines. The Hittite emperor Mursili II in a prayer recorded in the 10th year of his reign in 1312 BCE (Wiener 2014a, 2015b) remonstrated with the sun goddess of Arinna regarding a great plague which had gripped the land since the last years of the reign of his father Suppiluliuma c. 1325 BCE (Bryce 1998: 223–224).

The plague covered much of the Levant as noted above. Cypriot messages speak of plague in Cyprus; in EA 35 found at Amarna, the ruler of Alashiya says that he is sending the pharaoh 500 units of copper but cannot send more because pestilence has ravaged the land. Given the amount of cross-Mediterranean trade as evidenced by objects and shipwrecks (e.g., Uluburun, Gelidonya, Point Iria) and the likelihood of Ahhiyawans going back and forth between Mycenaean Greece and the Anatolian coast (see below) and Cyprus, the possibility if not indeed the probability of transmission across the Aegean is apparent. Depopulation in Messenia, regions of eastern Boeotia, and Thessaly seems to begin in LH IIIC Early (Eder 2006: 550, 556–557; Hope Simpson 2014: 15, 40; Adrymi-Sismani 2011). Plague may have reached Crete as well: Herodotus 700 years later recounts two depopulations of Crete, one preceding and one following the Trojan War (Hdt. 7.171), an account which appears consistent with the possibility of some population decline in Late Mi-

noan (LM) IIIB, but especially with the nadir in Cretan population in the 11th century BCE (Wiener forthcoming). Indeed, Herodotus explicitly states that the inhabitants of Praisos (presumably Eteocretans who maintained a Minoan-derived language) informed him that Cretans returning from the Trojan War and their cattle were afflicted with famine and plague. On the mainland, plague or drought may have been a significant factor in ending the LH IIIC Middle revival and in the following decades. Population appears to decline markedly in the Argolid toward the end of the 12th century BCE (Maran 2015: 286; Kilian 1980). Ramesses V is believed to have died of smallpox in 1154 BCE (Wiener 2014a re chronology), a decade after the account of a severe food shortage noted above. An epidemic is reported in Assyria during the reign of Tiglat-Pileser I (c. 1114–1076 BCE).

The adoption of cremation burial in the Aegean may be connected to the arrival of plague. The earliest reported Aegean cremations appear in Crete in the late 14th century BCE at Elounda, ancient Olous, near the northeast coast in LM IIIA2–IIIB (Kanta 2001), at or near the time of the dramatic accounts of plague in Anatolia, Cyprus, and Egypt, when mass cremation burials appear in Anatolia and the Levant (Agelarakis *et al*. 2001: 69). The pottery at Olous appears typically Mycenaean, but includes Cypriot-type pithoid amphorae such as those found at Maa-Palaeokastro, the briefly occupied Aegeanized, perhaps Sea Peoples, site on the east coast of Cyprus, and also handleless pithoi such as those discovered in the Point Iria shipwreck with its largely Cypriot cargo. Cist graves and cremations first arrive in the Peloponnese in LH IIIC Middle (Shelmerdine 1997: 582). Cremation, which becomes the predominant form of burial in Achaea (Moschos 2009), in the unique tumulus burial mounds at Chania in the Argolid (Palaiologou 2013) and at Argos, and in both Attica and Euboea, for a period at the end of IIIC (Ruppenstein 2013: 189, 193), may have been the practice of specialised immigrant groups (for example, mercenary troops or metalsmiths) or adopted in response to the arrival of plague. By the early Submycenaean period many sites in western Greece are totally abandoned (Ruppenstein 2013: 188; Moschos 2009: 364–367). Cremation burials also appear frequently in East Crete in IIIC. Cremation becomes common in Central and Western Europe between 1300 and 800 BCE during the course of the Urnfield Culture, named for its cremation burials in urns (Harding 1994: 318–320). In northern and central Italy, cremation becomes the exclusive ritual c. 1200 BCE (Bietti Sestieri 2013: 650). By 1100 BCE cremation has seemingly become the exclusive burial practice in Denmark (Levy 1995: 42). Thucydides memorably described the chaos caused by the plague in Athens during the Peloponnesian War, with bodies thrown on the funeral pyres of strangers (Thuc. 2.52). The dramatic decline in population in Messenia in IIIC Early and Laconia in IIIC Late may be plague-related. The extent and significance of plague at the end of the Bronze Age is difficult to determine at present, but DNA analysis of microbes, which has already shown that the Justinian Plague of the 6th century CE and the Bubonic Plague (*Yersinia pestis*) of the mid-14th century CE were identical or closely related (Harbeck *et al.* 2013), may provide important evidence in the future.

The evidence for major preparations for attacks plus destructions and abandonments

Did climate change and/or depletion of the carrying capacity of the land result in warfare and migration, or did warfare and migration severely restrict food supplies, whether by damage to critical drainage systems or to long supply chains, perhaps including imports from abroad? Did plague affect both Mycenaean elites (as in the cases of the three rulers – two Hittite and one Egyptian – cited above) and Mycenaean troops, craftspeople, and labourers? Of course stresses may be cumulative: for example, a polity whose food resources are fully utilized may be unable to withstand attack, even in the form of a prolonged raid. The collapse of a centre previously capable of transferring resources in the event of crop failure, damage to an essential drainage system, earthquakes, an attack by sea raiders, or local uprisings may trigger a widespread collapse. It is a challenging task to distinguish cause from effect and the relative significance of near-contemporaneous events at the end of the Bronze Age.

Certainly warfare was frequent in many areas in the Late Bronze Age, as we know from texts from Egypt, the Levant, and Anatolia. Greece experiences waves of destruction, the first in LH IIIA1–IIIA2 Early. On Crete, Knossos is destroyed in LM IIIA2, notwithstanding that the Linear B tablets found in the destruction speak of a palace controlling over 100,000 sheep requiring a third of Crete for grazing and 775 tons of grain, probably via a site in the Messara. Tablets from the Room of the Chariot Tablets (perhaps part of an earlier destruction) speak of 200–250 chariots, and charioteers equipped with two sets of body armour and a pair of horses (Palaima 1996: 382). The palace of Knossos was destroyed nevertheless, with a Mycenae-directed force the likely culprit (possibly even as a result of the seizure of control at Mycenae by a new dynasty, as reported in legend [Finkelberg 2005: 86–87]).

A major wave of destruction occurs near or at the end of LH IIIA2–beginning of IIIB, c. 1300 BCE, when violent destructions (and in some cases abandonments) are seen at Thebes, parts of the Orchomenos palatial complex, Assiros, Petsas House at Mycenae, five sites in the Nemea Valley, the Mycenaean palace at Ayios Vasileios in Laconia, the Palace of Nestor at Pylos (followed by a rebuilding with the final destruction a century later), two buildings at Iklaina in Messenia, and the harbour site of Palaikastro on the east coast of Crete. Remnants of the Palaikastro population appear to move into the hills (Cunningham 2012: 295, 344–345). We cannot at present determine whether the retreat at Palaikastro was caused by particularly harsh climate conditions, the arrival on the east coast of Crete of the plague which ravished Anatolia and the Levant at the time, a particularly severe outbreak of malaria to which Crete has always been especially susceptible (Arnott 2006), exposure to Sea Peoples' raids, other circumstances, or a combination of factors.

Troy and Miletus also suffer destructions around 1300 BCE, with Miletus, the major Ahhiyawan centre on the Anatolian coast, whose population consisted principally of Mycenaean settlers, falling to a Hittite assault (Niemeier 2005; Kaiser and Zurbach 2015: 569). The Hittite forces withdraw, however, and in the following phase VI the pottery of Miletus is mostly Mycenaean. The city wall, architecture, evidence of cult, and burial customs of Miletus in the 13th century BCE also display strong Mycenaean characteristics (Günel 2015: 640). (One may wonder whether the Treasury of Atreus at Mycenae was built for the burial of the conqueror of Knossos, if the magnificent tholos tomb was built in IIIA2, or for the destroyer of the palaces at Pylos and Ayios Vasileios if built at the beginning of IIIB. Unfortunately the date of the construction is uncertain; see, e.g., Cavanagh and Mee 1999: 94. Perhaps the grand Tomb of Clytemnestra was intended for the other victor.)

The period around the end of LH IIIB1 (c. 1250–1230 BCE) also witnesses a number of destructions and sometimes abandonments on the mainland, for example at Zygouries, Tsoungiza, and perhaps Berbati in the Argolid. Rutter notes that after the destruction of Knossos in LH IIIA2, perfumed-oil production begins at Zygouries near Mycenae, as if a corps of perfumers had been transferred (Rutter 2005: 39), in which case the destruction of Zygouries at the end of IIIB1, along with buildings outside the citadel of Mycenae involved in production for export, must have had a significant negative effect on the Mycenaean economy and hence its ability to sustain extensive military ventures. Imports of Mycenaean pottery in the East cease around the end of IIIB1, as noted above. At Mycenae, major houses and workshops outside the walls were destroyed by fire, perhaps purposely set (Wace 1953: 13). In the ruins of the destruction of the House of the Oil Merchant outside the Mycenaean citadel, a casting mould for Italian Pertosa-type flanged axes was found, suggesting the possible presence of Italian metal workers (Bettelli 2015: 218), whether as an alternative to, or in addition to, Italian mercenaries. Thebes in Boeotia also suffers a destruction around the end of LH IIIB1. The great walls of Thebes, built at some point in LH IIIB after a fire destroyed at least the eastern side of the acropolis, went unrepaired after their collapse at the end of IIIB or early in IIIC (Aravantinos 2015: 26). Greek legends recorded later speak of incessant interstate warfare in this period, and between Mycenae and Thebes in particular. The many high-status tombs containing weapons and in a few cases armour, known as 'Warrior Tombs', built between the beginning of the Late Helladic period such as those in Shaft Grave Circle A at Mycenae through LH IIIC Developed, show the importance of warrior identity to much of the Mycenaean ruling class. (There are, however, a number of high-status tombs with no or little evidence of weapons [Driessen and Schoep 1999; Driessen and Langohr 2007].)

Tiryns, however, appears to reach its acme in LH IIIB2 with monumental new construction, indeed a new palace, with splendid wall paintings, a grand Western Staircase, corbel vaults, the first Cyclopean fortification of the Lower Citadel, and the construction of an impressive dam (Maran 2015: 280). The resulting citadel would have impressed subjects, visitors, and raiders approaching by land or by sea. At the same time defensive measures were taken, with the construction of a narrow postern gate and underground water cisterns as at Mycenae and Midea (Maran 2015: 282). There is very little evidence of IIIB2 occupation in the Lower Town, unlike the situation in the preceding IIIB1 or following IIIC periods, suggesting the possibility that the population withdrew into the Upper Citadel for protection (J. Maran, pers. comm. of 23 January 2017). Widespread trade contacts were maintained, shown by the presence of a large number of Cretan stirrup jars, Cypriot wall brackets, and exotica from the Eastern Mediterranean, perhaps accompanied by eastern artisans (Maran 2015: 282–283). Even after the destruction at the end of LH IIIB–beginning of IIIC, buildings are constructed at Tiryns which exceed the general standard of IIIC architecture (Maran 2015: 284) and imports continue to arrive from Crete, but the palace in its canonical form, writing, many palatial crafts, and grand burials disappear.

In the latter part of the 13th century BCE most harbour sites along the north coast of Crete, including Malia, Gournia, Gouves, and Amnissos, are abandoned (Driessen 2011), with the populace moving inland. Petras, located on a hilltop on the northeast coast of Crete, appears to continue moving in IIIC to a higher, more defensible hill (Tsipopoulou 2016). Knossos also suffers disruption and a significant degree of abandonment (Hatzaki 2005: 82–83). As in almost all cases cited of abandonment in Crete at this time, there is no indication of destruction. Was the Knossian abandonment due to fear of attack, or a response to the arrival of plague? In IIIC, Crete seems to regain population quickly, due in good measure to new arrivals from the mainland. Knossos remains a large site, perhaps spread over about 30 ha (T. Whitelaw, pers. comms. of 15 November 2014 and 5 December 2015). Except for the period of abandonment described, the population may have been somewhere around 5,000 (assuming that about 20 ha were covered by dwellings and the dwelling area held about 250 per ha). At the beginning of LM IIIC new buildings appear in the western part of Knossos, in what amounts to a new town (Warren 2005: 98). Toward the end of the 13th century BCE, the formerly grand site of Ayia Triada on the south coast is also gradually abandoned (Privitera 2015: 4–5, 74, 131–132) and the nearby port site of Kommos goes down as well. Chania suffers destructions at the end of LM IIIB1 and again near the end of IIIB2 when it is still a sizable site, but is largely abandoned after IIIC Middle (Hallager and Hallager 2000: 32; 2003: 22, 286; 2011: 429). Inland sites at naturally defensible locations may actually increase in number in LM IIIB2, however (Prent 2005: 614), and sites along the coast reappear by LM IIIC (A. Kanta, pers. comm. of 23 May 2016). LM IIIC sees the arrival of new Mycenaean settlers from Greece after the destruction of the mainland palaces (Kanta 2003: 522). The influx is marked by a change in cooking methods at various Cretan sites (Kanta 2003: 526). A substantial new settlement is established at Azoria in east-central Crete in LM IIIC (Haggis *et al.* 2016).

Cretan transport stirrup jar sherds appear in large numbers in LH IIIC deposits at Tiryns (Maran 2005, who observes that it seems unlikely that all can be heirlooms or kick-ups from earlier strata), and at sites far inland in Laconia (Eder 2006: 556). Crete also maintains contacts with Attica in LM IIIC (including contacts with the metallurgical site of Lavrion [Rutter 2003; Privitera 2013: 45–52]), and with Italy. During the 12th century BCE some mainlanders and Cretans migrate to Cyprus and Philistia, and some participate in the raids of the Sea Peoples (see below). In Cyprus, Minoan reflections appear at Hala Sultan Tekke and Pyla-Kokkinokremos on the south coast (Hitchcock 2009; Karageorghis and Kanta 2014; A. Kanta, pers. comm.). Other Cretans move to refuge sites, however, such as the mountain regions around the Ierapetra valley, including the difficult peak of Katalimata (Nowicki 2000: 50–52; 2008: 57–66), another mountaintop site at the northern rim of the Lasithi plain at Karphi (Nowicki 2000: 157), and the windswept steep headland of Kastri near Palaikastro on the eastern coast.

About the wave of destructions at mainland sites at the end of the 13th century/beginning of the 12th there can be no doubt, nor that attacks by enemies, foreseen in advance, were the primary cause. Defensive preparations such as the extension of fortification walls were undertaken at Mycenae, Tiryns, Midea, and the Acropolis of Athens in the mid-13th century BCE to protect vital water sources and prepare the citadels against siege (Iakovidis 1983; Dickinson 1994: 163–164). Mycenaean citadels built sophisticated gate systems, galleries, postern gates, and secret passages to wells. The Silver Siege Rhyton from Grave Circle A at Mycenae depicts a siege of a walled citadel (Driessen 1999: 16). The site of Midea is abandoned completely by the mid-12th century and not reoccupied for about 500 years, which may explain why Midea is never mentioned in Homer. It seems more likely than not that the Mycenaean 'wall' near Isthmia was indeed part of a fortification wall to guard the Isthmus – an ambitious project likely uncompleted – as proposed by Broneer (Broneer 1966; 1968; Morgan 1999: 362–365, 437–447), and that the recently discovered sites of Kalamianos and Stiri on the remote south coast of the Corinthia were established late in LH IIIA2 or at the beginning of IIIB with defence of the coastline a probable purpose (Tartaron 2015a: 400). The citadel at Gla is abandoned at the end of LH IIIB2 (Vitale 2006: 193; Iakovidis 1998: 278). The Mycenaean acropolis site of Kanakia on the island of Salamis was destroyed and deserted in LH IIIC Early and never reoccupied (Lolos 2003: 107–113). At Kolonna on Aegina, the Windmill Hill cemetery contains abundant LH I–IIIB1 pottery, but IIIB2 and IIIC are not present, suggesting the possible abandonment or near-abandonment of this coastal site at the end of IIIB1 (Gauss 2010: 747). At the hilltop site of Lazarides on Aegina, however, IIIB2–IIIC Early appears (Sgouritsa 2010: 176). While the data are limited, the pattern resembles the withdrawal from the northern and eastern coasts of Crete and the occupation of hilltop sites at the end of IIIB1 discussed above.

The palace at Pylos in Messenia ends in a fire destruction and abandonment at the close of LH IIIB/beginning of IIIC. Linear B tablets found in the destruction speak of watchers guarding the coasts and list 570–600 rowers for Pylian ships, gathered from various locations (Palaima

1991: 285–287; Yasur-Landau 2010: 45). One tablet (Jn 829) explicitly states that the metal distributed to various smiths is to be used for the production of javelin points. Chariot wheels are also mentioned; indeed, after the prior episode of damage/destruction c. 1300 BCE, a wing or part of the palace may have been devoted to chariot construction (Palaima 1991: 281–282, 308–309) or to the administration of chariots, weaponry, and personnel (Bendall 2003). Five hundred bronze arrowheads were found in the destruction debris at Pylos (Georganas 2010: 308). In comparison, a Linear B tablet in the LM IIIA2 destruction of Knossos records 8,640 arrowheads (Snodgrass 1999: 23). The number of arrowheads found in LH IIIC destructions is dramatically less, suggesting that surviving societies could not muster forces on a scale comparable to their palatial predecessors. Javelin points were produced in the Lower Citadel at Tiryns in mid-LH IIIB (Brysbaert and Vetters 2015: 162–164). In the Argolid, Berbati and Prosymna appear to be abandoned in late IIIB or early in IIIC, as do nearby Nemea-Tsoungiza and Zygouries. At Athens the acropolis is apparently fortified and the water supply secured near the end of LH IIIB. Thebes provides evidence of destruction at the end of IIIB1 and again at the transition to IIIC, with some evidence of earthquake in both cases (Dickinson 2010: 698). Glypha, near Classical Aulis, perhaps the major port for Bronze Age Thebes, suffers a major destruction in IIIB1 (Sapouna-Sakellarakis 1987: 210). In Thessaly to the north, the three neighbouring sites which are believed collectively to constitute Mycenaean Iolkos suffer destructions in LH IIIB2–IIIC Early c. 1200 BCE and both the substantial site of Dimini and Pefkakia, its harbour, are abandoned (Batziou-Efstratiou 2015: 80–81). Handmade Burnished and pseudo-Minyan Wares appear when the area is resettled (Stamatopoulou 2013: 40), suggesting the arrival of newcomers in the IIIC population of Dimini and Volos. Farther north, long-established centres of population are abandoned and new, fortified sites are established in the Carpathian Basin; the number of fortified sites increases; new mortuary practices appear in parts of Slovenia, Dalmatia, Albania, and Montenegro; and major routeways are fortified in the Balkan interior (Molloy 2016: 343). The fortified citadel at Teichos Dymaion on the point of Cape Araxos in Achaea, overlooking the Adriatic entrance to the Gulf of Corinth, suffers a destruction in the excavated area of the site around the end of LH IIIB, as does Ayia Kyriaki in Patras (Moschos 2009: 347). Teichos Dymaion, however, continues as a fortified citadel well into IIIC.

If there is no doubt about the preparations for and subsequent impact of attacks, who were the attackers? Evidence (discussed below) for the possible presence in Greece of foreign mercenary troops, exists in the form of a complete Italo-Balkan weapons kit including Naue II-type swords, javelins, round shields, metal greaves, and infantryman corselets (Drews 1993: 174–206), together with Handmade Burnished Ware pottery indicative of the existence of a separate cooking and consumption tradition. In any regard, it should be noted that the new Naue II type fighting kit requires a change in sword-fighting technique, employing a slashing motion (Jung and Mehofer 2008; Jung 2009a). Together they suggest the presence of newcomers, perhaps arriving initially as mercenaries. The widespread scale of attacks suggests interstate warfare and perhaps in some cases local rebellions. At Mycenae and at Tiryns in particular, the LH IIIC period sees the continuation of a recognizably Mycenaean milieu, albeit one lacking literacy, intensive administration, palaces, and many luxury crafts. The uppermost tier of the society has been removed or at least drastically diminished by loss of control of large provinces and of connectivity to the Eastern Mediterranean world (see below). Although the palaces are not rebuilt, the sites on which they previously stood are not desecrated but rather treated with respect, notwithstanding that the former palatial rulers and their retinue are most likely now gone. The concentration of metal hoards in LH IIIB2–IIIC Early deposits in Greece and Cyprus is striking (Knapp *et al.* 1988). Either their depositors expected to return after what were perceived as powerful but passing raiders departed or were later driven away, or the departing wanted simply to deprive their incipient conquerors of the spoils of success, and in particular metal, or because warriors departing on a campaign or participants in a voyage sought protection against pillage or theft during their absence. The number of metal hoards from Mycenae not uncovered by the IIIC inhabitants is noteworthy. The overall impression is one of repeated warfare, culminating in a wave of destructions. (In recent decades, research on Mayan texts has revealed ongoing destructive warfare between Mayan states over many centuries [Webster 2000], while studies of Mayan climate and population suggest both posed major challenges. Mycenaean Greece may have faced broadly comparable circumstances.)

Troy also suffers a destruction at the end of LH IIIB/beginning of IIIC, with bodies found in the streets and arrowheads embedded in the walls (Cline 2014: 127; Blegen *et al.* 1958: 11–12). It is this destruction which is often identified with Homer's account of the Trojan War and/or the raids of the Sea Peoples. Preparations for defence prior to the attack include substantial additions to the fortification wall, particularly near the East Gate, the largest gate at the southwest blocked, small houses crowded together where streets previously ran, pithoi sunk completely into floors and, in an installation outside

the citadel, masses of sling stones plus arrowheads and spears (Pavel 2015: 36–38, 43). Many settlements around Troy are apparently abandoned in the years preceding the Troy VIIa destruction described, with their former inhabitants crowding into the citadel. Across the Dardanelles at Maydos-Kilise Tepe Höyük, the latest architectural phase of the Late Bronze Age level presents evidence for a devastating fire (G. Sazci, pers. comm. of 1 November 2015). Hittite records speak repeatedly of aggression by the Ahhiyawans, now generally believed to be Achaeans (Bryce 1998: 61–62). Major sites throughout Anatolia are destroyed and/or abandoned. Millawanda (Miletus), the largest known site in Ahhiyawa, survives into early LH IIIC but is then abandoned (Yasur-Landau 2010: 154–156). The pottery at Miletus in phase VI during the century prior to its abandonment is purely Mycenaean in character (Kaiser and Zurbach 2015: 576).

At sites along the Mediterranean coast such as Tarsus and Kilise Tepe, locally made versions of LH IIIC Early and Middle pottery appear. At Bademgediği Tepe north of Ephesos, locally made LH IIIC pottery includes a large painted krater with a scene of a sea battle including warriors in hedgehog helmets resembling somewhat those depicted in the Medinet Habu reliefs from Egypt of Ramesses III defeating the Sea Peoples in a battle at the mouth of the Nile (Mountjoy 2005: 426; Jung 2009b). At Alalakh and particularly at Tell Taʿyinat at the mouth of the Orontes River valley, locally made Aegean-type pottery, a few figurines, and numbers of cylindrical loomweights appear, with resemblances in some cases to Aegean-like material from Cyprus. Very small amounts of Handmade Burnished Ware also appear (Jung 2009b: 78). The destructions of Ugarit and Tell Kazel, 120 km south of Ugarit, have been placed at the very beginning of the 12th century BCE and attributed to the Sea Peoples assaults described by Ramesses III on the walls of his temple at Medinet Habu. The text states that the attack came in the 8th year of his reign, which on the current hypothesis of a 14-year rather than a 28-year reign of Horemheb and a 4- rather than a 2-year reign of Setnakht, occurred in c. 1186 BCE (see, *inter alia* re chronology, Wiener 2014a; 2015b [submitted for publication in 2009]). At Tell Kazel, considerable amounts of local Handmade Burnished Ware appear (Boileau *et al.* 2010; Yasur-Landau 2010: 166; Jung 2009b: 78). The Handmade Burnished Ware has no counterpart in local wares and has accordingly been regarded as evidence of settlers from Italy who participated in the raids and movements of the Sea Peoples (Jung 2009b: 78).

Ugarit before its destruction sought help from Alashiya (part or all of Cyprus), in a message saying that a raid of seven ships had done much damage (RS 20.238). Jung (2009c: 39–40) suggests that each ship may have been manned by 50 rower-raiders, plus perhaps another 10 warriors. The seven ships could accordingly have provided a fighting force of 420, sufficient perhaps to raid a small city, particularly if its troops and chariots had been summoned elsewhere, as one recovered letter (RS L.1) suggests (Jung 2009c: 41). A text from the prefect of Alashiya to the king of Ugarit (RS 20.18) speaks of 20 enemy ships (Yasur-Landau 2010: 110, 164–165). It is small wonder that some messages between Ugarit and Cyprus inquire anxiously as to whether enemy ships have been sighted and plead for information. Two thousand years later, Viking raids sometimes involving relatively small numbers of vessels devastated many sites. Vikings typically seized captives/slaves and wool for making ships' sails (Lawler 2016). A Bronze Age parallel may exist in the form of women weavers with foreign ethnicons at Pylos.

In the Southern Levant, destructions c. 1200 BCE are reported at Tel Akko, Beth Shean, Ekron, Ashdod, Ashkelon, and Tell Deir ʿAlla. Ugarit is largely deserted after its destruction, but its nearby seaport of Ras Ibn Hani is reoccupied, at which time locally made pottery resembling LH IIIC appears. Significant amounts of similar pottery also appear in Cilicia and Philistia (Mühlenbruch 2009; Jung 2015). Of Philistia in general, it may be said that large-scale temples, palaces, storage facilities, and administration disappear for a time in the 12th century BCE as they do in the Aegean (Yasur-Landau 2010: 289–290). The geographic extent of the destructions appears to corroborate the Egyptian account, which lists Hatti, Kode (i.e., Cilicia), Carchemish, Amurru, Arzawa, and Alashiya. Egyptian texts also speak of "the mountain countries – they entered into a pact in their islands" and "the countries who came from their land in the isles in the midst of the sea" (Jung 2009c: 31; Yasur-Landau 2010: 172–173). Are these alternative descriptions of the same phenomenon, or does the former refer to the Aegean and the latter to Sardinia, Sicily, and Italy in the centre of the Mediterranean? Sites in the Central Mediterranean included artisans trained in Aegean methods of pot making and other crafts (Yasur-Landau 2010: 56; Vagnetti 2010: 899). Mycenaean-appearing pottery fired in Mycenaean-type updraft kilns, but often of local clay, has been found at over 100 sites from the Veneto to the toe of Italy, as well as in Sicily and some sites in Sardinia. In LH IIIC contacts between Italy and Achaea in particular become intense and include weapons in the form of the complete Naue II military kit (Molloy 2010: esp. 409).

Many sites in Cyprus suffer destructions during the 12th century BCE (Cline 2014: 132–137). At the great site of Enkomi, Mycenaean-type cooking vessels and bowls appear to replace local wares for a period (Jung

2011: 60–61; 2012: 112–117). The question arises as to how many of the Aegean or Aegeanized newcomers were raiders who moved on, and how many a first wave of settlers who established the Greek language in Cyprus. Some native Cypriots also appear to have joined in the move to Philistine sites; for example, the large settlement at Hala Sultan Tekke in Cyprus was destroyed, with gold jewellery found in the destruction debris, along with deep bowls very closely related to bowls found at various later Philistine sites (Fischer, this volume). At Pyla-Kokkinokremos between Hala Sultan Tekke and Enkomi on the south coast, a carefully planned community with a defensive wall was established and occupied for perhaps a half-century, and then deserted without a destruction after all contents had been removed or carefully buried, as if the inhabitants had expected to return. Whether they moved to Philistia or elsewhere, or took part in the attack in the Nile Delta described in the Egyptian inscription and were killed or captured and turned into Egyptian mercenaries, or experienced some other fate is at present only a matter for speculation. Recent excavations at Gath show that the site, occupied c. 1150–1000 BCE, and which at its maximum of around 40 ha was the largest site in Philistia and perhaps in Canaan, resembled major sites in Cyprus in architecture and the use of the Cypro-Minoan script (Bohstrom 2016, quoting A. Maeir and J. Maran). Foundation legends and local texts tying Greeks to areas of the Eastern Mediterranean in the early Iron Age were noted by Huxley (1956). Many additional Anatolian texts have since appeared (Bryce 2014; Hawkins 1979; 1982; Finkelberg 2005).

The course of events at the Hittite capital Boğazköy invites special attention. Hattusa did not reach its architectural pinnacle as a massively fortified mountain citadel and cult centre containing 31 large temples until the reign of Tudhaliya IV c. 1248–1220 BCE. The main casemate walls of the fortifications of Hattusa were raised to a height of 11 m, enclosing both the lower and upper cities, a major engineering feat. Several of the city gates were blocked by hastily erected additions to the fortifications (Seeher 2001; Genz 2013: 471–472). We may surmise that this final burst of construction was intended both to deter enemies and appease the gods. The expenditure of labour and physical resources for cult purposes may have intensified the strain on food supplies. Included in the building program was the construction of 13 dams, however, indicating that water supply was a primary concern. A movement of population into the citadel of Hattusa (and also Alacahöyük where one of the dams was erected) because of raids from northern tribes may have motivated the surge in dam building. The last Hittite ruler, Suppiluliuma II, pleaded for military assistance from Ugarit (Bryce 2005: 163–166). By c. 1200 BCE, however, Hattusa was apparently deserted, its treasures and records having been removed before the site was put to the torch and totally burned. A number of other Hittite sites were also abandoned with no signs of destruction (Bryce 1998: 381–382).

Famine, perhaps joined by plague, may well have been a major cause of the abandonments, together with warfare. Late Hittite texts describe a civil war/dynastic struggle between the Hittite ruler at Hattusa, Tudhaliya IV, and Kurunta, who had established an independent kingdom in southern Anatolia, thus denying access for a time to the Hittite capital's grain-importation port at Ura (Fagan 2004: 185). Anatolian sites suffering destructions at the end of the Bronze Age include Alacahöyük, Alişar, Beycesultan, Kilise Tepe, Mersin, and Tarsus (Knapp and Manning 2016). Hattusa was apparently deserted, as noted above. As a consequence, large temples, granaries, dams and other public works, monumental stone sculpture, large-scale administration, and writing (in particular cuneiform, employed for over 1,000 years in Anatolia and the Levant) disappear from central Anatolia, but move in much-reduced form to the Neo-Hittite kingdoms of southern Anatolia, where they persist for centuries (Bryce 1998: 361–391, esp. 385; 2014: 137–139).

The evidence for migrations

Movements of people mark the end of the Bronze Age. In the wake of the Hittite collapse – which includes the destruction and abandonment of major sites such as Hattusa, Alacahöyük, and Alişar and the loss of literacy in central Anatolia – the Phrygians arrive from the Balkans (Sams 1988; 1994; Mallory 1989; Brixhe 1993; Voigt and Henrickson 2000a; 2000b; Vassileva 2005; Voigt 2011; Marston 2012). Troy suffers a massive destruction c. 1200–1180 BCE, and when it is substantially reoccupied c. 1130 BCE, new elements appear in the material culture, including Knobbed Ware, Handmade Burnished Ware, and multi-cell architecture with orthostates, all with parallels in Thrace, the Balkans, and the Lower Danube region. Bouzek (1994) has described in detail the appearance of certain northern and eastern elements along the Mediterranean.

Refugees including some bearing elements of Mycenaean culture from Ahhiyawa move south into Cilicia and the Amuq, where their rulers and polities retain Mycenaean- and Philistine-sounding names for centuries (Yasur-Landau 2010: 162–163; the argument rests in part on the identification of the 'Hiyawa' mentioned in Luwian texts, such as a prominent inscription at Çineköy, with the 'Ahhiyawa'). The Proto-Villanovan Culture, forerunner to the Villanovans and the Etruscans, appears

in Italy in the first half of the 12th century and continues into the 10th century BCE. The Proto-Villanova Culture is linked to the Urnfield Culture of Bavaria-Upper Austria (with the later Etruscan language related to the Rhaetian spoken in the area of Austria). The Proto-Villanovans practiced cremation. Proto-Villanovan features appear at Frattesina in the Veneto alongside surviving elements of the former Terramare Culture of the nearby Po River valley, and eventually move in attenuated form down the whole of Italy and into eastern Sicily. The Terramare Culture of the Po River valley in central-northern Italy, estimated at more than 100,000 people at its peak, disappears and the area is abandoned, with Terramare elements moving south into Apulia as well as east into the Veneto (Cardarelli 2010: 500–502, 506, 507; Bietti Sestieri 1997: 377; 2005: 17; Cremaschi *et al.* 2006). A shift in the Po River, in a population already straining the carrying capacity of the land and available imports, perhaps compounded by the climate change disruption and migrations, may have been a catalyst for this dramatic outcome. In Sicily, a period of abandonment at many sites followed the Late Bronze Age (de Angelis 2012: 189).

In Greece, evidence exists of major population movements, mostly from north to south, as indicated by changes in dialects, mirrored in Greek traditions (Finkelberg 2005). The bulk of such movements may have come at or after the end of LH IIIC, however. Thucydides treated as fact a tradition that placed the descent of the Dorians 80 years after the Trojan War (Thuc. 1.12.3), which would place the movement toward the end of LH IIIC. The detailed study of the pottery of the "western Greek koine" by Coulson (1986) places the spread of Ithacan Protogeometric pottery throughout Messenia and Laconia, the later Dorian heartland, in the second half of the 11th and beginning of the 10th century BCE. Much of Crete and the southern Cycladic Islands become Doric-speaking as well.

As noted above, a complete new kit of military equipment, consisting of the Naue II type sword, spearheads with cast sockets, javelins, round shields, metal greaves, and infantryman corselets, is imported into Greece from Italy, together with dress accessories (fibulae), tools (knife and axe types), and locally made Handmade Burnished Ware pottery whose forms unequivocally echo those of central and southern Italy (Sandars 1978: 90–95; Mehofer and Jung, this volume; Jung 2009b: 72, 78; Ruppenstein 2013: 188; Drews 1993: 174–206). It is worth noting, however, that Mycenaean-type spearheads continue in use (Jung 2009b: 75, citing I. Moschos). Northern Italian copper ore sources and metal workshops played a significant role in these interactions (Mehofer and Jung, this volume). The House of the Oil Merchant at Mycenae provides evidence for the casting of Pertosa-type flanged axes, a possible indication of the presence of foreign craftsmen as well (Jung 2009a). It is important to note, however, that most of the copper used, both in mainland Greece and elsewhere throughout the Mediterranean, can be traced to Cypriot ore sources (Jung 2009b: 74). The arrival of so complete a set of new military equipment, implying changes in tactics as well, together with Handmade Burnished Ware cooking vessels foreign to Aegean cooking traditions, suggests the possible presence of mercenary troops (Catling 1961: 121; Drews 1993: 64; esp. Eder and Jung 2005), perhaps unreliable in loyalty, particularly if poorly fed. (In a subsequent era marked by large-scale employment of mercenaries, Renaissance rulers learned that it was generally as dangerous to hire mercenaries as it was not to do so.) The earlier 'Captain of the Blacks' fresco at Knossos and the Amarna papyrus with the drawing of a warrior wearing an Aegean boars' tusk helmet fighting alongside Egyptians may depict mercenaries (Driessen 1999: 18).

Alternatively or additionally, émigrés from Italy may have come, accompanied by their families, as bronzesmiths to serve customers eager to acquire Italian-type military gear. The Handmade Burnished Ware pottery, called Impasto Ware in Italy, appears at Tiryns, Mycenae, and Midea in the Argolid and at Chania and Kommos in Crete during LH/LM IIIB prior to the major wave of destruction, but elsewhere at or after the destructions, including Crete as far inland as Kastelli Pedhiada (Kanta 2003: 515), and is especially prevalent at Tiryns in IIIC, the one site which appears to expand in size post-destruction (Maran 2010: 729–731; Rutter 1990). It is worth noting that both the Handmade Burnished Ware and Italian-inspired metalwork are found throughout the site, both before and after the end of IIIB–beginning of IIIC destruction, suggesting that its users were well-integrated in the society, rather than a separate mercenary army. (I am grateful to J. Maran for the information regarding the dispersal of finds within the Tiryns citadel via pers. comm. of 19 June 2016.)

Of course it is possible that a separate military camp existed outside the citadel of Tiryns, for example at the harbour or near the burial mound at Chania. Cremations in a large tumulus at Chania near Mycenae in late IIIC and at Argos in cist graves without a tumulus, accompanied by northern Italian objects, suggest the presence of newcomers (Ruppenstein 2013: 189). Handmade Burnished Ware, some made in Italy but most of local clay, appears at the fortified citadel of Teichos Dymaion overlooking the entrance to the Gulf of Patras in Achaea, together with Urnfield-type bronzes (Deger-Jalkotzy 2006: 169; Eder 2006: 558–559; Eder and Jung 2005; Jung, this volume). Conversely, neither Naue II type swords or related military equipment, nor Handmade

Burnished Ware or cremations appear in Cycladic sites during IIIC or later, suggesting that any putative mercenaries from Italy brandishing the Naue II weapons kit, or bronzesmiths or other traders/workers from these areas, were concentrated mostly in the major Aegean centres and in Crete, where Naue II type swords have been found in tombs at a number of sites, including sites in East Crete (Hakulin 2013: 102). Some continued on to Cyprus and places in the Eastern Mediterranean, such as Tell Kazel (Boileau *et al.* 2010) and throughout the Aleppo Plain (Jung, this volume), and were likely depicted in the Egyptian reliefs that included the lists of Sea Peoples. The Handmade Burnished Ware pottery, which frequently accompanies the appearance of the Naue II type military kit in Greece has its home in central and southern Italy, while much of the handmade ware of Cyprus and the Near East may have various antecedents (Jung 2009b: 78).

Molloy, noting 1) that locally made Mycenaean-style pottery is significantly more common than imports from Mycenaean Greece in both Italy and the Eastern Mediterranean, 2) the predominantly local manufacture at sites in Greece of much of the Naue II and related weapons kit, and 3) the regional variation in weapons and other metal objects within the overall koine of metallurgy, has proposed that interactions included "raiding-cum-trading, going a *viking* (long distance journeys focused on repeated raids *en route*), partial migration (e.g., elite deposals/conquests), infiltration or gradual migration, and seasonal migration (e.g., mercenaries)" (Molloy 2013). 'Warrior mobility' is seen as potentially a significant aspect of life in the 12th–11th centuries BCE. Whether the weapons were used by Mycenaeans and Cypriots (or Cypro-Mycenaeans), or whether they were used by mercenaries from the Italo-Balkan area, or by both, is presently unknown. Certainly, the Mycenaean rulers at Mycenae and Knossos (if independent) had a strong interest in Italian military technology in LH/LM IIIB2, as did the rulers of Enkomi on Cyprus then and perhaps a little later (Jung 2009b: 77). Newcomers may come first to trade or raid as circumstances warrant, as itinerant skilled craftspeople or as mercenaries, and with time become settlers. Given the complete nature of the new military assemblage together with new types of metallurgy and cooking wares, it seems likely that mercenaries were among the new arrivals in Greece in late IIIB and IIIC. Mercenary revolts may accordingly have been a factor in the destructions at the end of LH IIIB.

Molloy has also offered an alternative explanation for the similarities in bronze weapons, changes in style of dress as indicated by the spreading use of bronze fibulae, and the appearance of handmade pottery alongside wheelmade suggesting the coexistence of different eating customs, namely that increased contacts on many levels resulted in the gradual 'entanglement' during LH IIIC of traditions originating in different areas of the Balkans, Italy, and Greece, with weapons in particular reflecting Balkan influence (Molloy 2016: 348). It is worth recalling with regard to migrations that invaders often leave little obvious trace in the archaeological record, as for example in the case of the Galatian invasion of Anatolia in the third century BCE or the Slavic invasion of Greece in the sixth century CE (Winter 1977; Finkelberg 2005: 146).

It should also be noted, however, that adoption of a complete new panoply of improved military equipment is not in itself sufficient to establish the presence of newcomers, since 'survival technologies' are often rapidly incorporated. The very quick adoption of cavalry tactics by Native American tribes in the Plains, who had never seen a horse before the European arrival, is a case in point.

The nature and movements of the Sea Peoples

Let us consider the evidence for exchange network disruption and complex systems collapse, beginning with the role of the Sea Peoples. Egyptian and Hittite texts describe raids in the Eastern Mediterranean from the 14th to the 12th century BCE (Sandars 1978). Egypt fortified the mouth of the Nile against sea raids early in the reign of Amenophis III (c. 1390–1352 BCE). In the following reign of Akhenaten, a letter from the ruler of Byblos found at Amarna describes the Sherdana as plundering but then serving Byblos as mercenaries (EA 81, 122, 123). Bietak further suggests that the Sherdana in the 14th century BCE may have used the protected natural harbour of Marsa Matruh in Libya as a base (Bietak 2015: 32–33); Egyptian texts speak of attacks from Libya (Sandars 1978: 117–119). Toward the end of the 14th century, Horemheb further fortified the Nile Delta. Ramesses II states that in his second year (1289 BCE; see Wiener 2014a and 2015b re chronology) he captured Sherdana who had advanced into the Nile Delta mouths. Sherdana are recorded serving in the armies of Egypt and Ugarit in the 13th century BCE (Singer 2000: 24, citing Loretz 1995). Eastern Mediterranean imports of Mycenaean pottery from the Argolid cease c. 1230 BCE at a time when a Hittite text speaks of the appearance of the Shekelesh (RS 34.129, see Safronov 2011), one of the Sea Peoples also mentioned in Egyptian texts. A letter from a Hittite ruler to the governor of Ugarit seeks information from an individual who had been captured by the "Sikila who live on ships" (RS 34.129), the earliest record of a professional pirate contingent, a prominent feature of later Mediterranean history. Some of the Sea Peoples were

no doubt professional pirates or mercenaries of mixed backgrounds such as have frequently appeared in the Mediterranean (Jung 2009b; Hitchcock and Maeir 2014). Some were Lukka, likely from Lycia.

Piracy has been endemic in many eras of Mediterranean history, often accompanied by the sacking of sites and the seizing and selling of slaves (Wiener 2013b: 164; 2015a: 139). The fate of Delos in the Roman era provides an illustrative example. Already weakened by the sack of Mithradates in 88 BCE, Delos succumbed to a devastating pirate attack in 69 BCE which left it depopulated, never to recover. Raids often leave no archaeological evidence of attackers, as in the case of the Arab raids on Crete in the seventh century CE. In the 19th century CE pirates ravaged the coast of Crete, arriving suddenly in groups of 150–200, the attendant destructions forcing populations to move inland (Nowicki 2000: 228, citing Richards 1906: 191).

Crete in particular seems to have been affected by piracy in LM IIIB2. While the major centres of Chania, Knossos, Tylissos, Kastelli Pedhiada, and Phaistos survive (although coastal Chania appears to experience a destruction) sites along the Cretan coasts are abandoned, with the populace withdrawing inland (or turning to piracy themselves). New defensible sites are established on hilltops within sight of the sea, giving the appearance of pirate lairs, with newly arrived Mycenaeans from the mainland the likely main occupants (see generally Nowicki 2000: 223–224). Prime examples include Kastrokephala at the western end of the Gulf of Herakleion (Kanta and Karetsou 2003; Kanta and Kontopodi 2011; Karageorghis 1998: 133) and the high, inaccessible windswept promontory at Kastri, occupied for a period in the 12th century BCE (Nowicki 2000: 49), whose situation and simple houses of similar size also suggest a pirate lair.

In the c. 1190 BCE destruction level at Ugarit, many bronze objects were found in wall cavities or hollows under the floors, suggesting that the inhabitants were anticipating a raid, perhaps by a pirate contingent, after which they hoped to be able to return (Schaeffer 1968: 763, cited in Drews 1993: 207). Numerous arrowheads were found throughout the ruins, suggesting street to street combat (Yasur-Landau 2010: 166). The destruction level contains a text read as referring to an eclipse. If as seems likely this reference is the eclipse of 21 January 1192 BCE (Kaniewski *et al*. 2011: 5; Cline 2014: 109), then the Sea Peoples destruction of Ugarit preceded the Sea Peoples coalition attack on the Nile Delta described by Ramesses III by about four years. In this case, the oft-cited letter from Egyptian Chancellor Bey found in the ruins of Ugarit must have been sent a decade earlier and retained (cf. Wiener 2014a, which however follows the then current belief that the letter was received shortly before the destruction, in the absence of information about the eclipse). Egyptian texts describe widespread attacks and destruction before the Sea Peoples are finally defeated in a battle at the mouth of the Nile in 1186 BCE (for date, see Wiener 2014a and 2015b; cf. Cline 2014).

Some of the Sea Peoples are likely to have started from Sardinia, Sicily, Italy, or the Balkans. Sardinia has long been viewed as a likely or possible homeland of the Sherdana in light of the similarity in names and Egyptian depictions of helmets resembling helmets found in Sardinia. Ramesses II asserts that early in his reign he had captured Sherdana who had attacked at the mouth of the Nile Delta and, impressed with their battle skills, had recruited them as his personal bodyguards. An inscription on a stele from Tanis states that "the unruly Sherden whom no-one had ever known how to combat, they came boldly sailing in their warships from the midst of the sea, none being able to withstand them" (trans. Kitchen 1982: 40–41, cited in Bryce 2005: 335). At the battle of Kadesh they guard the royal tent, and subsequently appear as elite troops in the Egyptian army (Bietak 2015: 32–33). Sardinian pottery has been identified at the port of Kommos on the south coast of Crete in an LM IIIB1 context c. 1290–1280 BCE (Rutter and van der Moortel 2006: 646–688; Shaw *et al.* 2006: 859–863; Wiener 2015b re date). Sardinian Nuragic pottery has also recently been discovered or recognized in end of Bronze Age/beginning of Iron Age deposits in Crete and in Cyprus, and Spain as well (Depalmas *et al.* 2016). Significant numbers of Cypriot copper oxhide ingots, some with Cypro-Minoan markings, have been found at 31 Nuragic sites on Sardinia (Matthäus 2015: 302–303). Cypriot metalworking, woodworking, and agricultural tools also are present in Sardinia c. 1200 BCE, suggesting the presence of Cypriot workers (Matthäus 2015: 302). Aegean and Cypriot pottery appears in some quantity in the Aeolian Islands and at Thapsos and other sites in eastern Sicily by the 14th century BCE (Vagnetti 2010: 894) and in Sardinia, in particular at Nuraghe Antigori, the largest of the Nuragic settlements (and at Taranto as well) between LH IIIB and IIIC Middle–Advanced; while in other areas of Italy, Mycenaean-type pottery fired in Mycenaean updraft kilns is made from local clay, suggesting the presence of Mycenaean immigrants or traveling potters.

A contingent displaying a combination of Mycenaean, Minoan, and Aegeanized Cypriot cultural features occupied Pyla-Kokkinokremos on the south coast of Cyprus for not more than two generations between c. 1230 and 1175 BCE. The site contained solid casemate walls, a double door reminiscent of Minoan elite architecture (A. Kanta, pers. comm. of 2 December 2016, for which I am most grateful), much imported pottery, including

both imported and locally made Minoan and Mycenaean examples, metallurgy, and evidence of an established Cypriot archival tradition in the form of intentionally fired tablets with Cypro-Minoan signs (Jusseret *et al.* 2016). One tablet has writing on both sides and on the spine as well, as if it had been filed as a ledger. An unusual aspect of the site is that all areas excavated contained preciosities of various types and there were no marked status differences in the dwellings along well-planned streets, perhaps suggesting a community of pirates. The careful burial of many valuable items, with no sign of subsequent destruction of the site, suggests that its inhabitants expected to return *en masse* and reclaim the site (J. Driessen pers. comm. of 6 December 2016, for which I am most grateful), that their destination was not a location where they expected to be able to enjoy their possessions, and hence that they may have departed in order to participate in a Sea Peoples raid, perhaps one of those described in Egyptian or other accounts, if not the attack on the Nile Delta in the eighth year of Ramesses III itself. A letter found at Ugarit, believed to have been written to an overlord, probably located in Carchemish, states "When your messenger arrived, the army was humiliated and the city was sacked. Our food in the threshing floors was burnt and the vineyards were also destroyed. Our city is sacked. May you know it! May you know it!" (quoted in Knapp and Manning 2016: 120), also suggesting that raiders have come, destroyed, and departed.

LH IIIC potsherds from Kynos, a seaport overlooking the Euboean Gulf, depict warriors resembling attackers shown on the Medinet Habu reliefs of Ramesses III. A papyrus now in the British Museum appears to show Mycenaeans also fighting alongside Egyptians (Schofield and Parkinson 1994). Prior to the Hittite sack of Millawanda (Miletus) at the end of the 14th century, Miletus was strongly Mycenaean in character (Niemeier 2005: 10–21). Millawanda in IIIA–IIIB1 may in turn have been the local centre of a single powerful state with its capital at Mycenae (Jung 2015; Dickinson 2009; Wiener 2009 and as argued below). The Sea Peoples raiders surely included overseas Mycenaeans and their descendants. The Mycenaean palaces prior to their destructions may themselves have engaged in piracy and the seizure of captives. The Linear B tablets from the final destruction level at Pylos list women and children from places with names similar to Lemnos, Knidos, Miletus, and perhaps Chios receiving quite limited rations (Palaima 1991: 279–280; Chadwick 1988: 73–75, 77–93).

Ahhiyawans of Mycenaean descent who occupied the area around Miletus from the beginning of the 14th century BCE (Niemeier 2005) appear in Lycia (Singer 2006: 251–258) and in Canaan (Yasur-Landau 2010: 116–118, 189–193) in the 12th century BCE. Locally made LH IIIC-type pottery is also found from the Hatay in south-central Turkey to Homs in Syria, accompanied by locally made Aegean-type loomweights at Tell Taʿyinat (Maeir, this volume). That the sites of the Philistine pentapolis receive settlers of Mycenaean or partly Mycenaean stock seems clear. At Ashkelon, for example, about 85 percent of the cooking-vessel sherds are of locally made Aegean type, and pork (from pigs whose DNA is consistent with that of European pigs [Maeir, this volume; a recent summary of Mycenaean presence in the East is presented in Gür 2016, updating Kelder 2006]) becomes common in the diet, unlike the situation at inland Canaanite sites (Jung, this volume). In IIIC, the proportion of cow and pig bone deposits at Mycenaean and Philistine sites is similar, and in both there is less emphasis on sheep and goats, suggesting that the great flocks of palatial economies such as those enumerated on the Knossos tablets are a matter of the past (Yasur-Landau 2010: 297–299). Hearths and cooking pots change as well. In some respects, however, the sites of the Philistine pentapolis display closer similarities to Mycenaeanized sites in Cyprus than to sites in Greece. Gath resembles Cypriot sites in its urban layout, metal-smelting technologies, and appearance of pottery sherds with Cypro-Minoan script, as noted above. There are resemblances as well to sites in Cilicia, whose inhabitants may be refugees from the former overseas Mycenaean sites in Ahhiyawa. Texts describe attacks on Ugarit before its destruction as coming from both land and sea, as is the case with regard to the Sea Peoples attack on the Nile Delta. In some cases, the raiders moved on, leaving destruction behind; in others they remained, and were eventually integrated into the local population (Yasur-Landau 2010: 227–228; 2011: 251). It should be noted that even within the Philistine pentapolis, sites display different cultural admixtures (Maeir, this volume; see generally the detailed summary of the evidence in Yasur-Landau 2010).

Some of the Sea Peoples came from Crete, as indicated by Minoan-inspired pottery in Cyprus and Philistia, and by the cult of Zeus Kretaios of Gaza, the reference to the site as a Minoa, and the mention of Cherethites in the Hebrew Bible (Huxley 2007: 141). The appearance at Tel Nami in Canaan of a Minoan-type conical cup with a piece of pumice inside it, probably in a late 13th century BCE context, comparable to a similar discovery at Chania in Crete from a 13th century BCE context, recalls earlier Cretan examples found in LM IB contexts shortly after the eruption of the Theran volcano (Artzy 1991). The apparent reappearance of standing horns of consecration at Kition, Kouklia-Palaepaphos, and Myrtou-Pigadhes on Cyprus (Voskos and Knapp 2008: 667) also suggests a revival of Minoan cult concepts, although the Cypriot versions are flat on top rather than pointed as in Crete,

and are associated with altars rather than entryways and buildings (Hitchcock 2008: 18–22, 28, 33 n. 77). There is even a structure resembling a lustral basin at Hala Sultan Tekke on the south coast at the beginning of the 12th century BCE, hundreds of years after lustral basins had gone out of use in Crete itself, where in many cases they were covered under impressive 'Minoan Halls' (Karageorghis 1976: 69–72). The Hala Sultan Tekke version had both lead waterproofing and drainage, unlike lustral basins in Crete, but also with painted plaster, common in Crete and other areas of the Aegean but otherwise unattested in Cyprus (Hitchcock 2009: 139). (Should one imagine the existence of a recusant Minoan sect, hiding its practices for 300 years?) Minoan cultic features such as a figurine with upraised arms and birds perched on its crown are also found at the mountaintop site of Karphi in Crete in LM IIIC and an Eteocretan language continues in use in this area. Cretan elements are clearly present at Pyla-Kokkinokremos on a plateau overlooking the south coast of Cyprus during its brief life at the end of the 13th–beginning of the 12th century BCE (Karageorghis and Kanta 2014). The fate of Pyla-Kokkinokremos seems closely tied to that of nearby Enkomi, which also suffers damage and is abandoned early in the 12th century BCE. Of course not all the Aegeans arriving came as raiders or refugees; for example, migrant skilled craftspeople may have come seeking employment on the burgeoning Cyprus of the 12th century BCE. Cretan artisans apparently moved west as well, with the influence of post-palatial Crete evident in the local Mycenaean-type pottery of the Italian Sibaritide and to some extent in the local Mycenaean of Sardinia (Vagnetti 2010: 898). The 'Pictorial Style' of LM/LH IIIC pottery begins in Crete, spreads to Cyprus, and lastly arrives on mainland Greece (Mountjoy 2015a: 60–61).

Some of the Sea Peoples/raiders/settlers appear to have come from Sicily and continental Italy, including refugees from the Terramare Culture of the Po Valley, where Naue II swords are particularly prevalent prior to the abandonment c. 1200–1150 BCE (Drews 1993: 204). Conversely, communities of Aegean artisans, perhaps accompanied by others, appear to have inhabited sites in Sardinia, Sicily, and at places both in the south and north of Italy (Yasur-Landau 2010: 52–54, 56; Vagnetti 2010). Siculo-Aeolian hand-burnished ware appears at Beirut and Nuragic material at Pyla-Kokkinokremos on Cyprus (Babbi *et al.* 2015: 10). On the island of Kos, the main site at the Seraglio was destroyed by fire at the very end of LH IIIB, at a time contemporary with a Mycenaean-type 'warrior burial' at the site of Langada. Very soon thereafter, Italian/European-type objects appear for a short period during LH IIIC Early (Vitale and Blackwell 2016). Given that such objects appear almost exclusively in this brief period on Kos, their presence may be due to pirate activity (Vitale and Blackwell 2016, citing Jung and Mehofer 2013). Two child burials in Handmade Burnished Ware pots were found at Liman Tepe on the Anatolian coast; other examples of Handmade Burnished Ware have appeared at a cemetery southwest of Liman Tepe and at Clazomenae (Mangaloğlu-Votruba 2015: 659). Destructions also occur in the Central Mediterranean, in Sicily and on the Lipari Islands, which experience both a destruction and a cultural replacement (Cardarelli 2010: 477).

Piratical Sea Peoples' raids surely played a major role in disrupting exchange networks for essential goods such as copper, tin, and especially grain. On the evidence of the Uluburun shipwreck off the coast of Lycia of c. 1300 BCE, the amount of the trade in metals must have been vast; accordingly, its interruption would have had major consequences. Hittite, Levantine, and Egyptian texts speak of enormous shipments of grain as well. The Knossos Linear B tablets speak of the palace controlling 775 tonnes of grain grown in the Messara, as noted above. The texts describing desperate shortages of grain and dramatic price increases cited above reflect the consequences of the breakdown in trade. Large numbers of sea traders may quickly have become raiders. In sum, the 'Sea Peoples', acting both as sackers of costal sites and members of coalitions with land raiders (but sometimes joining defenders as well), played a major role in the collapse of civilisations at the end of the Bronze Age.

The aftermath of the collapse and its implications

Mycenae and Tiryns survive as significant sites in LH IIIC, but without literacy, palaces, grand tombs, many luxury crafts, or large-scale production of perfumed oil. Pottery shapes and many motifs show a high degree of continuity, however, together with many other aspects of a recognizably Mycenaean culture, but with the governing stratum of society somehow removed, along with its enormous demands but also its organisation skills and overseas connections, as well as the skills of those it could command. Tiryns, however, continued in LH IIIC to maintain significant contacts overseas including links with Crete, Cyprus, and the Levant (see below). Korakou in the Corinthia survives into IIIC Middle. The site of the Mycenaean palace at Ayios Vasileios in Laconia, destroyed at the end of LH IIIA2, is partially reoccupied for a period in IIIB2 Late–IIIC Early. The brief partial reoccupation includes however an altar with horns of consecration accompanied by five large wheelmade bull figurines (A. Vasilogamvrou, pers. comm. of 10 January 2017,

for which I am most grateful), a Minoanising revival in Laconia similar to that at sites in Cyprus noted above. Deger-Jalkotzy (1994: esp. 13) has noted the appearance of various such similar features in Laconia and Cyprus, along with Laconian-Cypriot-Central Cretan dialectical similarities, in support of the proposition that Laconians and Central Cretans were among the new arrivals in Cyprus, perhaps beginning at the dawn of and continuing into the 11th century BCE. Teichos Dymaion is reoccupied in IIIC, when Achaea as a whole flourishes in comparison with most areas. Indeed, the relative advance of Achaea appears to begin in IIIB (Moschos 2009: 348), perhaps partly due to the evident stresses in the Argolid and the disappearance of palatial control, together with the increasing significance of contacts with Italy as trade with the Eastern Mediterranean shrinks. By IIIC Middle, an increasing number of warrior burials containing elite grave goods appear in Achaea at sites as distant from one another as Portes and Aigeira (Lemos 2014: 168; Deger-Jalkotzy 2006: 159, 163–164). Achaea may have been less affected than other areas of Greece by 1) food shortages due to drying climate, 2) epidemics traveling from the Eastern Mediterranean, 3) drainage system collapse, 4) earthquakes, or 5) general systems collapse with regard to trade with the East, given its closer ties to the West. Central and western Crete appear to receive new settlers from the mainland in LM/LH IIIC, as do some areas in the east, including Azoria in eastern central Crete (Haggis *et al.* 2016). Nowicki (2000) reports that 120 new sites, many small and at least somewhat inland, are formed in Crete in the IIIC period.

Attica also may have survived relatively well, with the continuing arrival of Cretan imports as one indicator. Athens may have controlled the mines at Thorikos-Lavrion, still active in IIIC. Lead and silver mine no. 3 at Thorikos contains pottery both from the end of IIIB/beginning of IIIC destruction horizon and a small amount from IIIC Middle to Late in connection with metallurgical activity, when the pottery is similar to pottery from nearby Perati cemetery (Laffineur 2010: 35; Mountjoy 1995). While at the end of LH IIIB the island of Kea off the coast of Attica is abandoned for a century, the surviving population may move to the area of the cemetery of Perati, with a few descendants of the settlers returning to Ayia Irini toward the end of the 12th century BCE to leave a small number of vases by the former shrine at the site (Iakovidis 1980). In central Macedonia, however, the number and size of settlements appear to grow throughout the Late Bronze and Early Iron Age (S. Andreou, pers. comm. of 1 September 2016).

In the Cyclades, a citadel is created at Koukounaries on Paros, which in turn is destroyed in IIIC Middle, as is the fortified site of Phylakopi on Melos. Koukounaries has the appearance of a pirate lair, invisible from the sea and difficult of access, with a well-built defensive wall. The destruction level contained valuables from abroad (Samaras 2015: 195). Conversely, Grotta on Naxos expands in IIIC Middle, when a major defensive wall is built and extensive trade links are evident, including a pottery koine encompassing Lefkandi, Attica, the Argolid, eastern Crete, and Rhodes, with partial extension to Kos and Kalymnos (Vlachopoulos 2003: 494, 497; Lemos 2014: 174). The coastal site of Asine in the Argolid exhibits closer pottery connections to this koine than to nearby Mycenae and Tiryns in IIIC Middle. The destruction on Paros and expansion and fortification of near-neighbour Naxos may of course be related. In addition to the evidence for violent destructions, the susceptibility of islands to water shortages noted above may have been relevant in this regard, given that Naxos is the best watered of the Cyclades.

Euboea also appears to thrive beginning in IIIC Middle and thereafter, particularly in comparison with the Peloponnese and Crete, which reach their nadir near the end of the 11th century BCE (but with a rapid revival of Eastern Mediterranean contacts in Crete in the 10th century BCE). Lefkandi suffers a destruction at the end of IIIC Early, but becomes one of the largest and most impressive settlements in the central Aegean in IIIC Middle (Lemos 2014: 173). Mitrou across the Euboean Gulf also escapes destruction, as does the nearby shrine at Kalapodi, which apparently continues to function throughout the Late Bronze Age and well into the Iron Age. At Kynos, galleys are depicted on pots with 20 oarsmen for smaller vessels and 50 oarsmen on larger ones (Lemos 2014: 171), suggesting the existence of a formidable trading, raiding, and defensive force. The smaller vessels may have been faster and easier to beach than the vessels previously depicted, and hence well suited for warfare (Kramer-Hajos 2016 and references therein). Ship depictions appear at Skyros, Tragana, and Asine in LH IIIC. The difficulty of passage through the narrow straits separating Euboea from the mainland may have served as a defence against pirate raids and seaborne invasions. I. Lemos, the excavator of the settlement of Xeropolis at Lefkandi, notes that "Xeropolis, with its double harbours, controls the approach to the most difficult part of any journey up the Gulf. This necessitates passing through the narrow Euripus strait where strong tidal currents with their reverse flow require local knowledge to pass through safely" (Lemos 2014: 173–174). Moreover, the location of Attica and Euboea to the north of the shortest route from the Central Mediterranean via

the southern Peloponnese and Crete to the Eastern Mediterranean, away from the likely main route of the Sea Peoples, may have proved advantageous. Starting in the 11th century BCE, Euboea takes the lead in establishing contacts with the eastern Aegean and Mediterranean and subsequently with the Western Mediterranean as well.

It is noteworthy that the mid-12th century LH IIIC Middle partial revival in Greece is concentrated in places with easy access to the sea, where we find evidence of the renewal of contacts with the East and Cyprus in particular or, in the cases of Achaea, Kephallenia, and sites in Doris and Phocis, continuing if not expanding contacts with Italy and the Adriatic. At Perati on the eastern coast of Attica facing the Euboean Gulf, the earliest burials begin around the time of the destructions c. 1200 BCE and continue throughout the 12th century. Many of the tombs contain imports from abroad, and the furnishings include many items of gold, plus objects of faience, ivory, amber, various exotic stones, and engraved signet rings (some heirlooms, perhaps looted, but some not) indicating the continuing existence of wide-ranging exchanges, likely concentrated in IIIC Middle (Iakovidis 1980: 99). However, the volume of trade, particularly in products of high value, is no longer sufficient to support empires, palaces, or large contingents of troops and chariot forces.

In Crete, coastal sites abandoned in LM IIIB2 because of Sea Peoples raids (and perhaps because of invasion or plague as well—see above) are occupied by new arrivals from the mainland (Wiener forthcoming), some likely coming from Messenia and Laconia, whose populations plummet beginning in LH IIIC. The city of Knossos is reorganized at this time, with a new layout of buildings serving new functions as noted above (Whitelaw 2016).

The discovery at Tiryns of a terracotta *boule* inscribed with signs in the Cypro-Minoan script in a IIIC Middle Developed context, the same horizon as many terracotta *boules* found at Enkomi (Vetters 2012; Ferrara 2013: 11, 305; Petrakis 2014), may testify to the resumption of contacts (Kardamaki *et al.* 2016: 145, 147–148; Maran 2015: 282–283), unless it is an heirloom from the end of IIIB2 horizon, which in this northernmost Lower Citadel area contained Cypriot wall brackets and other imports, as noted above (Maran 2015: 282–283, 285 n. 84). Cyprus emerges as the central node of exchange networks and movement of settlers, as indicated by the appearance of Cypriotica in Greece, for example in Crete at Palaikastro, along the south coast, and in upland areas such as Arkadhes (Kanta and Karetsou 1998; Karageorghis *et al.* 2014); at Tiryns (Stockhammer 2015); and by the presence of Cypriot and locally made Aegean-derived pottery including cooking ware, possibly indicating the presence of women, at sites along the Eastern Mediterranean coast from Cilicia to Canaan (Sherratt 2013). Enkomi in particular becomes the most significant eastern point of contact with Greece (Vetters 2012: 32). In general, Cypriot coastal centres appear to reach the climax of their urban development a couple of decades after the destruction of the Mycenaean palaces in Greece (Vetters 2012: 27–28). Cyprus, however, simultaneously with the Greek mainland, also experiences major change during the final decades of the 13th and the early 12th century BCE. After a major destruction of Enkomi near the start of the 12th century BCE, Mycenaean mainland wheelmade types of pottery, including wheelmade coarse-ware cooking pots, largely replace Cypriot Base Ring and White Slip wares (Georgiou 2016; Jung 2009b: 80–81). Over the course of the 12th–11th centuries BCE, enough Greek speakers of the Arcado-Cypriot dialect (closest to the Greek of the Linear B tablets) arrive in Cyprus to make the island permanently Greek-speaking in the main. Conversely, certain IIIC Middle shapes may appear first in Cyprus and the Anatolian interface, and from there move to Crete and the Argolid, whereas decorative motifs continue to originate on the mainland (Mountjoy 2015b: 538–542, 546–551; Wiener 2007: 20). Cypriot presence is also apparent in the Central Mediterranean where, for example, Sardinia adopts metal tools of Cypriot derivation (Vagnetti 2010: 898). The collapse of palatial rule in Greece expanded opportunities for Cypriot ventures.

That Achaea in the northern Peloponnese appears to flourish throughout the 12th century BCE in comparison to much of Greece as described above is perhaps due in significant measure to the fact that (as far as is known) Achaea never was home to a major palace centre and accompanying intrusive administration whose collapse would have had a major impact. Western Achaea in particular maintains strong links with the Central Mediterranean and Adriatic, including potters who travel to or settle in Italy, at the same time that Central Mediterranean and Adriatic/Baltic materials appear in Achaea in particular. Western Cretan Minoanising features appear in Achaean pottery in the mid-12th century. That a resumption of participation in broad trade networks corresponds with a significant degree of relative prosperity in the post-collapse era strengthens the impression that exchange network disruption may have played a major role in the systems collapse at the end of the Bronze Age. (See generally Maggidis 2009 for an overview of many of the topics discussed herein. See also now Knapp and Manning 2016.)

The proposed special role of Mycenae prior to the c. 1200 BCE palatial collapse and consequences of its terminus

With regard to the hypotheses of complex systems collapse, one further possibility may be noted, namely that in the 13th century BCE a Mycenaean empire which controlled the entire Peloponnese, Attica including the mines at Lavrion and Thorikos (and possibly as far as Boeotia including Thebes, given the similarity of the Linear B tablet administration), plus central and western Crete, the Dodecanese, and the Ahhiyawan realm on the Anatolian coast, was inherently fragile through overextension. The putative evidence for the dominant role of Mycenae includes:

1) the series of destructions beginning with Knossos in LH IIIA2 and continuing at about the beginning of IIIB c. 1300–1280 BCE with the destruction of the Mycenaean palaces at Ayios Vasileios in Laconia and at Pylos in Messenia, where fire ravaged the entire hilltop (Nelson 2001: 183–184, 207); Ayios Vasileios is not reoccupied, whereas Pylos, overlooking the best natural harbour on the west coast of Greece, is rebuilt on a completely different plan and technique of construction, resembling those of Mycenae and Tiryns, but with a remarkable amount of space, both on the ground floor (and upper floor, to judge from finds believed fallen from above) for storage, a situation different from that observed at independent palaces (Shelmerdine 2008: 118);
2) the great similarity of scripts, lexicon, dialect, terminology of land use, hierarchy of officials (Eder and Jung 2015: 113–114), scribal practice, and names recorded on the Linear B tablets from all sites where tablets have been found (including the continued use of Minoan logograms to record wool and textiles), whereas the earlier Knossian Linear B tablets are different in various respects (Hallager 2015; Nosch 2015);
3) the identical architectural schema in the megara of Mycenae, Tiryns, and Pylos, including the size and floorplan of the three main rooms and the size and location of the large central hearths and thrones, with the hearths at Mycenae and Pylos painted with flames and spirals, decorative elements of octopuses and dolphins at Tiryns and Pylos (although at Tiryns the octopuses and leaping dolphins alternate on the throne, whereas at Pylos the octopus sits in front of the throne, while the dolphins were found in a room adjacent to the main megaron suite [Younger 2010: 627]);
4) the similarity of the seals and sealing systems employed at all mainland sites where seals have been found;
5) the fact that Mycenae via its kilns at Berbati appears to dominate pottery manufacture of large kraters with figural scenes and distinctively decorated stirrup jars for the export of wine and perfumed oil to Attica, Boeotia, Macedonia (including Assiros, whose major grain storage facility was noted above), Rhodes, and the Eastern Mediterranean, including perfumed oil from its nearby production facility at Zygouries (with administration of oil production and export likely controlled from the building in the city of Mycenae known as 'The House of the Oil Merchant'), while at Pylos much of the pottery of the end of IIIB destruction horizon is unpainted and the percentage of transport amphorae is much smaller, as if no competition in the export of perfumed oil and wine to the East was allowed (the suggestion of J. Rutter that Mycenae may have transferred Cretan perfumed-oil production from Knossos at the time of its destruction in LH IIIA2 to Zygouries noted above is relevant here);
6) the fact that in the Peloponnese beginning in LH IIIA grand tholoi requiring major labour investment are built only at Mycenae;
7) the striking similarity of high-status, mostly warrior, burials with respect to types of tombs, elite goods, and imports from abroad, plus burial rites and feasting customs, the similarities *in toto* strongly suggesting emanation from and emulation of a single overarching centre (Eder and Jung 2015);
8) the rapid decline of the formerly powerful site of Kolonna on Aegina (Tartaron 2015b: 36–37);
9) the enormous resources commanded by the Mycenaean rulers requiring a highly controlled population, as seen in the orgy of construction in IIIA2–B1 and the suggestion of a form of ruler/ancestor cult provided both by Grave Circle A at Mycenae plus its enclosure within the citadel wall in LH IIIB and in the construction of the Treasury of Atreus and the Tomb of Clytemnestra (Wright in Dabney and Wright 1990: 51); and
10) the references in the Hittite texts to Ahhiyawa as a single, powerful state led by a 'great king' capable of fielding large chariot forces in Anatolia. The text bears many erasures, including the reference to the Ahhiyawan ruler as a great king, but the text may represent the draft of a message or a change in status of the Ahhiyawan ruler. Nevertheless, a Hittite

emperor who controlled a large area of Anatolia and part of the Levant could not at any point have regarded the ruler of only the northeastern part of the Peloponnese as a great king.

Accordingly, the *wanax* of the Linear B tablets was likely the Mycenaean ruler of a broad realm. If so, the geographic extent of the realm and investment in military ventures in Anatolia may have rendered the extended Mycenaean state cumulatively vulnerable (particularly if engaged in conflict with Thebes, or facing localized uprisings for whatever reasons, at the same time), succumbing in the end to imperial overreach. The loss of the massive export market for Mycenaean products carried in Argive transport jars in IIIB2 must have had a significant economic import. Homer speaks inconsistently of a Mycenae under Agamemnon dominant over wide areas, and alternatively of an independent polity at nearby Tiryns ruled by Diomedes (*Il*. 2.559). The former account may describe the Aegean world of LH IIIB, while the latter may reflect the Peloponnese in LH IIIC. Indeed, it is possible given the scope of the construction at Tiryns including the massive entrance passage/fortification wall in LH IIIA2–IIIB, together with the destruction of the great pottery works for transport vessels at Berbati and the industrial export facilities outside the citadel of Mycenae in LH IIIB1, that the ruling *wanax* and his court themselves ruled partly from Tiryns during LH IIIB2 (Maran 2015: 280–283).

It is important to note that Late Bronze Age palatial polities and rulers required enormous resources to maintain themselves, including grain, major imports of metal, craftsmen skilled in many occupations including shipbuilding and providing equipment for ships including sails and ropes (as described in detail in a text of Tuthmoses III [Glanville 1931]); major construction crews to realize the enormous building projects in the Argolid described above, whose mobilisation may have contributed via excessive labour demands to the destabilisation of the palatial system (Kilian 1988: 134; Maran 2009: 255); building materials brought from distances (e.g., from Crete for the Treasury of Atreus [Cavanagh and Mee 1999: 98]); warriors with expensive arms and armour, and, above all, chariot forces. The Knossos Linear B tablets list large numbers of chariots, an estimated 200–250 in total (see above). The tablets from the Room of the Chariot Tablets at Knossos contain a higher proportion of Mycenaean names than other deposits of tablets from Knossos, which contain a larger percentage of non-Mycenaean, presumably Minoan, names (Driessen 2000: 188–189). At some point during LM IIIA, the chariot makers may have been moved to Mycenae, perhaps together with the perfumed-oil makers discussed by Rutter (above). Depictions of chariots appear on three of the six stelae erected over the Shaft Graves at Mycenae during LH IIIB when the citadel circuit wall was extended, and chariots appear in the Pylos Linear B tablets at the end of LH IIIB as well. The Ahhiyawa leader on the Anatolian coast is said in one Hittite text to command 100 chariots (KUB 14.1 §12). Images of chariots on Mycenaean/Minoan wall paintings, larnakes, kraters and other vases, seals and sealings, plus terracotta models and chariot-shaped ideograms, total over one hundred (Crouwel 1981). Piggott states that it required 8–10 acres of grain land to feed one chariot team (Piggott 1986: 27, cited in Drews 1993: 111–112). The corselets worn by charioteers and their bowmen in depictions would also have been costly. Dickinson (2006: 49) has argued that the role of chariot forces would have been limited in the Greek terrain, but once infantry forces were locked in combat, a chariot force arriving on the scene could have had a decisive impact. Drews (1993: 104) proposed that improvements at the time in infantry equipment including javelins, longswords, and most types of defensive armour were decisive in permitting invaders to overcome palatial charioteers, but such improvements would also have been available to palatial rulers if the rulers had been capable of maintaining such troops and paying for their equipment (together with, or instead of, chariot forces). In the Near East and Egypt, the Maryannu chariot forces were regarded as so critical that royal correspondence sometimes listed their horses and chariots alongside wives and children of rulers as objects of good wishes (e.g., EA 8 and 35 from Amarna). According to Egyptian accounts, chariot forces played a decisive role in the critical battle between the Egyptian and Hittite empires at Kadesh in 1285 BCE (Wiener 2015b re chronology). Mercenaries of any nature were expensive to maintain. Ramesses II asserts that the Hittite emperor Muwatalli II stripped his treasury bare to hire mercenaries for the battle at Kadesh (Gardiner 1960: 8).

Conclusion

It is evident that the palaces, first in Crete and then in mainland Greece, controlled enormous resources of labour, goods, and knowledge, with Mycenae clearly dominant in the 13th century BCE. Moreover, Late Bronze Age societies around the Eastern Mediterranean including Hittite Anatolia engaged in a massive volume of trade, as evidenced by texts and archaeological discoveries such as the Uluburun shipwreck. Neither Minoan Crete nor Mycenaean Greece con-

tained sources of tin or significant amounts of copper, the essential components of a Bronze Age society and in particular its war-fighting and internal control capability. Accordingly, trading ventures by sea and their protection was essential to the survival of both the palatial polities and their ruling elites. Their safety depended on imports of copper and tin, their status on imports of gold, silver, and ivory. The ability to export weapons and grand items of clothing as described in the earlier Mari texts and as indicated by the vast numbers of sheep listed in the later Knossian Linear B tablets, plus the export of large quantities of perfumed oil, provided the required balance of trade. The loss of the Uluburun ship (believed by its recent excavator to have been a Mycenaean vessel homeward bound [Pulak 1997: 253]) with its enormous cargo of metal, together with the Hittite sack of the main Mycenaean entrepôt of Miletus at or near the same time at c. 1300 BCE, may have marked a major moment of change for Mycenae and Mycenaean Greece, requiring the substitution of imports from the west, Italy in particular, of the Naue II type weapons package, perhaps including mercenary troops.

Increasing warfare in the late 13th century BCE and the likely interruptions of inter-palatial trade set the stage for the final assaults of the Sea Peoples. While some have discounted the description of the Sea Peoples' invasion of the Nile Delta in the eighth year of the reign of Ramesses III as a self-aggrandizing account (and perhaps borrowed from earlier texts [see discussion in Kahn 2010]), and unlikely in its description of the areas affected, archaeological and textual discoveries of recent years in the Central Mediterranean, Crete, and Cyprus, as well as in the Levant and Anatolia, have provided strong support for the textual accounts of major destructive sea raids.

We have much to learn still about the existence, duration, relative significance, and temporal sequence of 1) climate events; 2) food shortages, whether caused by climate change/drought, carrying capacity exhaustion, or drainage system destruction; 3) epidemics in various areas and at various times; 4) warfare between Mycenaean polities and the impact of sea raids; 5) intra-communal strife, possibly involving mercenaries; 6) exchange-system collapse; and 7) migrations during LH IIIC, and particularly near the end of the period. Societies generally display a diversity of responses to crises. The dramatic changes in many states and cultures at the end of the Bronze Age suggest the presence of a significant overarching challenge or challenges, and/or societies so interconnected and interdependent that a major crisis in one or more would massively impact the others. Finally, we should acknowledge the factor of chance and of human frailty, particularly in a fragile or overextended society, where a single act of hubris (for example, an overly ambitious or desperation-induced resort to warfare) could have preceded a chain-reaction of disasters. Bintliff's observation (2012: 201) that a small yet critical change in a minor element of rule or subsistence can destabilize complex societies is worth noting.

Population movements and decline toward the end of LH IIIC were on a yet greater scale than after the palatial system collapse at the IIIB–IIIC transition. The population nadir in Greece as a whole is reached c. 1050–970 BCE at between half and one third of the pre-destruction population overall. The population decline in Messenia may have reached 90 percent (Morris 2006: 80). Some of the Messenians may have moved north into Arcadia and some east to Cyprus; Arcado-Cypriot is the closest of all later Greek dialects to the Mycenaean of the Linear B tablets (Ventris and Chadwick 1956: 68–69, 73–75; Deger-Jalkotzy 1994: 11). By the Early Iron Age, it is difficult to find a site at which occupation is certain in Achaea, Laconia, or Phocis (Dickinson 2010: 486). The causes of the collapse at the end of the 12th century BCE are as elusive as the reasons for the collapse of the palaces at the end of the 13th century.

Fortunately archaeological science is likely to transform our understanding of the disintegrations at the end of the Bronze Age and the Sea Peoples phenomenon in the foreseeable future. DNA analysis of humans, animals, and pathogens will disclose the presence and migrations of each; isotope analysis will inform knowledge of population movements; climate science will provide knowledge about climate events including droughts; holistic analysis of bone material will provide information on disease, diet and famine, warfare, and life experiences. A generation hence, we will have much more data regarding the ultimately unknowable processes of collapse at the end of the Bronze Age.

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The Sea Peoples and the Collapse of Mycenaean Palatial Rule

Helène Whittaker

Abstract

The Sea Peoples represent one of several competing, but not necessarily mutually exclusive, explanations for the destruction of the Mycenaean palaces and the consequent demise of Mycenaean social and political order. In the first part of this paper I discuss the nature of the destructions and their immediate aftermath at each of the palaces separately. In the second part, I assess how the evidence might be interpreted as supporting the Sea Peoples hypothesis.

The destructions and their aftermath

The Sea Peoples are often, although perhaps less now than in earlier research, invoked as playing a, or the, major role in the wave of destructions that put an end to the Mycenaean palatial system around 1190 BCE:[1]

In ceramic terms this corresponds to the end of the LH IIIB2 period or possibly to very early in the LH IIIC period (Mountjoy 2001: 4; Dickinson 2006: 44). Moving from north to south and from east to west, Dhimini in Thessaly, which has been identified as the Mycenaean centre to which Iolkos in Greek mythology refers, was destroyed by fire (Adrymi-Sismani 2007). Evidence of fire destruction can also be seen at Thebes and at Athens (Aravantinos *et al.* 2001: 16–17). In the Argolid there is evidence of extensive and strong fires that destroyed buildings within the citadels of Mycenae, Tiryns, and Midea (French 2002: 135; Kilian 1980; Demakopoulou and Divari-Valakou 1999: 210; cf. Shelmerdine 2001: 372–376). In Messenia the palace at Pylos was consumed by fire, but the destruction was perhaps not as total as previously thought (Shelmerdine 1999: 408; Stocker and Davis 2014: 244–245; Lafayette Hogue 2016). There was then a series of cataclysmic conflagrations at major palatial centres across the Greek mainland in the latter part of the Late Bronze Age and the idea that they were causally interconnected and that some all-encompassing catastrophe was to blame is therefore very beguiling. The catastrophe hypothesis is also attractive because it creates a clear-cut line between before and after in terms of social and political organisation – we go from the well-ordered world of the Mycenaean kingdoms to the mayhem of the post-destruction period. However, this relatively uncomplicated narrative is undermined somewhat by the fact that there are notable differences between different sites and between different regions with regard to both the destructions and the reactions to them. The destructions were not in every case total and although they are usually spoken of as contemporaneous, this is in relation to archaeological time, which means that the timespan within which they occurred could have been a quarter of a century or perhaps even longer. Pylos may have been destroyed a little later than the palaces in the Argolid and Boeotia, but it has not been possible to ascertain the chronological sequence of the various destructions (Deger-Jalkotzy 2008: 390). Were it not for the general breakdown of the political structure across the Mycenaean kingdoms that seems to have ensued, the evidence could, as it stands, just as well be interpreted in terms of discrete and unconnected episodes of destruction in different parts of the Greek mainland rather than of a sudden unitary catastrophe.

At Pylos the destruction was comprehensive and violent and the fire had clearly been deliberately set. Monumental tombs in the area were also destroyed and ransacked at this time (Shelmerdine 1999: 408). With the destruction of the palace, Mycenaean palatial rule and culture came to a seemingly sudden and abrupt end in Messenia. The wide-ranging effects of the destruction of the palace at Pylos are reflected in the fact that Messenia seems generally to have been deserted in the last phase of the Bronze Age. The evidence for depopulation could perhaps seem more compatible with a long-lasting famine or epidemic disease than with a

[1] According to conventional chronology. See Wardle *et al.* 2014 for the suggestion that this date may need to be revised upwards.

sudden enemy attack. Moreover, the attacks on palatial burial monuments as well as on the palace itself could very well be interpreted as the actions of a starving and angry population rebelling against rulers who were failing in their duty to provide for the basic needs of their subjects. However, historical evidence indicates that large areas of land can also become deserted for longer periods as people flee from war.

At Thebes the recovery of inscribed Linear B tablets that had still been wet at the time when they were burned indicates that the destruction seems to have come as a sudden and unexpected disaster. In contrast with Pylos, the fire that ravaged the palace at Thebes could just as well have been accidental as deliberately set. This was also the case with the fires that destroyed parts of the palaces at Mycenae, Tiryns, and Midea. At Tiryns and Midea the presence of large fallen blocks and tilted walls may indicate that a major earthquake was the initial cause of destruction (Kilian 1980; Demakopoulou and Divari-Valaki 1999). Possible earthquake evidence has also been recognised within the citadel at Mycenae (Shelmerdine 2001: 381). It is possible that the outbreaks of fire at all three sites in the Argolid were contemporaneous and had been caused by the same earthquake (cf. French 2002: 135). However, the evidence for earthquake is not conclusive and historically the Argolid is not an area that has been particularly prone to earthquakes.[2] At Midea and Tiryns the walls could have been tilted by the pressure of the soil over time. At Midea the presence of arrowheads in the destruction layers could rather suggest that the citadel had been under siege before being taken and destroyed.

What happened to Mycenaean palatial elites after the destruction of the palaces is a question that cannot be answered with any certainty; they may have survived and stayed put, adjusting to an altered lifestyle or unable to understand that they had had their time seeking to re-establish the political system that they had seen brought down, they may have been killed, or they may have fled, to the Cyclades, Crete, Cyprus, which had long seen Mycenaean influence and immigration, or further eastwards. Evidence for the movements of elite refugees towards the east can plausibly be recognised at Koukounaries on the coast of Naoussa Bay in the northwestern part of Paros, where the remains of a LH IIIC settlement have been identified on a steep hill (Schilardi 1992: 627–635; Thomatos 2006: 204–206; Yasur-Landau 2010: 65–66). A large building that can be dated to early in LH IIIC has been uncovered on top of the hill and the remains of a Cyclopean wall have been identified in various places on the hillside. The building and the walls are believed to be contemporary and Koukounaries may have been intended as a stronghold from which members of the Mycenaean elite from one or more of the fallen kingdoms may have planned to organise an expedition in order to re-establish themselves in their former positions of power on the Greek mainland. The large building and the massive walls indicate that the settlement was an elite establishment, as does the nature of the finds, which include fragments of worked ivory, rock crystal, semi-precious stones, and bronze artefacts, among which were weapons and a horse-bit similar to earlier examples found in palatial contexts at Mycenae and Thebes. The presence of craters and kylikes may reflect the attempt to maintain a palatial lifestyle in new and reduced circumstances. The building at Koukounaries was besieged and destroyed soon after its construction. Who the assailants were is an open question – they may have been another group of Mycenaean refugees from the mainland or from one of the other islands, islanders, or perhaps a group of Sea Peoples.[3]

The most dramatic and clear-cut break between the palatial and post-palatial periods can be seen at Pylos, where both the area of the palace and the surrounding town were given up. There is, however, evidence for reoccupation in areas of the palace that had not collapsed, dating to sometime between the destruction in LH IIIC and the Protogeometric period (Lafayette Hogue 2016). At Dhimini there was a short period of reoccupation before the site was abandoned. At Thebes there is no evidence for any reoccupation of the palace site but the presence of chamber tombs indicates that there seems to have been a settlement in the general area in the LH IIIC period. At Mycenae the upper citadel had suffered destructions and the palace itself seems to have gone out of use as an administrative centre. However, there is evidence of reoccupation from various parts of the site. The fortifications were still standing and we see the repair of buildings and the construction of new buildings, in the Granary area, over the western part of the Cult Centre, and over the House of the Columns. A rectangular structure that was built over the court of the

[2] Guidoboni 1994; see, however, Stiros and Jones 1996. The likelihood or not that the destructions at Tiryns and Midea were caused by earthquake is currently being investigated by the German HERACLES research project. I am grateful to Ursula Meinhardt for discussing the evidence for earthquakes with me.

[3] The skeletons of humans were found in the destroyed building. The remains of cattle, sheep/goat, and a single horse were also identified, indicating that the inhabitants were expecting an attack (Schilardi 1992: 631).

palatial megaron may also be part of the reoccupation after the disaster (French 1998). At Midea the lower terraces within the citadel walls were reoccupied in the early and middle LH IIIC period and a large building was set into the ruins of the LH IIIB megaron. At Tiryns a settlement was established in the area of the lower citadel immediately or very soon after the destruction of the palace. In the upper citadel a large megaron building, Building T, was built over the ruins of the palatial megaron perhaps fifteen or twenty years later. It is noteworthy that Building T shows a number of similarities with the megaron of the destroyed palace (Maran 2001). Outside the citadel another large building with a central row of columns, Building W, was constructed. In the LH IIIC period Tiryns may have been the largest site on the Greek mainland (Maran 2004).

In the Argolid we seem to see a fairly short-lived period of disorder before the emergence of a new political order. The construction of buildings in the ruins of the former palaces at all the major sites may indicate some form of political continuity or at least a desire on the part of the new rulers to stress their association with former palatial rule (Yasur-Landau 2010: 66). They may have been survivors of the previous regimes or their descendants or they may have been people who had been able to profit from the disorder and acquire power. In the absence of writing in this period, the fact that the word *wanax* did not pass out of the Greek language but retained its Mycenaean meaning as a word for ruler must indicate the survival of the institution of kingship and that the kings of the early post-palatial period made use of this title. Since it is only in the Argolid that we can see the re-establishment of a political hierarchy, which seems, in part at least, to have claimed legitimacy through references to the power of past rulers, this suggests that it was here that any aspects of Mycenaean palatial culture that survived into the Iron Age would have continued as a living tradition. Whoever they were, the new rulers at Mycenae, Tiryns, and Midea in the post-palatial period were evidently people who "wanted the past to survive and to begin again".[4]

The case for the Sea Peoples

So, how strong is the case for the role of the Sea Peoples as agents of destruction in the Mycenaean world? The main and only reason why the Sea Peoples have been brought into the discussion about the end of Mycenaean palatial rule is that the destructions at Mycenaean palatial centres fit in well chronologically with the general pattern of violence and ruination at major sites in the eastern Mediterranean, such as Ugarit and Tell Kazel, for which they have been blamed.[5] In truth, the more or less contemporary devastation that was taking place elsewhere in the eastern Mediterranean can be regarded as a fairly compelling argument for their involvement in the disastrous events on the Greek mainland. That they were in some way associated indirectly if not directly with troubles in the eastern Mediterranean is a reasonable assumption. We know very little about anchorages and harbours in this period, but the Mycenaean palaces were within fairly easy reach of the sea, even those that lay the farthest from the coast. We can imagine a quiet landing after dark, a quick and silent walk through the night, a surprise attack in the morning. This scenario presupposes that the coasts and roads were not well guarded, that the putative attackers had enough local knowledge to find alternative routes, or that they had Mycenaean allies who could show them the way, any of which might seem improbable.

At Pylos, several Linear B tablets have been read as reflecting fear of an imminent hostile invasion, what Thomas Palaima has called "the state of emergency thesis" (Palaima 1995). Specific evidence for waterborne attacks has been seen in the so-called o-ka tablets, which record the mustering of eight hundred men who were to guard the Messenian coast (Palaima 1995; Sacconi 1999; Shelmerdine 1999; Dickinson 2010: 485). It is, however, difficult to evaluate whether these tablets record exceptional measures in response to a particular threat or business as usual, and most Linear B scholars would seem to incline to the latter view (*contra* Deger-Jalkotzy 2008: 389). Tablet Jn 829 from Pylos records the use of temple bronze for the manufacture of arrowheads and spears. Anna Sacconi has argued that this represents a recycling of bronze artefacts from temples, which must reflect a crisis situation, in which the need for weapons had become pressing (Sacconi 1999: 363–364). However, as pointed out by Palaima, it is hard to tell if the recycling of metal was standard practice or if the small amounts of bronze recorded in other tablets of the Jn series should necessarily be seen in terms of military preparations (Palaima 1995: 625). Tablet Tn 316 which records gold vases and male and female personnel in connection with different deities has been interpreted as an exceptional offering that included human sacrifice to the gods in order to avert an

[4] The quote is taken from Siegfried Sassoon, *Memoirs of a Fox-Hunting Man*, 1928: 294.

[5] See Jung 2010: 177–178 for the ceramic evidence for contemporaneity.

impending catastrophe. However, as convincingly argued by Sacconi, it would seem more likely that it records annual processions bringing offerings to various sanctuaries associated with the palace at Pylos (Sacconi 1999: 361–362). The textual evidence may or may not support the hypothesis that the rulers at Pylos were particularly concerned with their defensive capabilities in the period immediately preceding the destruction of the palace.

The destructions at major palatial centres at the end of the LH IIIB period led to a widespread political breakdown and the ultimate decline of Mycenaean social and cultural order. This raises the question of whether random raiders who attacked from the sea would have been able to cause the long-lasting depopulation of a large region, as was the case in Messenia. In Laconia, Achaea, Boeotia, and Thessaly there seems to have been a dramatic decrease in population. Why the political effects were so catastrophic is a question, the answer to which is not immediately obvious (Shelmerdine 2001: 375–376; cf. French 2002: 135). If those responsible for the destruction of the Mycenaean Palaces were groups of Sea Peoples, the prevailing social and political situation within the Mycenaean kingdoms must have been a contributing factor to their inability to recover. A weakening of political legitimacy over time and to such an extent that it would have been impossible for the palatial system of rule to continue as before in the wake of a major catastrophe is one possible explanation. The legitimation of authority and social order is almost always tightly bound up with the ability of those in power to defend their territories and protect their people. If they fail to do so at a critical point, the foundations of their power will be revealed as worm-ridden and as a consequence the political structure can collapse quite suddenly, even in the case of seemingly stable regimes. But how stable were the Mycenaean kingdoms in the period before the destruction of the palaces? It may be that the position of the ruling elites was not as secure as the splendour of palatial culture suggests. The destructions should perhaps be seen as the final chapter of a story, the beginning of which stretches well back into the pre-destruction period (Shelmerdine 2001: 375).

In the LH IIIB period it is possible to discern what may be called an obsession with defence and the ability to withstand a siege on the part of the ruling elites, which would seem to betoken a widespread fear, if not an expectation, of military attack from inside or outside the Mycenaean world. At Gla in Boeotia the citadel was enclosed with massive fortifications in the LH IIIA2 period. Somewhat later in the LH IIIB1 period Midea and Athens were for the first time furnished with massive fortification walls. After an earthquake in the LH IIIB1 period, the ruling elites at both Mycenae and Tiryns seem to have taken the opportunity substantially to extend and improve the fortification walls. Also at Pylos there may have been an expansion of the fortification walls in this period (Shelmerdine 1999: 406). At Athens, Tiryns, and Mycenae the walls were later modified in order to secure the supply of water to the interior of the citadels from springs and reservoirs outside the walls. Some non-palatial sites, such as Teichos Dymaion in Achaea and Krisa in Phocis, were also fortified in this period.

Oliver Dickinson (2006: 42) points out that the building or improvement of fortification walls is an indication of the manpower that the palatial centres were able to muster and that the time required to build them clearly shows that the Mycenaean palatial centres were not facing any immediate threat of attacks. He would therefore rather see them as expressions of power and wealth. However, the purpose of fortification walls is defensive and it is hard not to see the primary reason for their construction as a response to a real or a perceived military threat. While it is obviously true that fortification walls materialise the ability of rulers to muster labour and also demonstrates the military manpower to withstand attacks, they can also be seen as evidence of fear and vulnerability. That the Mycenaeans may have had good reason to be afraid of military attacks is suggested by the destruction and subsequent abandonment of Gla some time before the end of the LH IIIB.

Archaeological evidence for investment in military hardware by the ruling elites in the Argolid comes from the palaces at Mycenae and Tiryns, where several swords of the Naue II type can be dated to the period before the destructions. As a fighting weapon the Naue II sword is superior to earlier Mycenaean sword types, which it eventually replaces in the course of the LH IIIC period (see Mehofer and Jung, this volume). The swords that have been preserved from the palatial period are limited to a very few examples. However, since Aegean Bronze Age swords have a sorry tendency to survive only when they accompany their owners into the other world as grave goods, it is probably safe to assume that those that have been recovered represent, if not exactly the tip of an iceberg, at least the top of a hillock. Because of their foreign origin, the question can be asked if they came attached to people and if the presence of Naue II swords at palatial centres indicates that the Mycenaeans in the Argolid were desperate enough to employ mercenaries from outside the Aegean as was first suggested by Hector Catling (1956, 1961, 1968).

At Mycenae we see a close connection between warfare and religious expression in this period as exemplified in a wall painting in one of the buildings of the Cult Centre, which depicts a woman, possibly a goddess, holding an outsize sword. The area of the Cult Centre was incorporated within the citadel walls towards the end of the LH IIIB period, which could also be interpreted as reflecting a desire for divine protection. Similarly, the refurbishment of Grave Circle A and its inclusion within the citadel walls could reflect a need of the protective powers of the ancestors in a time of insecurity. If the LH IIIB period is better characterised as a time of crisis and change rather than of peaceful stability, the possible role of the Sea Peoples can be seen within a larger chronological context of political instability and unrest.

The efforts made by the Mycenaean elites to protect themselves and increase their ability to withstand attack would seem at first glance chronologically difficult to associate with the Sea Peoples, at least from what we know about them and their activities from the few textual and iconographical sources that we have. It is, however, remarkable that these sources indicate that at the end of the thirteenth century when they launched major attacks against Egypt they were numerous and well organised. The Sea Peoples who attacked Egypt in 1208 in the reign of Merneptah are described as Libyans and northerners from all lands, while those who were defeated by Ramesses III some years later are described as a confederation of many different peoples. The number of different groups involved and their ability to co-operate in taking on the might of Egypt could suggest that the "Sea People Movement" was not a new phenomenon at this time but had been in existence for some time.[6] Some of the groups mentioned by name in the inscriptions that commemorate the victories of Merneptah and Ramesses III are also known from the fourteenth and thirteenth centuries in Egypt.[7]

Would it be possible then to imagine that before the Sea Peoples became a major force of destruction in the eastern Mediterranean there was an early and perhaps quite lengthy phase of more unorganised and random raiding? Many settlements on the Greek mainland were destroyed or abandoned within the same timeframe as the palaces, but there may also have been earlier attacks that were not of such a magnitude as to leave significant archaeological traces. It is furthermore possible that the focus on strengthening the defensive capabilities of the palatial centres in the second half of the LH IIIB period could have left villages and settlements in the countryside and near the coast unprotected and vulnerable to sudden raids. While the Sea Peoples may have fired the final shot through the destruction that they were able to inflict on the palatial centres, by focusing on their own safety and neglecting to take sufficient measures to ensure the safety of the general population, the Mycenaean elites may have suffered a consequential loss of political legitimacy. As a result, they may have been unable to recover politically from the attacks on their centres of power.

On the Greek mainland there is little evidence for the settlement of new groups of people in the post-destruction period. In Aegean archaeology the Sea Peoples are usually therefore thought of as diverse groups of corsairs who originated from outside the Aegean world, but whose numbers came to include Mycenaeans as the collapse of palatial rule resulted in them taking to the seas and contributing to the general confusion and violence that characterised the eastern Mediterranean at the end of the Bronze Age (Tartaron 2013: 64–65). With regard to the possible culpability of the Sea Peoples in the destructions that took place on the Greek mainland at the end of the LH IIIB period, they are believed to have come and gone – after destroying and plundering the major palatial centres they did not stay to found viable communities but moved on to other parts of the Mediterranean. This picture of the Sea Peoples differs from that found on the reliefs on Ramesses III's temple at Medinet Habu, which depict them as groups of migrants who came with their families, possessions, and livestock, seeking land on which to settle rather than plunder (Shaw 2000: 328; Cline and O'Connor 2012: 193). If the Sea Peoples were responsible for the destructions of the Greek palatial centres, there remains then the question of why they did not establish themselves on the Greek mainland. It is possible that the attacks on the Mycenaean centres of power take place before the mass migrations that are depicted on the Medinet Habu reliefs had started. The attempts to pick up the pieces, most clearly visible in the Argolid, indicate that the consequences of the destructions were less severe at the other palatial centres than they

[6] Cf. O'Connor 2000; Cline and O'Connor 2012 on the high level of organisation that characterised the attacks of the Sea Peoples against Egypt.

[7] The Shardana are mentioned on a stele of Ramesses II at Tanis and in the Amarna letters (see Cline and O'Connor 2012: 186–191 for a full discussion of the names and origins of the various people that made up the Sea Peoples).

were at Pylos and in Messenia. If groups of Sea Peoples were responsible for the destructions across the Greek mainland, it could be that they were in most cases repulsed, that in spite of the damage they managed to inflict on the centres of power across the Greek mainland, the Mycenaean palatial elites were, as their world was falling apart, able to muster sufficient military might to be able to hold out against the attackers and force them to move on.

Pylos and Messenia seem, however, a case apart. In the inscription on the Medinet Habu temple which records the victory of Ramesses III over the Sea Peoples, it is said that "a camp [was set up] in one place in Amor. They desolated its people, and its land was like that which had never come into being" (Cline and O'Connor 2012: 181). Could the Kingdom of Pylos, which may have remained largely deserted for close to a century, have suffered a similar fate? Were the depredations of the Sea Peoples such that Messenia, in contrast with other parts of the Greek mainland, had become an undesirable place to live and remained so for a very long time?

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The Climatic Context of the 3.2 kyr calBP Event

David Kaniewski and Elise Van Campo

Abstract

While severe climate changes have frequently occurred during the last 11,700 years in the Mediterranean and Western Asia, with uncertain overall effects, two periods of increasing aridity, termed the 4.2 and 3.2 kyr calBP events, have been at the heart of the controversy, fuelling fierce debates on the potential causal link between climate shifts and societal upheavals. Although the 4.2 kyr calBP event is probably the most studied case, the 3.2 kyr calBP event may represent the last record of climate pressures having supplanted the societal responses, leading to profound social changes. Drought seems to have hastened the fall of the Old World by sparking famine, invasions and conflicts, leading to the political, economic and cultural chaos termed 'Late Bronze Age collapse', in whose wake new societies and new ideologies were created.

Introduction

As compared to the glacial-interglacial fluctuations of the Pleistocene, the Holocene (the last 11,700 years) is a period of fairly stable climate, which however underwent a series of oscillations, best known as Rapid Climatic Changes (RCCs) (Bond *et al.* 2001; Mayewski *et al.* 2004; Wanner *et al.* 2008; Berger and Guilaine 2009; Guiot and Kaniewski 2015). Holocene RCCs occurred c. 9–8, 6–5, 4.2–3.8, 3.5–2.5, 1.2–1 (the Medieval Climate Anomaly), and 0.6–0.15 (the Little Ice Age) kilo-years (kyr) calBP, and their chronology is well established (Mayewski *et al.* 2004). The first major Holocene RCC at 9–8 kyr calBP was related to massive freshwater release into the North Atlantic during the last glacial-interglacial transition (Alley *et al.* 1997). The following most extensive RCCs occurred at c. 6–5, 3.5–2.5 and after 0.6 kyr calBP. The 6–5 kyr calBP RCC marks the end of the early to mid-Holocene humid period in tropical Africa (Demenocal *et al.* 2000). The c. 4.2–3.8 and 1.2–1 kyr calBP RCCs were less widespread (Anderson *et al.* 2007). Main forcing mechanisms of the last five RCCs are not fully understood. They include volcanic aerosols, greenhouse gases, insolation changes and solar variability (Bond *et al.* 2001; Mayewski *et al.* 2004). Holocene RCCs occurred over periods ranging from a few decades to a few hundred years. They were fast enough to be significant to humans, and the archaeological and historical records contain many examples of major cultural shifts that appear closely linked to them (Weiss *et al.* 1993; Demenocal 2001; Medina-Elizade and Rohling 2012; Weiss 2014). While many studies have emphasized the role of the 4.2–3.8 kyr calBP RCC ('the 4.2 kyr calBP event') in the collapse of ancient Indian (Staubwasser *et al.* 2003), Egyptian (Stanley *et al.* 2003) and Mesopotamian (Weiss *et al.* 1993) civilizations, even greater interest has been developed recently in the 3.5–2.5 kyr calBP RCC ('the 3.2 kyar calBP event'), which seems to have played a crucial role in the human history of the Near-Middle East.

The 3.2 kyr calBP event is associated with the huge cultural disruption at c. 1200 BCE, and seems to have been a major force behind the disappearance of the splendours of the Eastern Mediterranean Bronze age civilizations (Kaniewski *et al.* 2008, 2010, 2011, 2013a, 2015).

The modern climate setting of the Eastern Mediterranean and southwest Asia

Located between the westerly wind belt and the subtropical anticyclone, the Eastern Mediterranean and southwest Asia are characterized by cool-wet winters and hot-dry summers. Winter rainfall is controlled by the dynamics of the mid-latitude cyclones that develop over the Mediterranean Sea during winter (Ziv *et al.* 2010). Air masses arrive from the Atlantic and propagate eastward. They travel over the relatively warm Mediterranean Sea water and become saturated with moisture. Inland precipitation decreases from north to south with latitude and from west to east with distance from the sea, and is modulated by orographic effects. Spatial and temporal rainfall variability is related to the position and activity of the Cyprus Low, generally located south of Turkey. In summer, with the northward shift of the westerly belt and the reinforcement of the Eastern Mediterranean Sea level pressure,

the region experiences hot and dry conditions. Exceptional rainfall events occur in fall and spring on the southern Levant and north-western Saudi Arabia, commonly linked to a strong Red Sea trough (Kahana *et al.* 2002). Most wind storms occur in winter and follow the dominant direction of the westerlies, but local winds occasionally influence the region. The *Sharav* cyclone, typical of spring, originates over Libya and Egypt and moves eastward along the North African coast (Alpert and Ziv 1989). The *Sharav* (or *Khamsin*) winds cause warm and dry conditions, sometimes associated with heavy sand and dust storms. Strong easterly winds (*Sharqiya*) which develop during winter and early spring can also bring dust storms from Arabia (Saaroni *et al.* 1998).

The 3.5–2.5 kyr calBP RCC

Carpenter (1966) first made the assumption that a century-long mega-drought might explain the collapse of the Eastern Mediterranean civilizations at the end of the Late Bronze Age. The idea was developed by Bryson (1997) and Weiss (1982) who identified modern analogues of spatial drought patterns consistent with ancient migration patterns. However, only definite proofs for the existence of a dry shift at the end of the Late Bronze Age can potentially validate a climate cause for this episode of migrations and political disintegration.

The 3.5–2.5 kyr calBP RCC was first detected in the North Atlantic atmospheric and oceanic circulation patterns. Glacio-chemical series developed from the GISP2 ice core in Greenland had revealed a period of winter-like circulations and storm conditions, correlated with a worldwide glacier expansion and cool interval (O'Brien *et al.* 1995; Mayewski *et al.* 1997). In marine sediments, a series of increases of drift ice, reflected in percentage variations of hematite-stained grains, has been observed throughout the entire Holocene (Bond *et al.* 2001). These ice-rafted debris (IRD) events, caused by advection of cold, ice-bearing surface waters from the Nordic and Labrador Seas into the warmer subpolar waters, were accompanied by northerly surface winds. They were postulated to occur on roughly 1500-year cycles, forced by solar variability (Bond *et al.* 2001) or oceanic circulation (Debret *et al.* 2007). A double-peaked event (Bond event 2) in the IRD curve clearly indicates high latitude cooling and climatic instability between 3.2 and 2.85 kyr calBP. As long-term climate trends during the Pleistocene, Holocene high latitude coolings are generally concomitant with low latitude aridity (Gasse 2000). As example, palaeoclimate archives from tropical Africa suggest a southward shift of the boreal summer Intertropical Convergence Zone and/or monsoonal systems, giving dry conditions within the 4.5–2.5 kyr calBP interval (Chalié and Gasse 2002; Garcin *et al.* 2012; Shanahan *et al.* 2015). Today, the Eastern Mediterranean and southwest Asia are not directly affected by the summer monsoonal rainfall. That was also the case during the Holocene, and during the last glacial – interglacial (Arz *et al.* 2003; Felis *et al.* 2004). Numerous marine and terrestrial palaeoclimatic records from the Eastern Mediterranean show a clear shift correlated with the GISP2 and the Bond event 2.

The marine data

The Ashdod coast, Israel

A detailed reconstruction of the last 3600-year conditions of the south-eastern Mediterranean Sea was based on the $\delta^{18}O$ record of the planktonic foraminifera *G. ruber* from two marine cores retrieved in the southern Levantine Basin off the Israeli coast (Schilman *et al.* 2001, 2002). Fourteen samples were selected for radiocarbon dating of planktonic foraminiferal species and the AMS ^{14}C ages were corrected for a Mediterranean Sea reservoir effect of about 400 years. A time series was formed by comparing the $\delta^{18}O$ values and total organic carbon of the two cores. The $\delta^{18}O$ values reflect both sea surface temperature and salinity. During the past 3.6 kyr, sea surface temperature (SST) changed slightly and variations in sea-surface $\delta^{18}O$ mainly reflect changes in the sea-surface salinity, *e.g.* in the fresh water budget as a result of evaporation (E) over precipitation plus river (mainly Nile River) runoff (P). As the contribution of the Nile water does not significantly affect the planktonic $\delta^{18}O$ values because the Nile $\delta^{18}O$ values (c. 2‰) are similar to those of the southwest Mediterranean surface water (1.4–2‰), their variations reflect mainly the changes in the E/P ratio. Onset of aridification is clearly shown by a gradual increase in $\delta^{18}O$ scores since c. 3.2 kyr calBP (Fig. 1).

The Aegean Sea

A record of relative SST changes based on percentage values of warm *versus* cool planktonic foraminifera species was derived from the southeast Aegean Sea radiocarbon-dated core LC21 (Rohling *et al.* 2002). A cool event, representing winter SST reductions of 2–4°C, was registered at 3.5–3 kyr calBP. Holocene cool events in LC21 could have been caused by more intense and/or frequent winter-time northerly air outbreaks, which reduced evaporation. Fewer and less intense storms, in turn, would have resulted in a significant decrease in precipitation over the eastern Mediterranean region (Bartov *et al.* 2003).

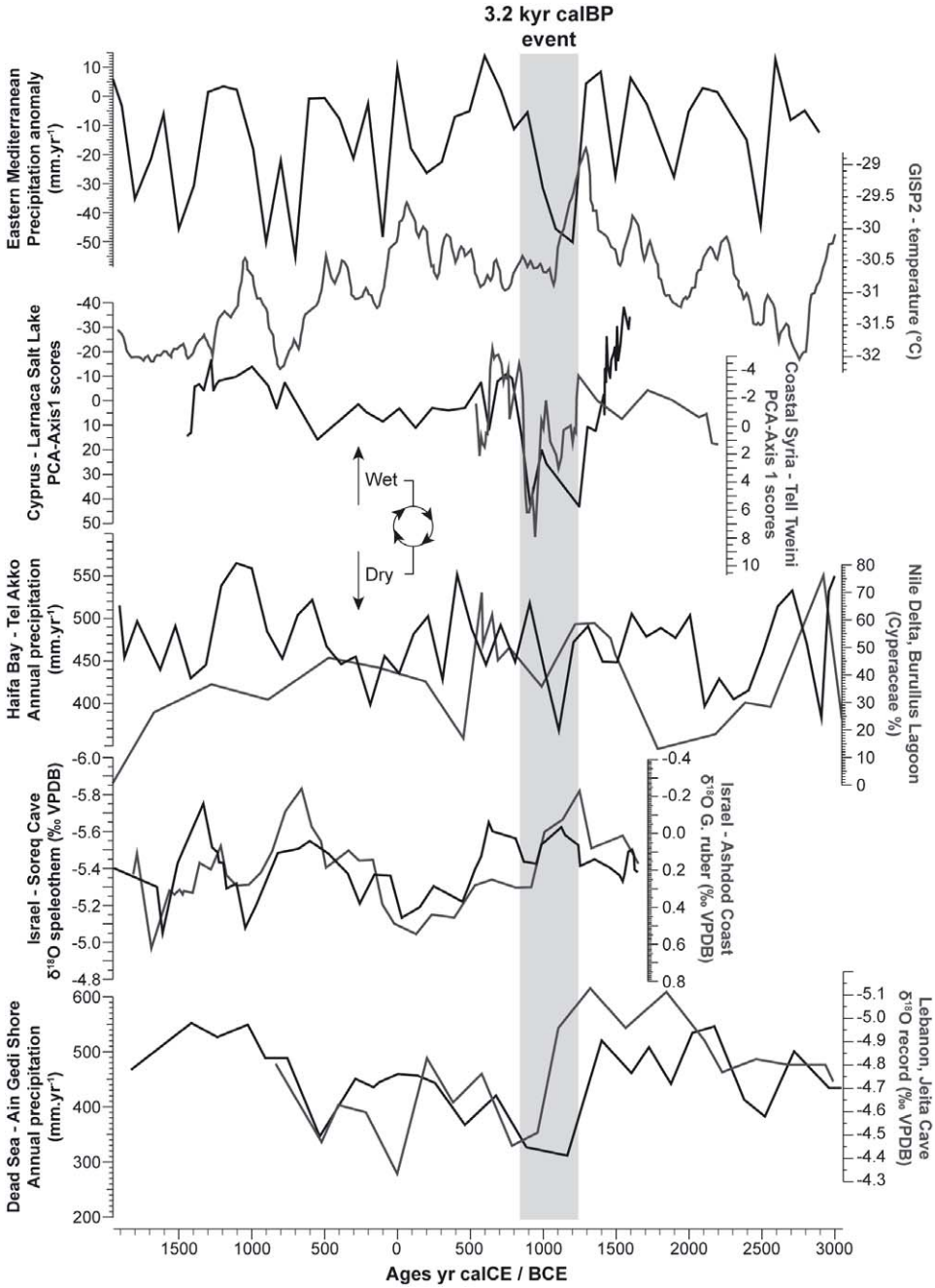

Fig. 1 The drought event at 3.2 kyr calBP identified in the Eastern Mediterranean, GISP2, Syria, Cyprus, Lebanon and Israel (see text for the references)

The Dead Sea (Ze'elim, Ein Gedi)

The effects of temporary earthquake events are largely overcome by the climate influence on the Dead Sea level variations, which overall trends reflect major changes in the hydrology of the drainage area. Dead Sea levels have fluctuated within the range of 390 to 415 m.b.s.l. during the last 4000 years (Bookman *et al.* 2004). A high-resolution level curve was reconstructed for the late Holocene from dense radiocarbon dat-

ing of sedimentary sections and level indicators in the Ze'elim plain on the western shore of the Dead Sea. An erosional unconformity marked by pebbles and aragonite crusts suggests a major drop in the lake level after 3.395 kyr calBP. Overlying lacustrine sediments indicate relatively low and fluctuating levels from 3.2 to 2.5 kyr calBP. In a pollen diagram derived from the section used for palaeo-lake reconstructions, one pollen sample from the 110 cm thick beach ridge top of the unconformity shows low tree/high Chenopodiaceae values, which also point to arid conditions at the end of the Late Bronze Age (Neumann *et al.* 2007).

A 21-m long core was recovered on the Ein Gedi shore, north of Ze'elim. Twenty radiocarbon ages indicate mainly continuous sedimentation of fine-grained material for the last 10,000 years, but a gypsum crust followed by silt-sand laminae shows a significant level drop c. 3.3 kyr calBP (Migowski *et al.* 2006). Temporal variations in rainfall and temperature were reconstructed from pollen data at this site. A winter temperature increase of about 4°C and an annual precipitation decrease of about 100 mm (Fig. 1) are suggested at the Late Bronze/Iron Age transition (Litt *et al.* 2012). According to the 0.15–0.2 kyr interval between each sample, these shifts are relatively abrupt (about 0.2 kyr).

The terrestrial data

Northern Levant and Cyprus

A climate shift at 3.2 ka calBP was first identified and well-dated at the ancient port of Gibala-Tell Tweini, Ugarit Kingdom, coastal Syria (Kaniewski *et al.* 2008, 2010, 2015). A numerically derived climatic proxy based on a pollen record from the alluvial plain (Fig. 2) shows dry conditions before c. 4.0 kyr calBP, associated with the 4.2 kyr calBP event, mainly documented at middle and low latitudes (Mayewski *et al.* 2004). But the climatic record primarily reveals a severe drought period between 3.2 and 2.85 kyr calBP (Figs. 1 and 2), following a humid episode ending c. 3.25 kyr calBP and interrupted by a short half-century long wetter pulse at 2.95 kyr calBP. The aridity peaks are well correlated with lower abundance of aquatic and cultivated pollen types, indicating drier conditions and lower agriculture practices (Kaniewski *et al.* 2008, 2010).

In western Syria, the analysis of carbon stable isotopic values of charred plant remains from the archaeological site of Tell Breda-Ebla also revealed a deficit of overall water availability due to a major reduction in rainfall at c. 3.2 kyr calBP (Fiorentino *et al.* 2008). The estimated drop in rainfall at Tell Breda-Ebla confirms the precipitation trend estimated by Bryson (1997) at Ras El-Ain-Qameshi, near Tell Leilan in Eastern Syria.

On the nearby island of Cyprus, a similar adverse climate shift was recorded (Kaniewski *et al.* 2013a). A pollen-derived climate proxy from the coastal site of Hala Sultan Tekke (Larnaca Salt Lake) has detailed the environmental context along the south-eastern Cypriot coast during the 3.2 kyr calBP event (Fig. 1). The marine embayment of the harbour, which served as the port of entry and departure/exit for elite goods during most of the Late Bronze Age (e.g. Fischer 2011: 77, 82; 2012: 97; Fischer and Bürge 2013: 54; 2014: 70–82), turned into a dryland and the rich agricultural activities surrounding the site strongly waned.

Central Levant

Oxygen and carbon isotopic profiles from a U/Th-dated speleothem from the Jeita Cave have provided a Holocene palaeoclimatic reconstruction from western central Lebanon (Verheyden *et al.* 2008). High $\delta^{18}O$ and $\delta^{13}C$ scores were related to drier conditions, on the basis of a good correlation between the morphological, crystallographic and isotopic profiles of the speleothem. The Jeita Cave profiles show low $\delta^{18}O$ et $\delta^{13}C$ values during the early Holocene and high values after 5.8 kyr calBP. While conditions remained dry until the end of the stalagmite deposition at 1.1 kyr calBP, the driest phase started around 3.2 kyr calBP and peaked at 2.9 kyr calBP, supported by a sharp decrease in the stalagmite diameter and a drop in growth rate. Possible indirect proof of deteriorating environmental conditions was also recorded in the Southern Bekaa Valley, where anthropogenic activities and human-induced deforestation disappeared on the eastern part of Mount Lebanon at the end of the Late Bronze Age at 3.25–3.15 kyr calBP. From then on, only pastoral activity persisted (Hajar *et al.* 2010).

Southern Levant

The speleothem $\delta^{18}O$ record of Soreq Cave in central Israel mainly depends upon the isotopic composition of the source sea-water, the fractionation processes between the vapor source and the site of precipitation, and the temperature of deposition (Fig. 1). Bar-Matthews *et al.* (2003) developed a model in order to estimate the palaeorainfall amounts, based on the present-day relationship between the annual rainfall amount, its $\delta^{18}O$ composition, and the $\delta^{18}O$ of the cave water. In this model, they estimated temperatures from alkenone SST, derived from a core in close proximity to the Israeli coast, since the annual land temperature today at the Soreq site is the same as the average winter and spring SST. A systematic decrease in rainfall is observed from 4.5 to 2.5 ka calBP. Several recent pollen studies from cores drilled in the Dead Sea, Tel

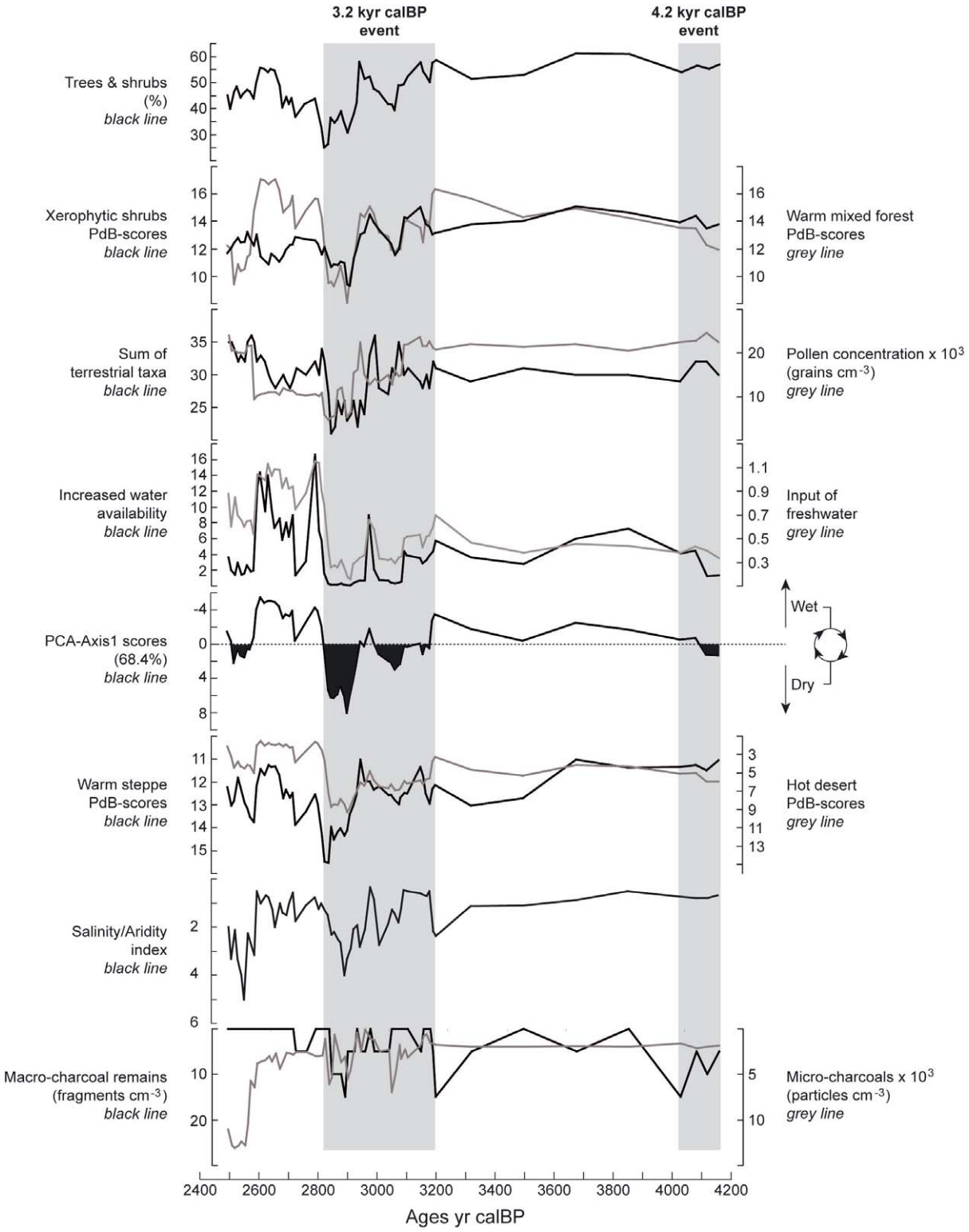

Fig. 2 Gibala-Tell Tweini, Ugarit Kingdom, coastal Syria: linear age-scale pollen-derived biomes diagram with salinity/aridity, input of freshwater and increased water availability indices. The 3.2 kyr calBP and 4.2 kyr calBP events are underlined in grey

Akko (Fig. 1), and the Sea of Galilee have narrowed this interval and confirmed the occurrence of a drought event at 3.2 kyr calBP (e.g. Langgut *et al.* 2013, 2014; Kaniewski *et al.* 2013b, 2014). A recent vegetation-based model has moreover suggested that this event was the driest episode recorded during the whole Bronze Age in Israel (Soto-Berelov *et al.* 2015).

Egypt

Changing hydrological conditions in Lower Egypt mainly depend on fluctuations in the Nile flood regime but are also influenced by the *in situ* Mediterranean conditions. Several sites from the Nile Delta such as the Burullus lagoon (Bernhardt *et al.* 2012), Qarun Lake (Baioumy *et al.* 2010) and Manzala Lagoon (Krom *et al.* 2002) show an onset of aridification at 3.2–3.15 kyr calBP. Climate reconstructions show that this event, which abruptly changed the Nile River sediments and riparian environments, lasted at least 300 years.

Turkey, Iran and Greece

Palaeoclimate data mainly come from lake records (Roberts *et al.* 2011) and from the Sofular Cave (Göktürk *et al.* 2011). Lake Van, in the East Anatolian highlands of Turkey, is characterized by annually varved sediments. Varve-counting on thin sections of the entire core were used to establish a continuous, non-floating, varve chronology back to late Glacial. A hydrologic/isotopic balance model shows that the $\partial^{18}O$ of the lake carbonates are mainly affected by changes in the relative humidity over the lake area. Periods of high Mg/Ca values correspond with phases of $\partial^{18}O$ enrichment, and are assumed to indicate very low lake levels. The most prominent feature of the Late Holocene is a lake level recession caused by a period of decreasing humidity from 3.5 to 2 kyr calBP (Lemcke and Sturm 1997). Elemental (Ti, Fe, K) and magnetic susceptibility profiles from new records, dated by radionuclide (210Pb and 137Cs) analysis and varve-counting, extend back to about 3.6 kyr calBP. They indicate low detrital input and high carbonate contents under dry conditions at 3.15 kyr calBP (Barlas-Simsek and Cagatay 2012).

In central Turkey, the crater lake Eski Acigöl also provides evidence of increasing aridity at the end of the Bronze Age, with a falling lake level marked by a maximum of salinity. The highest $\delta^{18}O$ values, which point to arid intervals, were recorded during the period 3.2–2.8 kyr calBP (Roberts *et al.* 2001) and coincide with a significant loss of arboreal cover (Roberts *et al.* 2011). In the small intramontane lake Gölhisar, Burdur Province, and in the Sofular Cave, situated about 10 km south of the Black Sea coast in northern Turkey (Göktürk *et al.* 2011), an important drop in precipitation occurred during the same time interval, based on pollen-inferred annual rainfall and δ13C record. These data from Turkey are correlated with flow minima in the Tigris and Euphrates River for the period 3.1–2.9 kyr calBP (Neuman and Parpola 1987; Alpert and Neuman 1989; Kay and Johnson 1981). In the Zagros Mountains in Iran, the δ18O records of Lake Mirabad and of Lake Zeribar have a relatively coarse stratigraphic resolution but they also suggest a drying trend during the 3.2 kyr calBP event (Stevens *et al.* 2006). Unfortunately, there are no detailed palaeoclimate records from Greece showing an unambiguous climate information during the crisis years (Finné *et al.* 2011).

Conclusion

There is now abundant evidence from palaeoclimatic records that century-scale episodes of dry conditions have been a characteristic of the Eastern Mediterranean/southwestern Asian climates over the late Holocene (Kaniewski *et al.* 2015). Driving factors behind these modes of variability are linked to volcanic aerosols, greenhouse gases, insolation changes, oceanic circulation and solar variability. The arid event that struck the Near-Middle East and southwest Asia around 3.2 kyr calBP seems to have strongly impacted the Late Bronze Age political and socio-economic patterns. Evidences from palaeoclimatic and archaeological records clearly suggest that hydrological anomalies were a main factor behind the huge population migrations and the decline of ancient eastern Mediterranean civilizations, 3200 years ago (Kaniewski *et al.* 2015).

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Dating the End of the Late Bronze Age with Radiocarbon: Some Observations, Concerns, and Revisiting the Dating of Late Cypriot IIC to IIIA

Sturt W. Manning, Catherine Kearns and Brita Lorentzen

Abstract

Analyses of the end of the Late Bronze Age in the East Mediterranean, and discussions of causes and actors (such as the Sea Peoples), focus on the years around and after 1200 BCE. Chronological precision is important to establish the relevant timelines, trajectories and associations within and between sites, regions and the (very) differing types of evidence discussed, from historical, archaeological and palaeoenvironmental sources among others. However, dating has been a problem for scholarship in existing work. The present paper aims to discuss three aspects of this issue. First, we explore why exactly radiocarbon resolution around 1200 BCE is so poor, and identify what could be done to try, to some extent, to improve this situation. Second, we re-consider the radiocarbon chronology of Tell Tweini (thought to be ancient Gibala, at the southern edge of the kingdom of Ugarit) in Syria which has been employed as part of a claim to date the Sea Peoples' destructions in the northern Levant very precisely c.1192–1190 BCE. Third, we re-consider the dating of one of the key close of Late Bronze Age cases: the chronology of Cyprus in the LC IIC through IIIA period.

Introduction

The years around and following 1200 BCE form the focus of attention for the study of the close of the Late Bronze Age in the eastern Mediterranean – a time of major social, political and cultural change and reorientation, with discussions also concerning the so-called Sea Peoples and migrations (Sandars 1985; Ward and Joukowsky 1992; Cline 2014; Knapp and Manning 2016). It is apparent that chronological precision is important in order to establish the relevant timelines, trajectories and associations within and between sites, regions and the (very) differing types of evidence discussed, from historical, archaeological and palaeoenvironmental sources, among others. Unfortunately, this precision is a real challenge, especially regarding radiocarbon (^{14}C) based evidence. In a paper written a decade ago, Manning (2006–2007) highlighted some of the challenges in radiocarbon dating precision around 1200 BCE, because of the history of variations in atmospheric radiocarbon and hence the shape of the radiocarbon calibration curve, and thus in achieving refined (precise) dating of the end of the Late Bronze Age in the East Mediterranean, which is usually placed around 1200 BCE or in the years/decades following, during the 12th century BCE.

The radiocarbon calibration curve has been twice updated since then (IntCal09 and the now current IntCal13: Reimer *et al.* 2013), and improved, but the problem still largely remains. If one could date a context from precisely 1200 BCE on the basis of a securely associated, annual-growth, seed with typical modern AMS (accelerator mass spectrometry) precision (e.g. ± 30 ^{14}C years), or even several such annual seed samples and achieve a perfect result matching the exact IntCal13 'official' value for 1200 BCE (2962 ± 15 ^{14}C years BP) from a weighted average of several determinations, or even somehow achieve the same with an absurdly perfect ±1 ^{14}C year precision, then the problem is that this single radiocarbon age – no matter how precise – hits some wiggles/plateau in the radiocarbon calibration curve and does not yield a very precise calibrated calendar age range (Fig. 1). When radiocarbon dated, a 1200 BCE context inevitably dates from the late 13th century BCE through to the later 12th century BCE – the entire period held to be relevant to the so-called 'crisis years' (Ward and Joukowsky 1992). Resolution as regards internal process within this period is therefore a significant challenge.

The other fundamental radiocarbon-related problem, discussed in some detail in Knapp and Manning (2016: 102–107, 113–118), is the lack of truly high-resolution palaeoenvironmental evidence in most studies published to date. Many studies claiming high-resolution proxies indicating, most often, drought associated with the period around the end of the Late Bronze Age in the eastern Mediterranean, are in fact only very approximately or loosely dated when critically examined (e.g. Knapp and Manning 2016: 104, fig. 1; 106, fig. 3; 115, fig. 6). This issue can be addressed. Sediment cores require multiple radiocarbon dates from throughout their profiles (versus, e.g., just 3 or 4 dates that are often not distributed along large parts of the core's relevant stratigraphic sequence), in order to obtain detailed time series with some form of

appropriate (calibrated) age-depth modelling (whether of the 'classical' form, see Blaauw 2010, or employing Bayesian approaches: see, e.g., Bronk Ramsey 2008; Bronk Ramsey and Lee 2013; Blaauw and Andrés Christen 2011). The recent study by Neugebauer *et al.* (2015) from the Dead Sea offers a positive example heading in the right direction (with more dates and appropriate modelling).

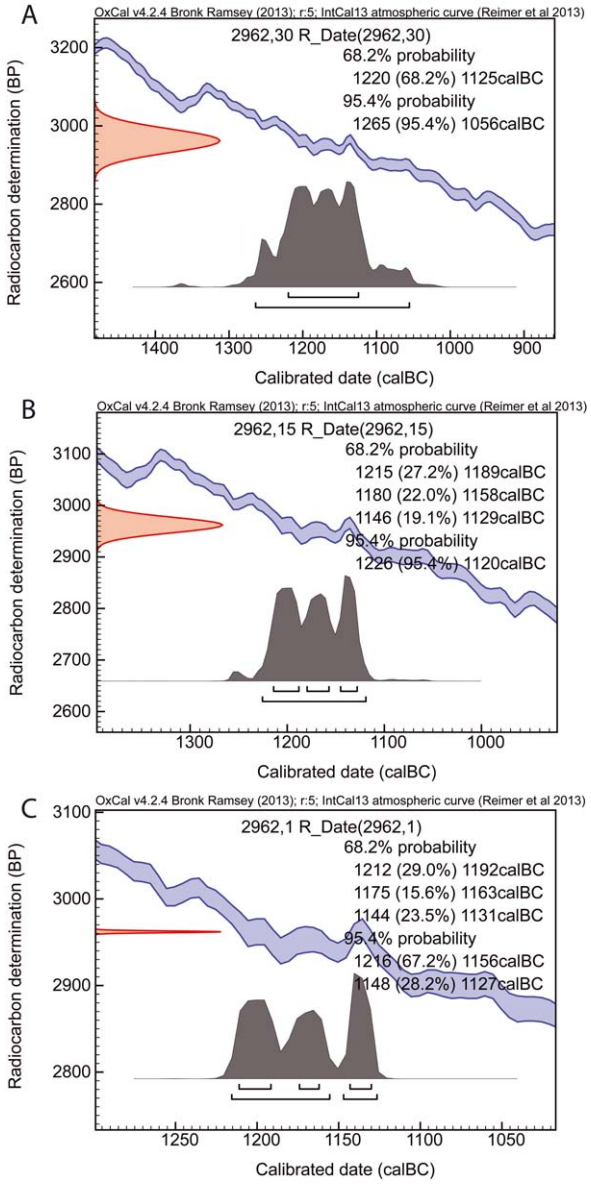

Fig. 1 The calibrated calendar age probabilities and most likely calendar age ranges at 68.2% and 95.4% probability for a radiocarbon age (2962 ^{14}C years BP) from (exactly) 1200 BCE with three levels of measurement precision, (A) ± 30, (B) ± 15 and (C) ± 1 (^{14}C years). Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013) with curve resolution set at 5 years (IntCal13 calibration curve shown as a ± 1SD band)

The present paper aims to discuss three aspects of the topic. First, we explore why exactly radiocarbon resolution around 1200 BCE is so poor, and identify what could be done to try, to some extent, to improve this situation. Second, we re-consider the radiocarbon chronology of Tell Tweini (thought to be ancient Gibala, at the southern edge of the kingdom of Ugarit), in Syria – as employed in the study of Kaniewski *et al.* (2011) – where they used it as part of a claim that they could date the Sea Peoples' destructions in the northern Levant very precisely c. 1192–1190 BCE. Third, we re-consider the dating of one of the key cases at the close of Late Bronze Age: the chronology of Cyprus in the Late Cypriot (LC) IIC through IIIA period, updating and improving some aspects of previous work (e.g. Manning *et al.* 2001; Manning and Kuniholm 2007) and adding some new dates and new analysis.

Resolving dates around 1200 BCE

The lack of radiocarbon dating resolution around 1200 BCE relates to the shape of the radiocarbon calibration curve (Reimer *et al.* 2013) – which in turn reflects the history of past natural atmospheric levels of radiocarbon (e.g. Stuiver *et al.* 1991). As evident in Fig. 1, a flat section of the calibration curve (a plateau) and a couple of wiggles (especially around 1135 BCE) combine to make the period from c. 1220 to 1110 BCE largely very similar in apparent radiocarbon age (Fig. 2). Is this definitive?

The IntCal13 curve in this period comprises a modelled record trying to best accommodate sets of measurements on known age wood by several different laboratories (Niu *et al.* 2013; Reimer *et al.* 2013). If we examine the raw radiocarbon data used to construct IntCal13 versus the IntCal13 record as modelled (see Fig. 3) we see that the quantity and quality of the constituent data and the visual success of the modelling vary over time, and the second millennium BCE serves as a prime example. Data density is greater in some periods, such as 1700–1500 BCE (thanks to additional work in this interval: e.g., Kromer *et al.* 2010), and less in some others, such as 1490–1355 BCE. There is also greater or lesser noise in the raw data and differences between raw data and the modelled IntCal13 curve in some periods versus others (Figs. 3 and 4). Thus, for example, the period 1700–1500 BCE shows a relatively tight coherence of raw data around the modelled IntCal13 curve and the average difference (from the mid-point value of IntCal13, with linear extrapolation where required between data points) is 12.7 ± 9.8 ^{14}C years (see Fig.

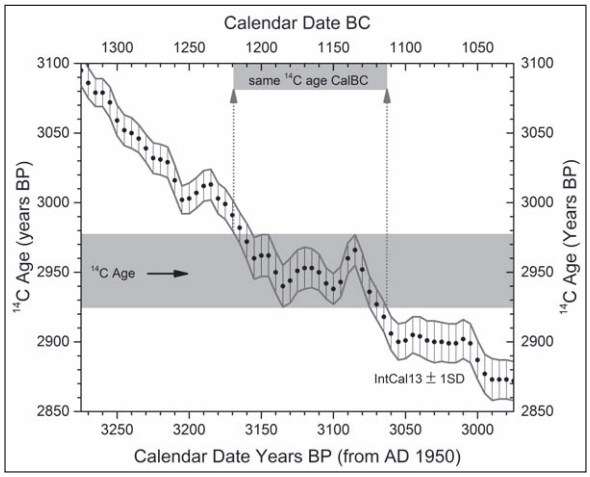

Fig. 2 The IntCal13 radiocarbon (^{14}C) calibration curve (Reimer *et al.* 2013) showing its modelled 5 calendar year spaced data points and the 1 standard deviation (SD) envelope. The plateau and wiggles which catch all radiocarbon dates c. 2977–2924 ^{14}C years BP (55 ^{14}C year range) and spread them over the calendar range c. 1219–1113 BCE (106 calendar year range), or vice versa from the calendar timescale perspective, is evident

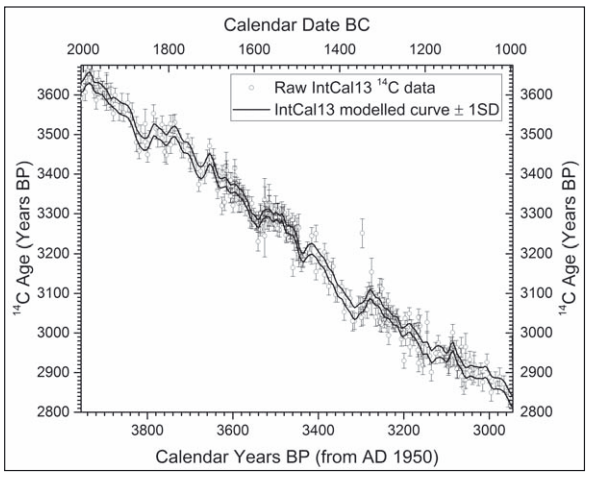

Fig. 3 The IntCal13 radiocarbon calibration curve as modelled as a 1SD envelope (Reimer *et al.* 2013) versus the raw radiocarbon measurements employed in the IntCal13 modelling for the period from 2000–1000 BCE. For discussion of the modelling process, see Niu *et al.* 2013. IntCal raw data from: http://intcal.qub.ac.uk/intcal13/

4, Box B) (below the average value for the period 2000–1000 BCE = 13.3 ± 12.2 ^{14}C years), whereas the period 1310–1190 BCE exhibits much more noise on visual inspection and the average difference is 17.0 ± 14.6 ^{14}C years (see Fig. 4, Box A) (above the average for 2000–1000 BCE).

If we look more closely at the period 1310–1095 BCE (see Fig. 5) we can examine the raw data behind IntCal13 from each of the contributing laboratories. Again there are differences. For example, 55% of the QL (University of Washington) data in this period are more than 1 standard deviation (SD) away from the IntCal13 modelled 1SD range. In contrast, the other laboratories show rather better agreement, with only 19% of the Heidelberg (Hd) data more than 1SD away from the IntCal13 modelled 1SD range, and 17% of the Queen's University Belfast (UB) data, and none of the just two Oxford (OxA) data. This might raise some concerns about the University of Washington (QL) data. But, in the period 1216 BCE to 1165 BCE, the University of Washington dataset comprises 55% of the total data (11 of 20 raw data, with 4 from UB, 4 Hd and 1 OxA). Parts of this period also have rather less constituent data density than several other parts just of the short period shown. Thus, for example, the 25 years from 1190–1165 BCE have just 5 dates (1 for every 5 years) whereas for the other 190 years there are 67 dates or one for every 2.84 years (or 76% more data density).

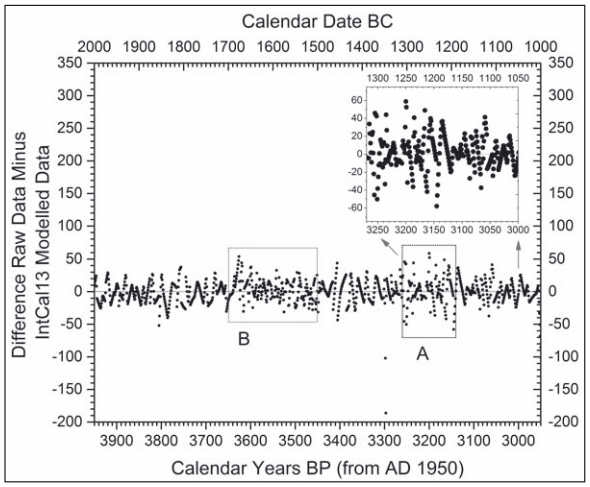

Fig. 4 The differences between the modelled IntCal13 dataset (with linear extrapolation applied between datapoints) versus the raw radiocarbon measurements employed in the modelling to construct IntCal13 (Reimer *et al.* 2013; Niu *et al.* 2013). A negative value means the raw data point was older than the modelled IntCal13 value and vice versa. The inset shows the period 1320–1050 BCE in more detail. Over the entire period 2000–1000 BCE the average difference (all differences treated as positive values) is 13.3 ± 12.2 ^{14}C years. However, some periods within this millennium show lesser or greater variance. Box A indicates the period 3260–3140 BP (1310-1190 BCE), which seems particularly noisy: average difference is 17.0 ± 14.6 ^{14}C years; whereas Box B indicates a period where there is greater data density but also less differences indicating a well- (or better) established section of calibration curve: average difference is 12.7 ± 9.8 ^{14}C years

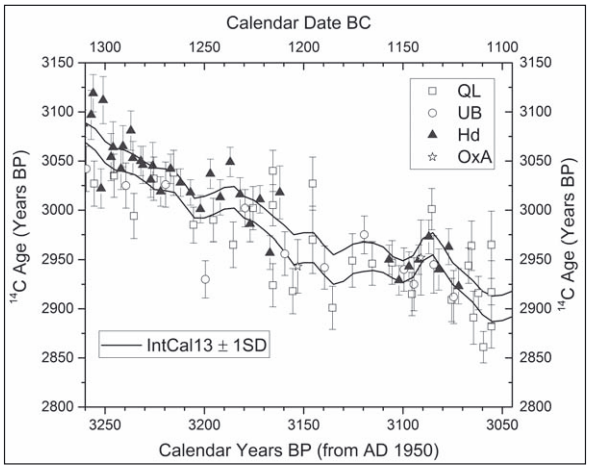

Fig. 5 The IntCal13 modelled calibrated curve at ± 1 SD compared against the raw radiocarbon measurements used to construct it for the period 1310-1095 BCE showing which of the raw data come from which of the contributing laboratories (QL = University of Washington, UB = Queen's University Belfast, Hd = Heidelberg, OxA = Oxford). Data from Reimer *et al.* 2013 and http://intcal.qub.ac.uk/intcal13/

Based on such a critique, there is reason to look to improve the calibration record in the period around 1200 BCE. This may in turn revise the shape of the best (future) modelled calibration curve for use in radiocarbon date analysis. However, at present, we can only use what is available: IntCal13. Nonetheless, it is important to appreciate that not only is dating around 1200 BCE problematic, but that the calibration curve in this specific period might in fact be improved. (It is worth noting that this means improved and revised – not somehow radically changed. The overall range of the calibration curve is well defined, and thus the issue is better resolving details.)

In the interim, using what we have, it is clear that dating either a single sample or a single context (even with several samples and even dating these repeatedly) will not offer chronological resolution around the period c. 1220–1120 BCE (see also the discussion of one problematic case study in the next section). Thus the archaeologically-based approach to overcome such a case of a radiocarbon calibration curve ambiguity for the single case in isolation – at least to some extent – is to employ Bayesian chronological modelling, where an archaeologically known (stratigraphic or otherwise ordered) sequence of radiocarbon dates can then fit to the shape of the calibration curve and thus offer a relatively precise set of date ranges (Bayliss 2009; Bronk Ramsey 2009a). We explore such an approach below in a couple of cases.

The problem of the Sea Peoples and radiocarbon dating

The limitations and problems of radiocarbon dating single samples or single contexts in the c. 1200 BCE period are nicely, if unfortunately, evident if we take a critical look at the study of Kaniewski *et al.* (2011; see also brief comments in Knapp and Manning 2016: 103). Kaniewski *et al.* report 8 radiocarbon dates on charred seeds and charcoal from the site of Tell Tweini on the Syrian coast from the close of a Late Bronze Age destruction level (Level 7A). Kaniewski *et al.* (2011) accept that Tell Tweini is ancient Gibala at the southern edge of the kingdom of Ugarit (it is some 40 km south of Ugarit), and since "the written Bronze Age sources or epigraphic finds for Gibala cease as soon as Ugarit was destroyed by the Sea Peoples" (Kaniewski *et al.* 2011: 2), they subsequently assume that the close of Late Bronze Age destruction at the harbor site of Tell Tweini was also by the Sea Peoples. A critic might stress the preceding sentence in Kaniewski *et al.* (2011: 2) – "[T]he place name Gibala appears on *two* 14th century BC[E] cuneiform tablets from Ugarit" [our italics] – and observe that in cases where there is not rather more documentary evidence the absence of evidence does not necessarily have to indicate evidence of absence. Cline (2014: 113, 156–157) is appropriately more cautious about assuming a Sea People's association with the destruction and subsequent changes at the site, (which was more or less immediately re-occupied). To establish an absolute date for this Level 7A destruction, Kaniewski *et al.* averaged the dates from the seeds together and then found an ambiguous calibration situation (Kaniewski *et al.* 2011: fig. 4), which they tried to resolve by rhetoric.

Knapp and Manning (2016: 103) observed that this treatment for the Level 7A destruction assemblage did not appear the most appropriate. They instead suggested as likely better the use of an exponential (Tau_Boundary paired with a Boundary) model in OxCal, which assumes that the sample dates have an exponential distribution towards the end of the set (immediately before the destruction episode in this case), since this assumes all the radiocarbon-dated samples are older (even if only very slightly) than the Level 7A destruction event, but do not necessarily all date to the exact same time (Bronk Ramsey 2009a). This form of analysis has the advantage – versus averaging samples that are not of exactly the same age and from the same (exact) context – that dates on any individual residual samples, or on individual samples that are older for some other reason, do not lead to an overestimation of the date. Knapp and Manning (2016: 103, 105, fig.2)

only briefly considered the 8 dates from the Level 7A destruction – the focus of the Kaniewski *et al.* (2011) discussion. They found that with the Tau_Boundary approach the most likely 68.2% probability range (1182–1111 calBC) did not even include the proposed overly precise date range that Kaniewski *et al.* (2011) argued for of 1194–1190 BCE.

Here we can consider the whole sequence of Tell Tweini radiocarbon data as reported in Kaniewski *et al.* (2011), comprising data from (in order from oldest to most recent stratigraphic context) Level 7D, then Level 7A, then Level 6E with OxCal (Bronk Ramsey 2009a) and employing IntCal13 (Reimer *et al.* 2013) (see Fig. 6). The first issue is how to deal with the samples of wood charcoal. These will have some degree of in-built age – that is: the constituent tree-rings dated may be older, whether by a few to many years, than the time the relevant tree was cut down and the wood used by humans (the so-called 'old-wood' effect). However, many of these samples will often only have a small age offset (e.g. outer tree-rings, or samples from young trees or branches, etc.) and only some will be older, and only a few much older. (This characterization depends on tree species – if long-lived species with typically

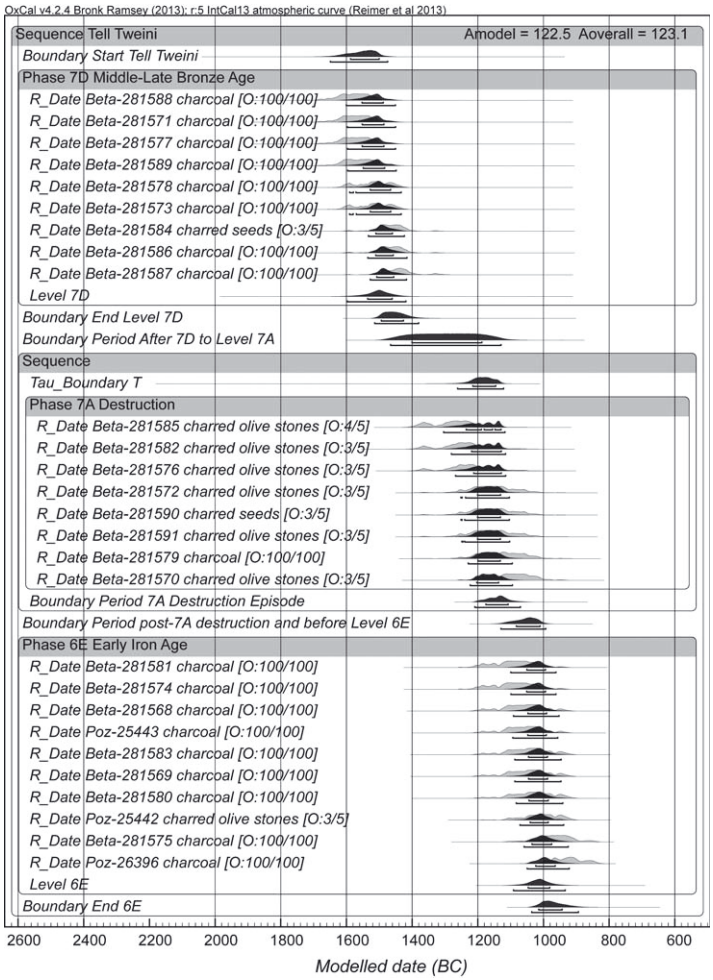

Fig. 6 Bayesian chronological model reanalyzing the Tell Tweini sequence of radiocarbon data from Level 7D, then Level 7A and then Level 6E from Kaniewski *et al.* (2011). The Charcoal Plus outlier model (Dee and Bronk Ramsey 2014; Dee *et al.* 2013) was applied to the dates on charcoal samples and the General Outlier model (Bronk Ramsey 2009b) to dates on short-lived seed samples. There were no outliers in the latter; overall, the OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. For details of some of the calendar date ranges, see Table 1. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

very narrow tree-rings are involved then much larger in-built age offsets can more regularly be anticipated.) An exponential distribution may therefore be expected towards the most recent age. In order to try to allow for this in-built age issue in samples of charcoal via such an assumed exponential (or closely similar) distribution in OxCal, we can employ either the Charcoal Outlier model (Bronk Ramsey 2009b) or the Charcoal Plus Outlier model (Dee *et al.* 2013; Dee and Bronk Ramsey 2014). We use the Charcoal Plus Outlier model for Tell Tweini for two reasons: (i) this selects for shifts more strongly biased towards more recent possible ages – for which the model in this case has evidence from the dates on short-lived samples, and (ii) the Charcoal Plus Outlier model allows for some slight outliers to the recent side. We do this because observation of the Tell Tweini data suggests an absence of very old wood and because some of the dates on charcoal are similar to or even more recent than those on short-lived samples, and so this might well be a case in which a small number of young outliers may be present among the samples with in-built age. Hence, as discussed by Dee *et al.* (2013) and Dee and Bronk Ramsey (2014: 92–93, fig.8), this scalable function may be more appropriate than the standard Charcoal Outlier model (although we note in our case that almost identical outcomes result from use of the standard Charcoal Outlier model).

For the dates on short-lived sample material, like annual-growth seeds which are assumed to be contemporary with their find context, we use the General Outlier model (Bronk Ramsey 2009b), as appropriate for this situation. To estimate the actual calendar date range for Levels 7D and 6E we use Oxcal's 'Date query' applied to the Phase grouping. Oxcal's 'Interval query' applied to the Phase 7D and 6E groupings estimates the calendar years age duration of each of these Levels from the available radiocarbon data and the stratigraphic sequence model. The short-lived samples from the specific Level 7A destruction episode can, as described in the previous paragraph, be modelled within a Tau_Boundary paired with a Boundary grouping to best estimate the date of the destruction episode (the Boundary named as 'Period 7A Destruction Episode'). The resultant model and calibrated calendar age probabilities and most likely 68.2% and 95.4% date ranges are shown in Fig. 6. The specific age ranges for a few selected elements are listed in Table 1. (Note: very small variations can occur between different runs of such Bayesian chronological modelling analyses; the examples shown or detailed are typical outcomes in which the model exhibited good convergence – that is: all values above 95% – this comment applies to all the examples in this paper shown in Figs. 6–10 and 12–13.)

The Level 7A destruction at Tell Tweini attributed to the Sea Peoples by Kaniewski *et al.* (2011) is dated 1176–1108 calBC (most likely 68.2% probability range) or 1210–1071 calBC (most likely 95.4% probability range). While it is within the overall most likely 95.4% range, the proposed very precise date range for the destructions by the Sea Peoples in the northern Levant of 1194–1190 BCE and then 1192–1190 BCE in Kaniewski *et al.* (2011: 5–6) falls outside the most likely 68.2% range and cannot be considered as very plausible. Indeed, 94% of the total probability for the Boundary Period 7A Destruction Episode in Fig. 6 falls *after* 1190 calBC – the strong indication is a date somewhat later in the 12th century BCE for this destruction (e.g., somewhere 1176–1108 calBC).

The Late Cypriot IIC to IIIA period revisited

If we turn to Cyprus, where widespread social, political and economic change occurs in several areas from the later 13th century BCE to 12th century BCE during the LC IIC to LC IIC/LC IIIA transitional period, we can also re-evaluate some existing radiocarbon-based work and consider the timeframe in this case – which has again been widely linked with the close of the Late Bronze Age crisis years and changes across the East Mediterranean (Knapp and Manning 2016: 132–134 and citations). In particular, we revisit some previous work which has already evaluated the dating of the LC IIC period on Cyprus (Manning *et al.* 2001). A sequence of contexts from several sites offered dates from around (or before) the start of LC IIC through to the close of the period at some sites and then for the subsequent LC IIC/LC IIIA transitional phase to LC IIIA period. Some additional data are now available from new work by the authors (see Table 2) and from other projects. In a preliminary assessment, we re-consider in this paper some aspects of the dating of the LC IIC to LC IIIA period using the samples in Manning *et al.* (2001) along with additional new samples as currently available either from other projects (e.g. Fischer 2011, 2012) or from work by the authors.

In particular, we focus for this discussion on four things: (i) defining a *terminus post quem* (TPQ) for the early/earlier LC IIC period; (ii) defining the approximate date of the close of the LC IIC period at Maroni (one of the major coastal centres on Cyprus abandoned from the late part of the close of the LC IIC period as part of the overall set of changes from the later 13th through 12th centuries BCE affecting the wider East Mediterranean: Cline 2014; Knapp and Manning 2016); (iii) considering the date for occupation at Hala Sultan Tekke Stratum 1 and 2; and (iv) considering the date ranges for the end of occupation at Apliki-

Karamallos in the LC IIC/LC IIIA Transitional Phase (Kling 1989), and for the final (second) phase of occupation of LC IIIA Building II at Alassa-Paleotaverna.

(i) *TPQ for early/earlier LC IIC*. To try to check and better define an estimate for this point in time we consider the group of radiocarbon dates available for several sites from wood charcoal samples from buildings constructed around the start or early/earlier part of the LC IIC period. Real precision for the archaeological phasing is lacking. These structures and their subsequent use and assemblages in each case define the LC IIC period at their site, but when exactly during the overall (island-wide) LC IIC period they were built is difficult to specify. Typical is a statement such as Kling (1989: 85) as regards the Apliki structure (House A), saying "construction not before the LC IIC period"

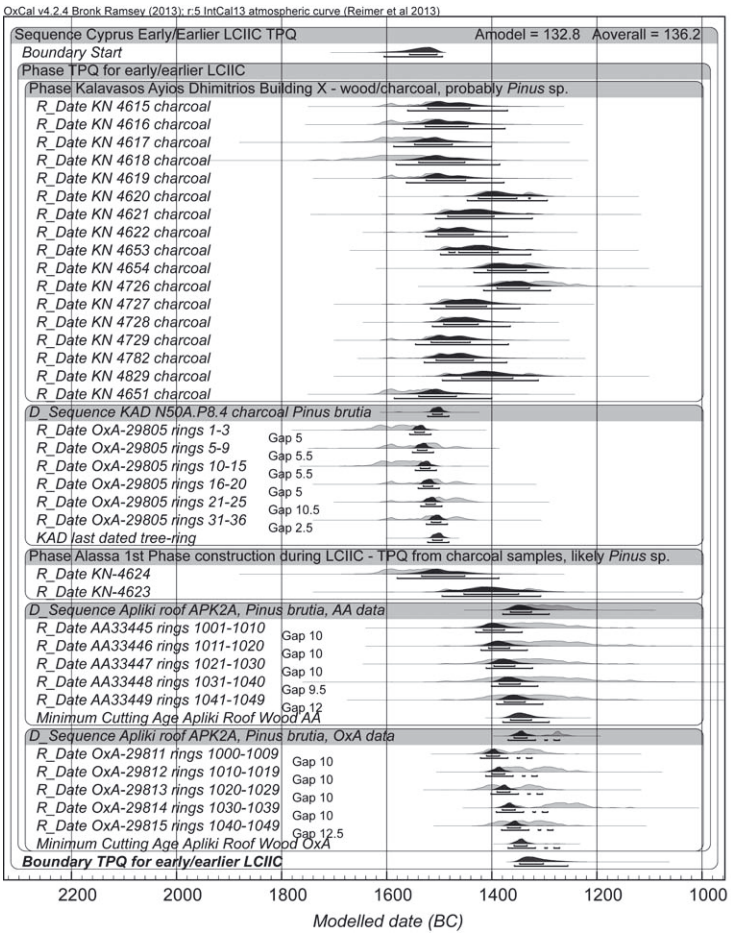

Fig. 7 Analysis of radiocarbon dates on wood charcoal samples from primary building construction activity from early or earlier LC IIC, which thus likely set a TPQ for early/earlier LC IIC – especially as bark (and the outermost tree-ring) is not present in any sample. The samples come from Kalavasos-Ayios Dhimitrios (KAD) Building X, Alassa-Paleotaverna Building II (1st phase) and Apliki-Karamallos (see previously Manning *et al.* 2001; Manning and Kuniholm 2007 – but note revision of species identification to *Pinus brutia* after detailed SEM study: see Fig. 11). The random charcoal samples are analyzed using the Charcoal Outlier model (Bronk Ramsey 2009b); the two samples for which tree-ring sequences were available are analyzed as dendro-^{14}C-wiggle-matches (D_Sequence in OxCal) (e.g. Bronk Ramsey *et al.* 2001; Galimberti *et al.* 2004; Bayliss and Tyers 2004) to best define the last extant tree-ring for each sample (and so the best final TPQ Boundary). The SSimple outlier model (Bronk Ramsey 2009b) is applied to check on possible outliers in the D_Sequence analyses. The KN (Köln) and AA (Arizona) data are from Manning *et al.* (2001); the OxA data are new data, see Table 2. The final TPQ Boundary estimate (in bold at bottom) for early/earlier LC IIC is shown in detail in Fig. 8. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. No outliers in the dendro-14C-wiggle-match data were detected; overall, the OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

(Kling 1989: 85) – but with no clear guidance as to whether initial, early, or earlier LC IIC. In order to give an estimate of a TPQ for some point by early/earlier LC IIC we consider various dates on charcoal samples – all Calabrian pine (*Pinus brutia*, based on SEM inspection) (see Table 2) – from these contexts applying the (standard) Charcoal Outlier model (Bronk Ramsey 2009b) to try to account for some of the likely in-built age factor. (We employ the standard Charcoal Outlier model in this case since these samples appear to include a greater range of time across a distribution from variously inner to outer tree-rings from a long-lived species and there are no associated short-lived samples.)

There are also two samples for which tree-ring sequences were available. These allow for the application of dendro-^{14}C-wiggle-match dating. This type of analysis utilizes an ordered sequence of tree-ring samples whose dating relative to one another corresponds to a known number of exact years (i.e. calendar time), since each tree-ring corresponds to one year. These tree-ring samples are extracted, radiocarbon dated, and then matched against the radiocarbon calibration curve to obtain much more precise date placements than otherwise possible (e.g. Bronk Ramsey *et al.* 2001; Galimberti *et al.* 2004; Bayliss and Tyers 2004). The first of these samples is KAD N50A.P8.4, which is pine (*Pinus brutia*) charcoal, from Building X at Kalavasos-Ayios Dhimitrios (for information on Building X and the Kalavasos site, see South 1984, 1996, 1997). The other sample is APK2A, *Pinus brutia* charcoal from Building A at Apliki-Karamallos – note the species identification has been changed from the previously stated *Pinus nigra* identification (Manning and Kuniholm 2007) after scanning electron microscope (SEM) study (see Fig. 11). This sample and a dendro-^{14}C-wiggle-match using data obtained from the Arizona AMS facility have been previously reported and discussed (Manning and Kuniholm 2007) – here we include these existing data and also report a new dendro-^{14}C-wiggle-match on the same sample with dates from the Oxford Radiocarbon Accelerator Unit. In all cases no sample preserves bark or the outermost tree-ring, and thus there are an unknown number of missing rings between the sample's last extant tree-ring and the original bark/final ring when the tree was cut. The cutting date when humans felled and then employed these trees is therefore unknown. However, it is likely that some of the samples in the whole group are not far from an outermost original tree-ring and thus if we treat the group of sets of data as a Phase in OxCal and allow them to define an immediately subsequent Boundary, then this should be a reasonable estimate for a close TPQ and even likely suggest a point in early or earlier LC IIC. This model

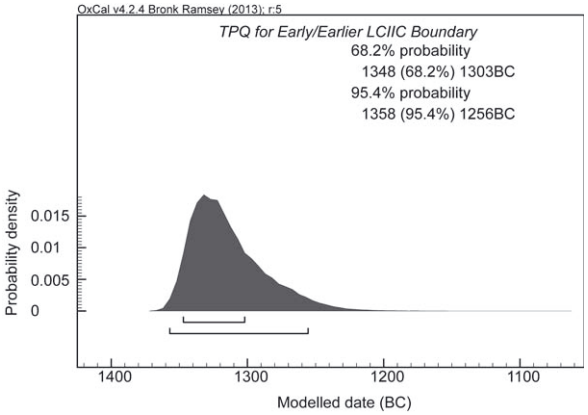

Fig. 8 The Boundary for the TPQ for Early/Early LC IIC as derived in Fig. 7 (last element in bold)

and analysis is shown in Fig. 7. The data indicate a TPQ or date for early/earlier LC IIC as 1348–1303 calBC at 68.2% probability and 1358–1256 calBC at 95.4% probability (Fig. 8). In general terms a TPQ or date for early or earlier LC IIC seems most likely to lie somewhere in the later 14th century BCE.

(ii) *The close of LC IIC at Maroni-Tsaroukkas Buildings 1 and 2*. The excavations of Buildings 1 and 2 at Maroni-Tsaroukkas produced a series of radiocarbon dates for a Late Cypriot sequence ending when the buildings were abandoned at the close of the local site LC IIC period (which on the basis of material culture comparisons would appear to have been before the end of LC IIC at some other sites and certainly before the LC IIC/LC IIIA transitional phase). The dates have been reported before (Manning *et al.* 2001) with two additional dates added in the study of Manning (2013). We re-consider the analysis of the dates just from Buildings 1 and 2 with a view to best defining the close of site LC IIC episode. The dates are modelled separately according to the sequences in both Buildings 1 and 2 with the Charcoal Outlier model applied to dates on charcoal to try to allow for in-built age and the General Outlier model applied to dates on short-lived samples. The one extra constraint is that it is assumed (based on material culture associations and relative chronology) that the last use of both Maroni-Tsaroukkas Buildings 1 and 2 (late LC IIC) occurred before the destruction of House A at Apliki-Karamallos in the LC IIC/LC IIIA transitional phase (Kling and Muhly 2007). The modelling thus varies a little from previous treatments. The analysis and outcomes are shown in Fig. 9. We see that the close of the LC IIC period is defined as being very similar (and we may assume was contemporary) at both Maroni-Tsaroukkas Buildings 1 and 2. The most

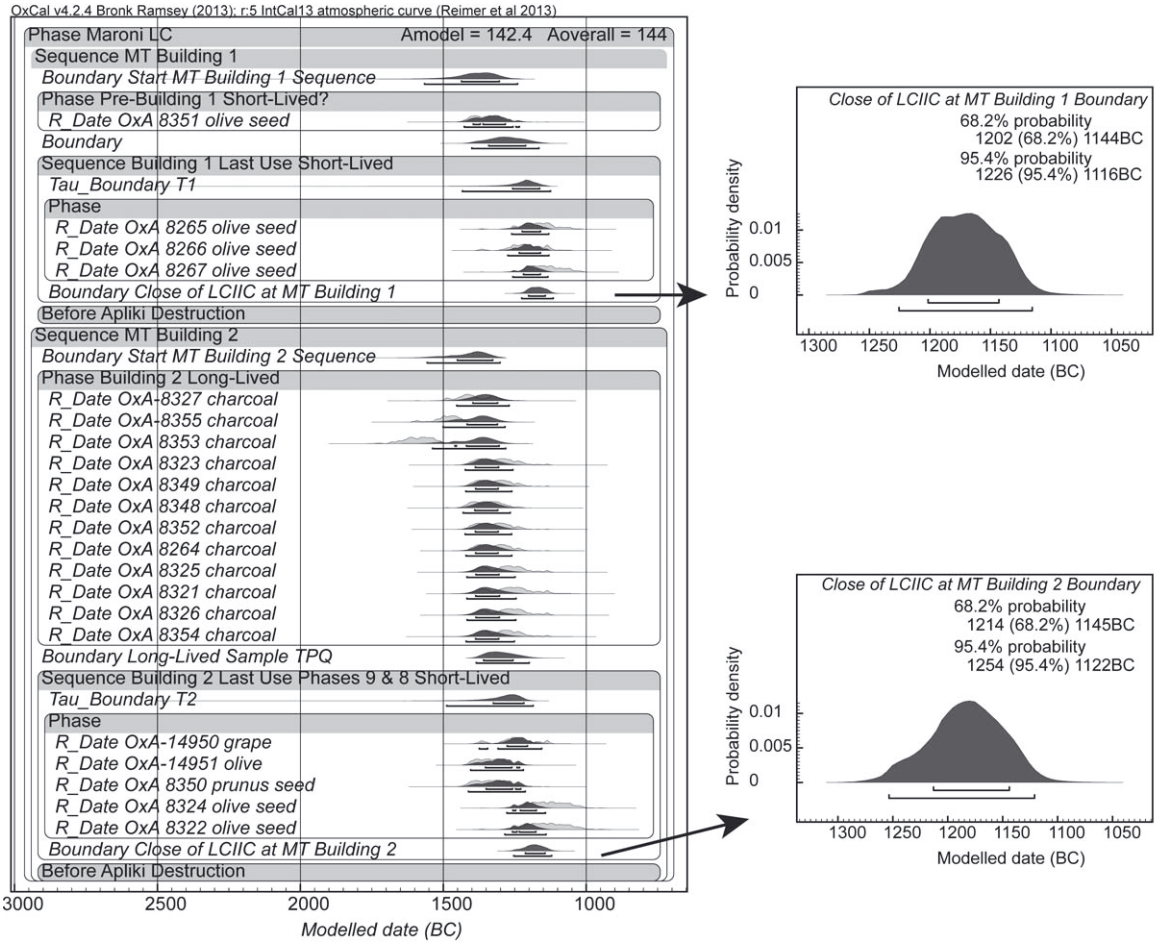

Fig. 9 Sequence analysis of the radiocarbon dates from Maroni-Tsaroukkas Buildings 1 and 2. The Charcoal Outlier model is applied to the dates on charcoal samples and the General Outlier model to the dates on short-lived samples. Two of the latter are very slight outliers (Posterior v. Prior of 6 > 5: OxA-14951 and OxA-8324). However, overall, the OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. The close of LC IIC date for each building sequence is required to be before the LC IIC/LC IIIA transitional phase destruction at Apliki-Karamallos (see Fig. 13 below). The two inset panels show details on the close of LC IIC date ranges calculated for each of Buildings 1 and 2. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

likely 68.2% probability ranges are 1202–1144 calBC for Building 1 and 1214–1145 calBC for Building 2 (for the 95.4% probability ranges, see Fig. 9). A date around, or in the decades to half century after, c. 1200 BCE is indicated.

(iii) *Hala Sultan Tekke*. New excavations led by Peter M. Fischer at Hala Sultan Tekke have produced six published radiocarbon dates, three from Stratum 1 (the most recent stratum) and three from the underlying Stratum 2 (see Fischer 2011: 84 and *id.* 2012: table 1). On the basis of the relative chronology associations of the diagnostic material, Stratum 2 is dated in approximate terms to the LC IIC period and Stratum 1 to the LC IIC–IIIA period (Fischer 2012: 103, 107). The dates are variously on twigs (or likely twigs) – no species identifications are given – or an olive seed or one charcoal sample which is not identified as to species or type but, because it is the most recent radiocarbon age, is likely not from old wood. We can consider the dates as a Sequence in OxCal with Stratum 2 older than Stratum 1 (and with the dates for each Stratum treated as comprising a Phase). We apply the General Outlier model (Bronk Ramsey 2009b) as all or most of the data appear short/shorter or relatively short/shorter-lived. A

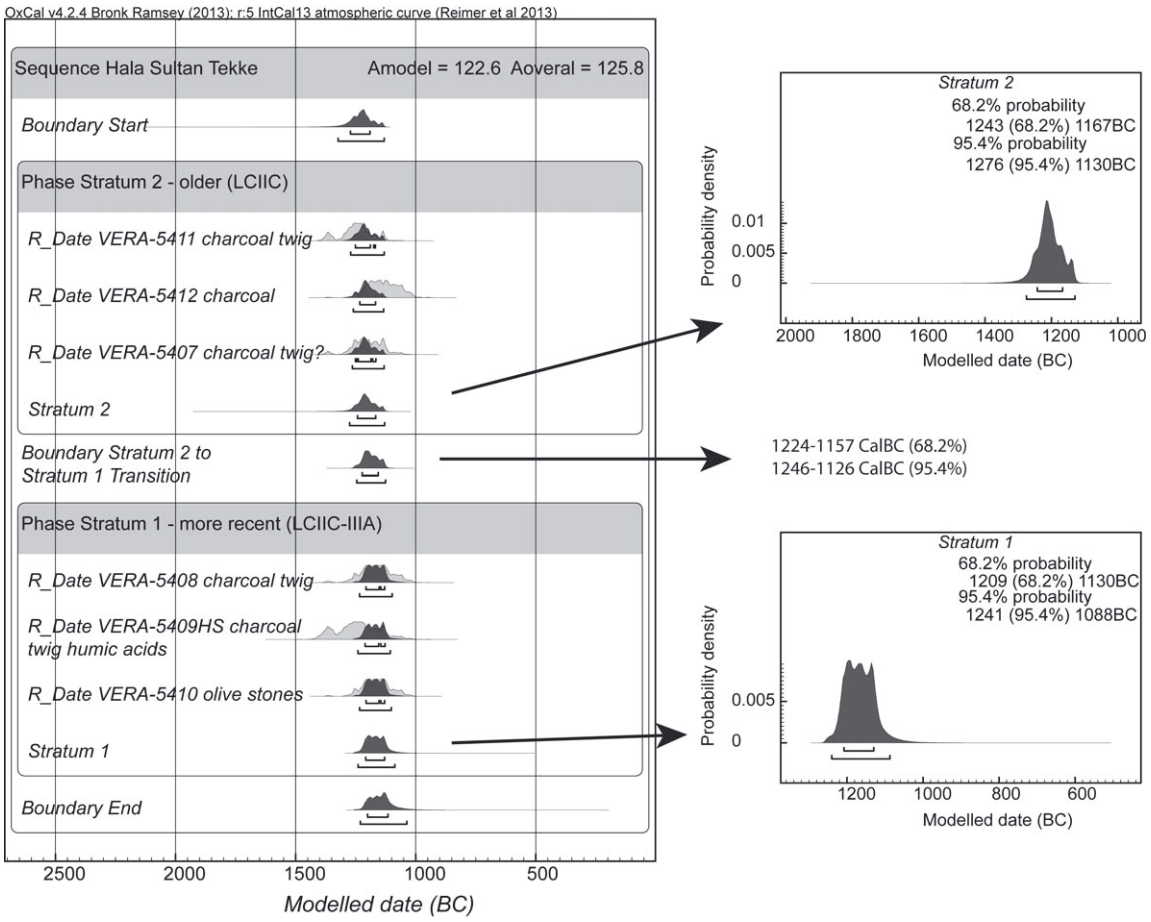

Fig. 10 Sequence analysis of the radiocarbon dates from Hala Sultan Tekke (Fischer 2011: 84; 2012: table 1). The General Outlier model is applied to all the dates (since on shorter/short-lived samples or seem consistent with this assumption). There are no outliers; the OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. The Date queries 'Stratum 2' and 'Stratum 1' give date estimates for the overall date range of Stratum 2 and Stratum 1 from the very limited (just three) radiocarbon dates in each case: details shown in the two panels to the right. The Boundary representing the period of calendar time between Stratum 2 and Stratum 1 is also detailed to the right. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

Date query offers an estimation of the date range for each Stratum as a whole (on the available as yet limited evidence). The analysis and outcomes are shown in Fig. 10. Consistent with the material culture reported, the dates for the two strata are quite similar and in total they occupy the period from the later 13th century BCE through the mid-later 12th century BCE, consistent with dates in the LC IIC to LC IIC/LC IIIA transitional phase range (compare (iv) below).

(iv) *Apliki-Karamallos House A destruction and Alassa-Paleotaverna final occupation*. The date of the last use and destruction of House A at Apliki-Karamallos in the LC IIC/LC IIIA transitional phase can be estimated from the set of dates on samples from the last use context at the site comprising: (a) a small *Pistacia terebinthus* branch (APK-1) with pith (centre of the tree) and a maximum of 5 rings ending in a line of earlywood vessels and bark – indicating the branch was cut in late autumn or winter – dated at Oxford (see Fig. 11); (b) a set of similar samples on brushwood basket material (also likely *Pistacia terebinthus* as APK-1, but not specifically identified before dating) with a maximum ring count of 5, dated previously at Arizona; and (c) a set of samples on cereals (mainly reported as hulled six-row barley, *Hordeum vulgare*, but one sample identified as likely wheat, *Triticum* sp.) found inside the baskets (six samples dated previously at Arizona, one sample dated at Oxford). The samples should all date to within a few

years of each other (unless the baskets were in use for a longer period).

The 14 radiocarbon dates yield a weighted average age consistent with the hypothesis of representing the same radiocarbon age, but this weighted average age is almost exactly the problematic age of c. 1200 calBC discussed above. The calibrated probability distribution from this weighted average of 2961 ± 12 ^{14}C years BP (see Fig. 12) looks almost exactly like the 1200 BCE case discussed above (compare Fig. 1). Thus, despite the good set of data, we do not gain good chronological resolution (an accurate but not a precise outcome). The weighted average approach is also potentially losing some information. While the basket samples are unlikely to be very old (although the typical use lifetime of such a basket is not known), they are nonetheless likely older than the annual cereal samples stored inside the baskets, perhaps by a few years (including the in-built age of, for example, up to 5 years in the *Pistacia terebinthus* branches used to make the baskets). However, the baskets could be older even by several additional years, since the baskets once made could well have been used for a number of years (and the similarity of the radiocarbon ages for the basket samples and the cereal samples is then a product of the plateau in the radiocarbon calibration curve around and after 1200 BCE rather than necessarily an indication of close or near contemporaneity in calendar terms).

Therefore, this again is a case where the use of an exponential Tau_Boundary paired with a Boundary model in OxCal is likely a more appropriate way to best estimate the date of the Apliki destruction as immediately after the most recent of the samples. As noted above, such a model assumes all the radiocarbon-dated samples are older (even if several are only very slightly older) than the destruction event (Bronk Ramsey 2009a) and has the advantage – versus averaging samples that are not of exactly the same age – that dates on any individual residual samples, or on individual samples that are older for some other reason, do not lead to an overestimation of the date. Such an analysis and outcome is shown in Figure 13. This offers a better definition of the Apliki House A destruction at most likely 1176–1118 calBC (most likely 66.2% probability sub-range of the most likely 68.2% probability range) (see Fig. 13 – with the full 68.2% and 95.4% ranges detailed). This result suggests that the LC IIC/LC IIIA transitional phase lasts at least to the mid-12th century BCE and quite possibly into the later 12th century BCE. The period of use of House A at Apliki is thus quite substantial, running from the later 14th century BCE to the mid-later 12th century BCE.

Building II at Alassa-Paleotaverna is a monumental structure built in LC IIC but with a second (last) phase of modification and use in LC IIIA (Hadjisavvas 1996; 2003). Four radiocarbon dates are available on samples from this last (second) phase from Building II: two on

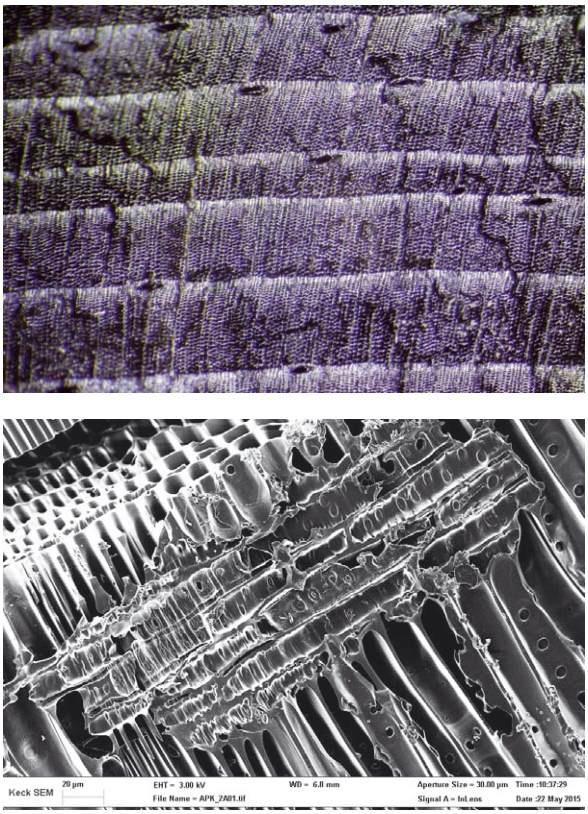

Fig. 11 Light microscope (A, C) and SEM (scanning electron microscope) (B) microphotographs of wood charcoal from Apliki-Karamallos. A: *Pinus brutia* transverse section (25x magnification). B: *Pinus brutia* radial section showing characteristic piceoid crossfield pits. C: *Pistacia terebinthus* transverse section (12x magnification), in which bark is present (*right, top*). Wood identifications were made on the basis of reference samples and standard reference works, such as Crivellaro and Schweingruber (2013)

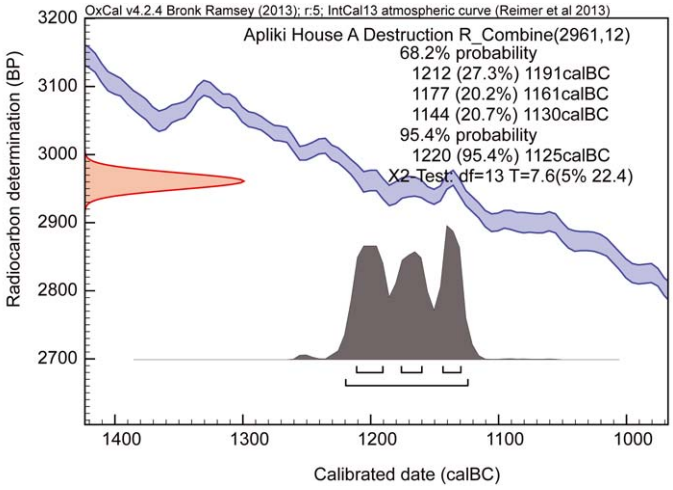

Fig. 12 Calibrated calendar age range for the weighted average date from all 14 of the shorter (≤5 years) or short-lived (annual) samples from the Apliki-Karamallos House A destruction context. Samples comprise *Pistacia terebinthus* branches (maximum 5 years growth, bark in one case) and annual cereal samples. The data yield a consistent weighted average radiocarbon age of 2961 ± 12 ^{14}C years BP, almost exactly matching the 'perfect' but problematic 1200 BCE case discussed above (see Fig. 1), and thus offering three fairly similar probability possible age ranges within the most likely 68.2% probability range, and a wide overall 95.4% probability range of 1220–1125 calBC. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years

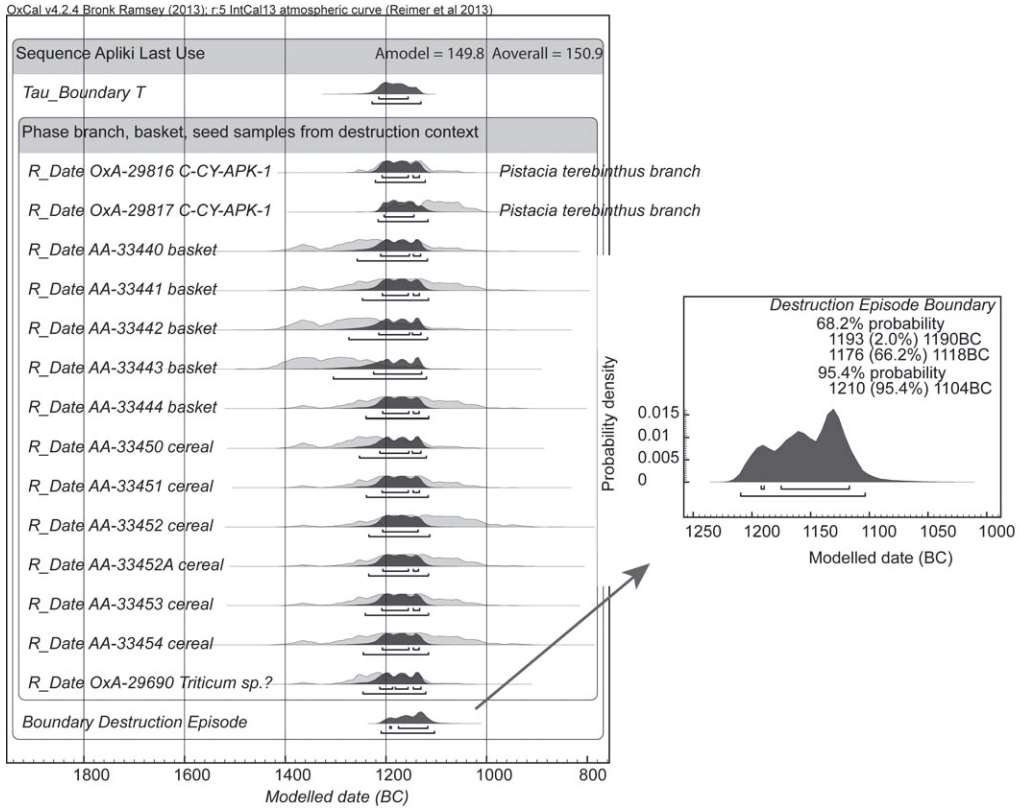

Fig. 13 Dating the destruction of Apliki-Karamallos House A. The samples of a small *Pistacia terebinthus* branch with bark, other samples of brushwood from baskets (also *Pistacia terebinthus* or likely so), and samples of cereals from inside the baskets (likely either hulled six-row barley, *Hordeum vulgare* – see Manning and Kuniholm 2007: 326 or in one case re-studied *Triticum* sp.), are modelled in a Phase with a Tau_Boundary paired with a Boundary in OxCal to estimate the date of the Destruction Episode (the Boundary immediately after the samples). The inset shows the Destruction Episode date estimate in detail. The General Outlier model (Bronk Ramsey 2009b) is applied to each of the data – no outliers detected; the OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. AA data from Manning *et al.* (2001); Manning and Kuniholm (2007); OxA data are listed in Table 2. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

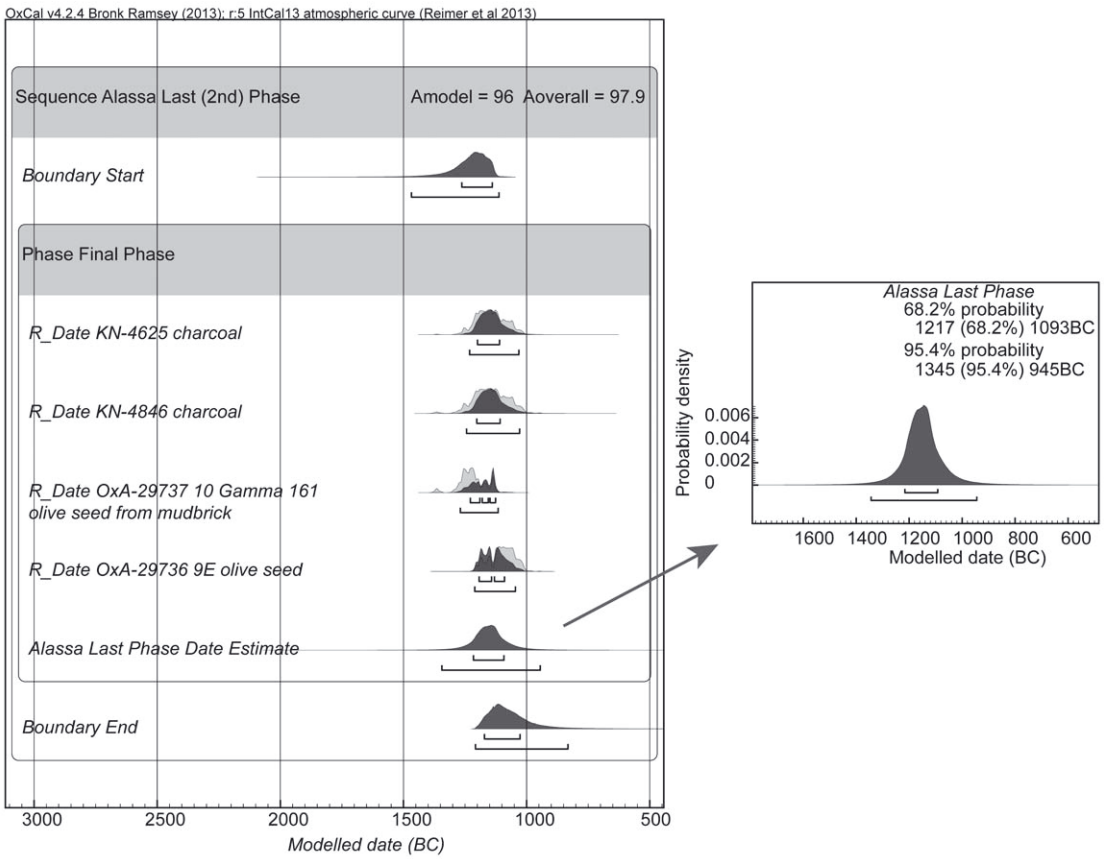

Fig. 14 Samples and dates for the last (second) phase at Alassa-Paleotaverna dated LC IIIA. The Charcoal Outlier model is applied to the two dates on wood charcoal to try to allow for in-built age, and the General Outlier model is applied to the two dates on short-lived samples (olive seeds) (Bronk Ramsey 2009b), and neither is an outlier. The OxCal model agreement index (Amodel) and individual agreement index (Aoverall) values are both well above the satisfactory threshold value of 60. The inset shows the general date estimate (a Date query for the Phase) for the last (second) phase at Alassa-Paleotaverna. Data from OxCal (Bronk Ramsey 2009a) and IntCal13 (Reimer *et al.* 2013), with calibration curve resolution set at 5 years. KN data from Manning *et al.* (2001); OxA data are listed in Table 2. The dark histograms indicate the modelled calendar probability distributions; the light histograms (often hidden) indicate the original, non-modelled, calibrated probability distributions

charcoal samples (exact species was not identified – but they are conifer and likely *Pinus* sp.) and two on olive seeds. One olive seed came from a decomposed mudbrick (which is regarded as from the last phase) and the other from a pit associated with the final use of the building. It would be desirable to have both more data and better contextual control over the dates, however, we consider this information to estimate the date of this second (last) LC IIIA phase at Alassa. Fig. 14 shows an analysis of the samples in which the four dates are considered in a Phase representing the last (second) phase at the site with the Charcoal Outlier model applied to the two samples on charcoal to try to account for in-built age and the General Outlier model applied to the two samples on short-lived olive seeds. A Date query applied to the Phase as a whole estimates the date range for the overall second (last) phase at Alassa-Paleotaverna (see Fig. 14). This analysis suggests, broadly, occupation in the 12th century BCE.

In all, the evidence reviewed suggests that the LC IIC period begins in the later/late 14th century BCE (see (i) above) and runs through use (see (ii) and (iii) above) to the close of LC IIC abandonments at some major coastal sites around and in years/decades after 1200 BCE (see (ii) above) before ending in the LC IIC/LC IIIA transitional phase, which seems to lie in the mid-later 12th century BCE (see (iii) and (iv) above). It is striking that the data from several different sites and

from several different radiocarbon laboratories combine to give a remarkably consistent story. The last part of the LC IIIA period follows – but this is not well defined from radiocarbon given the current evidence. The abandonments and sometimes destructions of LC IIC settlements, which have been linked by various authors with the Late Bronze Age crisis and the activities of the Sea Peoples and Aegean migrations, seem to date over a period of time that lies from the last couple of decades of the 13th century BCE through to the mid to later decades of the 12th century BCE. It is clear we are *not* looking at a year (or even a short interval) when civilization collapsed (e.g., as implied by the title of the book of Cline 2014 – though his text provides evidence to the contrary). Instead, we are looking at a process of change and reorientation in the eastern Mediterranean over a period of several decades to a century (Knapp and Manning 2016). This process may well have an important climate association (forcing factor) – marked by more arid conditions (e.g., Neugebauer *et al.* 2015 and citations; Knapp and Manning 2016: 102–112 and citations) – but it is also (or even predominantly) driven by transformations in economic relations and thus society and politics occurring in this period, especially as articulated and thence shaped by maritime activity (Monroe 2009, 2015; Broodbank 2013: 460–472; Knapp and Manning 2016: esp. 137–138).

Acknowledgements

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Element from Figure 6	**68.2% highest posterior density (hpd) ranges**	**95.4% highest posterior density (hpd) ranges**
Estimated Date for Level 7D	1536–1461 calBC	1598–1420 calBC
Duration Level 7D	0–132 calendar years	0–227 calendar years
Date Range for 7A Destruction Episode	1176–1108 calBC	1210–1071 calBC
Date Level 6E	1047–982 calBC	1092–934 calBC
Duration Level 6E	0–110 calendar years	0–198 calendar years

Table 1 Selected date ranges for elements from the Tell Tweini sequence analysis in Fig. 6. The Date 7D and Date 7A elements shown (as the last element in each of Phases 7D and 6E in Fig. 6) are estimates for a date range representing the calendar age range of the modelled Phase as a whole. Interval queries for Phase 7D and Phase 6E yielded the calendar year duration estimates shown above

Laboratory ID	Site	Sample	Material	$\delta^{13}C‰$	^{14}C Age BP	SD
OxA-29736	Alassa	Alassa 9E Pit Olive Seed	charred seeds	–20.4	2909	27
OxA-29737	Alassa	Alassa 10 Gamma 161 Olive Seed	charred seeds	–18.9	2993	26
OxA-29690	Apliki	C-CY-APK-3 grains (*Triticum* sp.?)	charred seeds	–22.2	2980	33
OxA-29811	Apliki	C-CY-APK2A *P. brutia* tree-rings 1000-1009	charcoal	–22	3098	26
OxA-29812	Apliki	C-CY-APK2A *P. brutia* tree-rings 1010-1019	charcoal	–23.5	3058	26
OxA-29813	Apliki	C-CY-APK2A *P. brutia* tree-rings 1020-1029	charcoal	–23.2	3102	28
OxA-29814	Apliki	C-CY-APK2A *P. brutia* tree-rings 1030-1039	charcoal	–23	3025	27
OxA-29815	Apliki	C-CY-APK2A *P. brutia* tree-rings 1040-1049	charcoal	–23.5	3071	26
OxA-29816	Apliki	C-CY-APK-1 *Pistacia terebinthus* branch	charcoal	–25.1	2956	25
OxA-29817	Apliki	C-CY-APK-1 *Pistacia terebinthus* branch	charcoal	–24.8	2918	27
OxA-29805	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 1-3	charcoal	–23.3	3309	27
OxA-29806	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 5-9	charcoal	–23.6	3256	27
OxA-29807	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 10-15	charcoal	–24.6	3300	27
OxA-29808	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 16-20	charcoal	–23.7	3245	26
OxA-29809	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 21-25	charcoal	–24.1	3229	29
OxA-29945	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 26-30	charcoal	–24	3264	27
OxA-29810	KAD	KAD N50A.P8.4 *P. brutia* tree-rings 31-36	charcoal	–23.2	3240	28

Table 2 Previously unpublished radiocarbon dates from the Oxford Radiocarbon Accelerator Unit on LC samples from Cyprus employed in this paper. Alassa = Alassa-Paleotaverna Building II. Apliki = Apliki-Karamallos House A. KAD = Kalavasos-Ayios Dhimitrios Building X (the pithos hall)

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Sea Peoples, Philistines, and the Destruction of Cities: A Critical Examination of Destruction Layers 'Caused' by the 'Sea Peoples'

Jesse Michael Millek

Abstract

One of the most ubiquitously cited aspects of the collapse of the Late Bronze Age are the destruction layers of most of the major cities within the Eastern Mediterranean. Whether it be the destruction of the palaces in the Aegean, the burning of Hattusa, the razing of Ras Shamra, or the defacing of the gods of Hazor, as all of these have been used as evidence for the massive upheaval which took place roughly around 1200 BCE. These destruction events are often described as violent conflagrations which destroyed a flourishing city often at the hands of an invading force. However, even though these destruction layers have played a prominent role in our understanding of the Late Bronze Age collapse, we still know very little about their formation. The goal of this paper is to examine some of the destruction events in the Southern Levant that have been attributed with the arrival of the 'Sea Peoples', and to see if there is any archaeological evidence that would point to who or what destroyed the cities. Sites such as Aphek, Tel Batash, and Lachish will be closely examined with the goal of finding a new understanding of exactly what happened at each individual site at the end of the Late Bronze Age, but also for the Southern Levant as a whole.

Introduction

The migration of the 'Sea Peoples' has been used to help explain the collapse or fall of the Eastern Mediterranean whether it be for the Hittite Empire (Singer 2000: 27; Yakar 2006: 39–44; Collins 2008: 77–80; Beal 2011: 595–596; Sams 2011: 604), Ugarit (Dever 1992: 103; Singer 1999: 721–733; Liverani 2003: 34–37; Yon 2006: 21; Jung 2010: 177), Cyprus (Sandars 1987: 141; Bunimovitz 1998: 106; Singer 1999: 722; Karageorghis 2000: 274; Steel 2014: 586), or the Southern Levant along with Egypt's control over the region (Weinstein 1981: 22–23; Ussishkin 1985: 224; Mazar 1990: 287–288; Dever 1992: 103–107; Gonen 1992: 215; Redford 1992: 244–255; Bietak 1993: 292–301; Falconer 1994: 308; Stager 1995: 332–346; Ussishkin 2008: 206–212). Accompanying the fall of these lands is often the description of the cities or towns which were violently destroyed around the time of the end of the Late Bronze Age. These destruction events have played a crucial role in our understanding of the events of the Late Bronze Age collapse, and in the case of the Southern Levant at the end of the Late Bronze Age, the material cultural changes which occurred in the Early Iron Age and the end of Egyptian hegemony. Typically, these destruction layers are mentioned with some brief description of the debris followed by an interpretation as to who the invading force was that burned the city or site to the ground. Often times, the following occupational phase at a given site is used as an indicator as to who destroyed the site. In the case of the 'Sea Peoples', it would be the appearance of LH IIIC:1b pottery. Thus, a number of sites in the Southern Levant with a destruction layer from around 1200 BCE are interpreted as having been destroyed by the 'Sea Peoples' or 'Philistines' depending on the nomenclature in use at the time of writing. However, little scholarly attention has been paid to the systematic investigation and interpretation of destruction layers.[1]

As Sharon Zuckerman stated, "Given the ubiquity and prevalence of destruction layers in ancient Near Eastern tell sites, it is surprising that a systematic treatment of this phenomenon is largely neglected and that there is no conceptual paradigm for dealing with it" (Zuckerman 2007: 4). With that being said, I will start with a brief review of some recent scholarly work on these destruction layers. These are natural destruction via earthquakes or human destruction but which was not caused by warfare.

[1] For a complete discussion of all destruction events in the Southern Levant at the end of the Late Bronze Age, please see Millek 2016.

Earthquakes

Earthquakes as cause for the Late Bronze Age destruction layers has been recently championed by the geophysicist Amos Nur who has written a number of papers and a book on the subject with additional help and support from Eric Cline. Nur claims that to understand the great amount of destruction which occurred from 1225–1175 BCE, we cannot only consider invading forces, but must also think of natural causes such as earthquakes. He believes that earthquakes are a better explanation for the destruction of many of the cities from the LB/IA I transition as it can at least be scientifically demonstrated that earthquakes occur in the Eastern Mediterranean and could have at the end of the Late Bronze Age (Nur and Burgess 2008: 1–6), and he bases this assumption on modern day seismological studies. Nur and Cline have proposed that an earthquake storm beginning in 1225 and ending in 1175 BCE, wreaked havoc throughout the Eastern Mediterranean causing many of the destruction layers we see in the archaeological record (Nur and Cline 2000: 43; Nur and Burgess 2008: 236–242). They believe that evidence for earthquakes is seen in, "Collapsed, patched or reinforced walls; crushed skeletons, or bodies found lying under fallen debris; toppled columns lying parallel to one another; slipped keystones in archways and doorways; and walls leaning at impossible angles or offset from their original position" (Nur and Cline 2000: 48).[2]

One of the major problems with attributing a destruction event to an earthquake is that many of the archaeological indicators for earthquakes can also be attributed to other causes. These range from poor construction techniques, subsiding or slipping of the earth beneath a building, heavy rains, flooding, removal of vegetation, and a multitude of other factors which can create results which appear similar to earthquake damage. Skeletons found under rubble are also a highly problematic indicator for earthquakes. Nur claims that if an invading force had come into a city, people would not stay in their houses waiting for them to be torn down by their enemies; thus, people found crushed under rubble would be better explained by an earthquake as people would have stayed inside until the shaking stopped (Nur and Cline 2000: 48; Nur and Burgess 2008: 94, 141). However, it is perfectly reasonable that if there was a fight in the streets outside of a person's house, that they would not flee into the fight but would hide in their house. Alternatively, if there was a fire raging outside caused by either enemy forces or natural causes, people may not have been able to escape from their house, and would have been caught under the rubble of their falling house or died of smoke inhalation. Thus, in this study, earthquakes will not factor much into the discussion unless there is clear evidence of earthquake damage.

Crisis architecture and termination rituals

Recently, Sharon Zuckerman has applied the concepts of crisis architecture and termination rituals in order to better understand destruction layers and the end of cities. She takes a more rounded view that destruction events should be seen as part of a series of events rather than a single event (Zuckerman 2007: 3). Thus, to understand the destruction of a city, we must first look to the phases before the destruction to see if there are signs of crisis in the architecture. These ideas stem from is the notion that buildings and the built environment reflects, "Social, political, symbolic and ideological aspects of society" (Zuckerman 2007: 4). Thus, short-term architectural changes can actually tell us about the changing meanings behind a structure and the political and social situation of the site during that phase of construction or use. Some architectural changes can be seen as improvements or simply part of the lifecycle of a building whether that be repairs or remodelling of an existing structure. However, other

[2] The full list includes "1. Characteristic structural damage and failure of constructions, such as: a. Collapsed walls b. Patched walls c. Offset walls d. Opened vertical joints and horizontally slid parts of walls in dry masonry walls e. Diagonal cracks in rigid walls f. Triangular missing parts in corners of masonry buildings g. Inclined or subvertical cracks in the upper parts of rigid arches, vaults and domes, or their partial collapse along these cracks h. Slipped keystones in dry masonry arches and vaults i. Cracks at the base or top of masonry columns and piers j. Displaced drums of dry masonry columns k. Neat rows of parallel fallen columns, frequently with their drums in a domino-style arrangement l. Constructions deformed as if by horizontal forces (e.g. rectangles transformed to parallelograms) 2. Ancient constructions offset by seismic surface faults. 3. Skeletons of people killed and crushed or buried under the debris of fallen buildings. 4. Certain abrupt geomorphological changes, occasionally associated with destructions and/or abandonment of buildings and sites. 5. Pattern of regional destruction. 6. Destruction and quick reconstruction of sites, with the introduction of what can be regarded as ''anti-seismic'' building construction techniques, but with no change in their overall cultural character. 7. Well-dated destructions of buildings correlating with historical (including epigraphic) evidence of earthquakes. 8. Damage or destruction of isolated buildings or whole sites, for which an earthquake appears the only reasonable explanation" (Nur and Cline 2000: 52).

changes can be seen as evidence of a crisis situation such as a, "Decrease of energy input in construction and maintenance (disrepair, repair with inferior materials), a change in original plan (restriction of access and circulation, changes in the permeability of the buildings) and a change in the original function of the structures (blocking of functional spaces or their partial abandonment)" (Zuckerman 2007: 4; cited from Driessen 1995: 65–76). An important aspect of identifying crisis architecture is to know the role and function of the building within the society's symbolic system and in the context of the site itself. Zuckerman states that crisis architecture would be most easily seen in monumental architecture or public buildings which generally have a high symbolic and ideological value. Thus, it might be easier to see crisis architecture in these structures when noticeable changes occur. Additionally, these structures might be ritually destroyed to mark the end of the symbolic power they represented (Zuckerman 2007: 5–6).[3]

This is the idea of termination rituals or the ritual destruction of a temple or public building. The termination ritual can include, "defacement, mutilation, breaking, burning or alteration of portable objects (such as pottery… or stone tools), sculptures, stelae or buildings. They may involve the alteration, destruction, or obliteration of specific parts; the moving of objects such as stelae or the scattering of their broken pieces; and even the razing and burial of a monumental structure before new construction" (Mock 1998: 5; cited in Zuckerman 2007: 8.). Zuckerman has proposed that this concept is important not only in understanding the destruction of temples but also understanding the social situation of a city in crisis. However, within these rituals, it can be asked if the termination was reverential or desecratory. Zuckerman believes that one must take into account the architectural changes as a whole in a single phase to understand the meaning behind the termination. She states, "I suggest that if the remains of such rituals are identified in a phase of alterations and crisis architecture, and precede the abandonment or destruction of the monumental temple, they should probably be understood as desecratory termination acts rather than reverential decommissioning of the superseded structure" (Zuckerman 2007: 7).

Both of these approaches to destruction layers offer a greater tool kit in our ability to understand the formation of destruction layers and how cities came to an end. However, there remain many more aspects of destruction which must be examined as earthquakes and ritual termination are only some of the ways a city or town can be burned or destroyed. One of the most cited ways a city can be destroyed or a destruction layer can be formed is through warfare. However, at the moment, there is no check list of criteria we can look for in an archaeological excavation to see if the destruction layer has any tell-tale signs of destruction by warfare. Another possible cause of destruction are natural or accidental fires. One problem with archaeological thinking is that in the ancient past, house fires, kitchen fires, or natural fires never occurred as they are never mentioned as a possible cause for a destruction event! I will next briefly examine both of these aspects, and from there with a well-rounded tool kit, examine some destruction events which have been correlated with the influx of the warlike 'Sea Peoples'.

Warfare

It is difficult archaeologically speaking to precisely identify destruction by warfare in the archaeological past as it remains difficult to accurately identify whether or not a destruction event was caused by warfare. At the moment it is up to the individual archaeologist to come to the conclusion whether or not the destruction event was caused by people or nature.[4] In an attempt to come up with at least some possible criteria for a destruction caused by warfare, I will examine one of the best attested destruction events which might have been caused by warfare.[5] This is the 701 BCE destruction of Lachish by Sennacherib a destruction event that is well attested to both archeologically and historically.[6]

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[3] See reference therein for examples of ritual destruction.

[4] For one of the first and well written studies on this subject see Forsberg 1995. This study mainly focuses on the dates of destruction but also examines the probability of destruction caused by warfare or how we correlate historical destruction with archaeological destruction.

[5] Previously, Jens Kamlah has made a list of criteria which might indicate warfare in a destruction layer. He states, "To decide whether a burnt layer is caused by the effects of war, the following questions must be investigated during the excavation: Is there any positive evidence of an act of war, (siege ramps, collapsed fortifications, weapons in the destruction debris, and skeletons). Were all the buildings destroyed by fire at the same time, or were some, such as the attachment moors, previously abandoned? Is the destruction layer directly on the floor, or is the floor separated from the destruction layer by a very thin layer. Is the inventory of the building intact, or were objects removed before the destruction, (smaller ceramic vessels, metal objects, and easily portable goods)?" Kamlah 2000: 173; translation my own.

[6] For an examination of the historical and archaeological context see Ussishkin 1982.

Lachish Level III holds many clues how we might be able to recognize destruction by warfare in the archaeological record. While the reliefs from Nineveh, the Biblical account, and the massive siege ramp all attest to the cities destruction in 701 by Sennacherib, these can hardly be used as indicators for sites from other locations and time periods. Thus, what we must look for are what other aspects of warfare might we find. In this case, the answer is obvious. It is the massive amount of weaponry found at the site. Over 1000 arrowheads were found in association with the 701 destruction mostly made of iron but some being made of bone as well (Gottlieb 2004: 1907–1911). Many of the arrowheads were bent showing they must have been fired at a wall from a close range from a powerful bow. 859 of these arrowheads were found in the South-western corner of Area R which appears to have been were the brunt of the assault took place. Of these 859 arrowheads, 176 were found embedded into brick debris of the Outer Revetment Wall. One arrowhead in particle was found still stuck in the bricks of the Outer Revetment Wall. Another 676 arrowheads were found embedded in brick debris accumulated in front of the Main City Wall and along the balcony of the top tower buttress. Only six arrowheads were found behind the Main City Wall inside the city itself. This has led the excavators to believe that the majority of the arrowheads found in the destruction layer were fired by the Assyrians at the Israelites defending the walls of the city in Area R (Ussishkin 2004f: 736–738).

Other evidence of warfare from Area R are sling bullets. Ussishkin states that 15 sling bullets were found in the South-western corner of Area R were the main battle took place. Thus, they are in great disproportion to the number of arrowheads (Ussishkin 2004f: 738). However, Sass lists 109 rounded sling bullets and another forty-two which were less perfectly shaped. Most of these were found in the 701 destruction layer, but some were found in earlier strata (Sass and Ussishkin 2004: 1947).[7] Sass goes on to mention that outside of the sling bullets, evidence of armour was also found in association with the 701 destruction. Forty-five bronze armour scales were found at Lachish. Most were found in association with the Level III City-Gate and Area R from the destruction of 701. Further general evidence for destruction is the large amount of fallen bricks, debris, burning, and burnt debris which were found throughout Area R, at the main City-Gate, in front of the city wall, and in the Level III Palace C where burning and burnt debris were found on the floors and against the walls of the structure (Ussishkin 2004f: 695–738; 2004g: 812). However, despite the number of arrowheads, sling bullets, armour scales, and general evidence for destruction, only a few skull fragments were found in association with the destruction layer. The excavators believe that the bodies of both the Assyrians and Israelites were buried after the battle. This might explain the mass burials found in Tombs 107–108, 116, and 120 at the foot of the mound (Ussishkin 2004f: 739).[8]

Lachish Level III is surely an exemplary example of destruction by warfare. One should not expect to use these exact results to find evidence of warfare in a destruction layer. However, this destruction layer does give several indicators of what one might expect to find. The first is of course arrowheads. While it cannot be expected that hundreds of arrowheads would be found in every destruction layer caused by warfare, it should be expected that some might be found. In addition, the arrowheads from Lachish were found mixed in with debris, stuck in debris, or even stuck into the Outer Revetment Wall. They were found disorganized, bent, and in debris all of which points to their use in battle. Along with the arrowheads, we might also expect to find sling bullets, or armour scales in the destruction debris. Additionally, there is the burning and destruction of buildings and walls. However, an important point is that skeletons may not be an indicator of warfare. As only some partial skull fragments were found, it does seem that if a population remains in the city after destruction, that they would indeed bury the dead. Additionally, depending on what parts of the site are excavated or if the people in the past recollected the weapons after the battle, we may not find this type of evidence for warfare.[9] Moreover, different types of

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[7] See also Norbert Rabe's suggestion that loom weights might have been used as sling bullets in times of emergency (Rabe 1996: 100–121).

[8] However, the exact date of these burials has been contested.

[9] One such example is the 604 BCE destruction of Ashkelon. While there is abundant evidence for the destruction of the city from the large amounts of burned material, floors covered in smashed pottery, smashed figurines, vitrified material, fallen walls, a dead woman who apparently was killed from blunt force trauma by an attacker, and many *in situ* jars, there was no mentioned evidence of weapons of war found in the destruction (Smith 2008: 533; Stager 2008: 279, 282–283, 312; *id.* 2011a: 3–12; *id.* 2011b: 13–29). This demonstrates, much as with most things in archaeology, while there may be some general indicators of how to interpret destruction events caused by warfare, there will always be exceptions. Thus, we must always be cautious when examining the evidence.

warfare must be considered as not all people would attack with arrows or be wearing scale armour, and this would also be affected by the period and technology of warfare. This is true of the 'Sea Peoples' as they are not depicted at Medinet Habu as using arrows or having armour scales, though it must also be noted this is an Egyptian representation of the 'Sea Peoples' and may not be accurate. Thus, if this is the case, evidence of human activity in the destruction should be looked for and if there is then any circumstantial evidence to suggest it was an act of war.[10]

Natural and accidental fires

Outside of intentional human destruction, there is of course naturally caused destruction. However, destruction layers are very rarely interpreted to be natural or accidental. In this way, it is the unconscious belief that in the ancient past, there was never such a thing as a house fire caused by something burning on or in the tabun, a stray ember reaching combustible materials and starting an uncontrollable fire. Other causes of these fires could be a mishandled or broken oil lamp, pottery kilns, bronze manufacture, or anything else that had to do with the controlled use of fire. Such accidental fires, as in modern times, could have been the cause for the destruction of a single building or of an entire village or town. Thus, it is reasonable to assume that such events occurred in the past, and would be witnessed in the archaeological past. Therefore, single destruction layers in a building followed by a quick reconstruction my not be the result of warfare, rather it may be from a natural or accidental fire. The question is though, could such a fire quickly take over an entire site, become uncontrollable, and how might this be witnessed in the archaeological record? For perhaps some answers to this question, once again we go to Lachish.

David Ussishkin tells the story of the first season of excavation at Tel Lachish in 1973: "On one hot, windy *hamsin* day one of the workers threw a cigarette butt aside, and in a short time the entire mound was ablaze. The fire brigade was called to prevent the fire from spreading to the nearby forest… All the vegetation had disappeared, and suddenly, the entire surface of the mound was visible!" (Ussishkin 2004a: 5). This story gives us several clues to help answer the questions about natural fires in the past. The first is that it is very easy during a hot dry day a fire can spread very quickly over a site. This may have been especially true at the end of the Late Bronze Age as recent climatological studies indicate that the region was in fact much dryer than in years previous (Weiss 1982; Gallet *et al.* 2006; Issar and Zohar 2007; Kaniewski *et al.* 2010; Rambeau 2010; Drake 2012; Langgut *et al*. 2013). This would have only made the possibility of natural fires even more of an ever present threat. While the combustible material in the recent fire on the top of Tel Lachish was the overgrowth, there would have been plenty of combustible materials in a town or city in the past. Certainly, wooden support beams, roofing beams, and other architectural materials would have provided ample material to burn in a fire, but there are still more sources. An aspect often ignored when considering how a site was destroyed is where did the people store their wood, charcoal, and dung cakes needed to run their ovens, kilns, and furnaces (Klinge and Fall 2010: 2623). It would seem reasonable that these materials would have been stored close by the areas they were needed rather than outside of the city as fuel must be constantly supplied to keep the ovens burning. Thus, rooms which show a fierce destruction and large amounts of burnt plant material may have acted as a storage room for combustible materials. In addition to this, oil would have been another material which could easily catch fire and burn along with textiles, cloth, and other materials outside of the commonly thought of such as roof beams.

This brings up a seemingly unanswerable question but one which is important to any study of destruction events. How did ancient people manage out of control fires? In modern times, it is easy to think of fire departments paid or volunteers, bucket brigades who come together to put out house fires, or a readily available sources of water to put out fires. However, what was the situation in the past? Was there such a thing as a bucket brigade were people of the town or city would come together to put out a fire? If there was less stored water perhaps due to drought, would there have been enough to put out a fire? These questions among others cannot be answered, but it is important to consider that accidental fires must have happened in the past and we would find them in the archaeological record. Thus, what we might expect to find from such a fire is a small burn layer in a room, a single burned building with an intact or relatively intact inventory other than perhaps the most valuable goods. When looking at a single building's destruction, we must look where the fiercest part of the fire was as the function of the room

[10] See also Paz 2011 for an examination of an Early Bronze Age destruction presumably by warfare.

might tell us where the fire started. Thus, if the most sever burning occurred in the kitchen or in the rooms surrounding it, it is reasonable to assume that it might have started as a kitchen fire. If there are skeletons found in the debris, do the bodies indicate how they died? Was it from blunt force trauma from an attacker, from falling debris, or did they die from smoke inhalation once trapped in a burning building? Additionally, if only a single building caught fire, it would be reasonable that it might be built upon soon after, either by the previous owner, or if they no longer had the money to rebuild, another different type of structure might be built upon it.

Another aspect of natural or accidental fires is whether or not the site is in decline or has been abandoned or partially abandoned. If a site has already been abandoned before destruction, it means that the standing structures may succumb to natural burning. With no one there to prevent it, an entire settlement could go up in flames without any person there to cause it. Thus, as Kamlah suggests, we should look for signs of abandonment on top of floors but below destruction layers, even if these layers are very thin. Additionally, what materials are found in the burned building? Does it appear that it was lived in before destruction or are there signs of abandonment (Kamlah 2000: 173). It is also true that if a site were partially abandoned or inhabited by squatters that even if there was some sort of fire prevention service set up before that such a thing would no longer exist. Thus, even if a settlement is partially inhabited by a meagre group of people, this might mean that the chance of an accidental fire would increase if there are fewer people to put it out. Also, if a fire were to start in part of the settlement that was not inhabited and quickly grew out of control, the small population would have not been able to stop it. Moreover, in all cases, if a fire started on the site, it is likely that it would spread into the surrounding area. While in modern times, the Israeli fire department was able to keep the fire at Lachish contained and prevented it from spreading to the surrounding forest, no such thing existed in the past. Thus, a full scale fire, or even a partial fire at the site could have caused major damage to the surrounding area and agriculture which could have severally weakened the economy of the village, town, or city affected. With all of this in mind, it is clear that to truly understand a destruction event, we must follow the suggestion of Zuckerman, that is, to look at the phases prior to the destruction, the destruction event, and I would add, the phases after the destruction. Thus, as we look at the following sites, it is important to keep all of these aspects in mind.

Sites 'destroyed' by the 'Sea Peoples'

The following lists of sites said to have been destroyed by the 'Sea Peoples' or 'Philistines', comes mainly from a chart created by William Dever (1992). Dever lists the following sites and destruction strata as having been caused by the 'Philistines' though this term is used in place of 'Sea Peoples'. The sites are: Tell Abu Hawam VC, Tell Keisan 13, Ashdod XIV, Tel Zeror XII, Ashkelon XVIII, Tel Dor, 'Afula IV, Aphek X12, Tel Batash VI, Beth Shemesh IVA, Tel Sippor III, Tell Beit Mirsim C2, and Tell Haror B7 (Dever 1992: 100). The main reason these destruction layers are attributed to the 'Sea Peoples' is due to a correlation with Ramesses III Year 8 reliefs and texts from Medinet Habu. In these texts, the 'Sea Peoples' are described as a warlike people already having destroyed major parts of Anatolia, Syria, and Cyprus and who were on the path to try and conquer Egypt. However, no destruction of sites in the Southern Levant are mentioned in these texts (Cline and O'Connor 2003: 136), but it is still assumed they would have caused destruction. In addition to the historical narrative, generally the people living at the site after it was destroyed are given the attribution of destroyer. Thus, in this case, the appearance of LH IIIC:1b or Philistine Bichrome pottery have been used as a method of interpreting that the 'Sea Peoples' or 'Philistines' destroyed the site. I will examine the archaeological evidence for each of these sites in detail, with some additional sites not included on this list that have also had a destruction event correlated with the 'Sea Peoples' or 'Philistines.' The sites will be listed in alphabetical order rather than in the order presented by Dever (Fig. 1).

Abu Hawam, Tell

There is little evidence to say exactly what happened at Tell Abu Hawam at the end of the 13th century BCE as there is not only little evidence of destruction but additionally there are problems in dating the Level V strata. Level V is broken up into Stratum VA (LB IB), VB (LB IB/II A–B), and VC (LB IIB/Iron I). In Stratum VB, there is the first appearance of the three-room plan buildings associated with the 'Sea Peoples' by the excavators which appear again in Stratum IV. This phase of Tell Abu Hawam additionally had the construction of a cyclopean wall surrounding the city, and demonstrated a number of imported goods. The last phase of Level V, Stratum VC, appears to be a short reoccupation of the site during the Egyptian 20th Dynasty. The only mention of destruction which might be attributed to Level VC is some destruction of the city's fortification. However, the excavators

Fig. 1 Sites 'Destroyed' by the 'Sea Peoples' in the Southern Levant

state, "The cause of the destruction of the fortifications could have been natural – a fourteenth century earthquake – or human – due to roaming Sea Peoples" (Balensi *et al*. 1993: 9–12). They date the possible destruction by the 'Sea Peoples' to time of Merneptah. However, it is impossible to tell when the destruction of the fortification exactly took place, there is no material evidence of warfare, and it is difficult to say if it would have been a natural, accidental, or even purposeful destruction. Thus, at this time, we cannot say that there was a destruction by warring 'Sea Peoples' at Tell Abu Hawam or even if there was a destruction at the end of the Late Bronze Age at the site. The following Stratum IV also does not give many clues to

the end of the Late Bronze Age site. Thus, until more information becomes available, the exact nature of what happened at Tell Abu Hawam at the end of the Late Bronze Age and if and how it suffered a destruction cannot be known.[11]

'Afula

A possible destruction has been attributed to 'Afula Stratum IV (Dever 1992: 100). However, according to the excavators, Stratum IV or the LB II stratum is only attested to by graves and what happened at the end of the Late Bronze Age is unknown (Dothan, M. 1993: 37). Thus, we cannot know if there was a destruction at the end of the Late Bronze Age until the LB II settlement is uncovered. However, another destruction which could be correlated with the influx of the 'Sea Peoples' did occur at the end of Stratum IIIB (c. 1200–1150 BCE). Stratum III at 'Afula is divided into Stratum IIIB (c. 1200–1150 BCE) and Stratum IIIA (c. 1150–1050/20 BCE). However, while a chronological break has been made between two different architecture phases in building XXVIII, it is difficult to separate Stratum IIIB from IIIA outside of building XXVIII (*ibid.*: 31, 35). Stratum IIIB continued the local 'Canaanite' pottery tradition as seen in the pottery from the Late Bronze Age tomb finds (*ibid.*: 38). In addition, no Painted Philistine pottery was found in Stratum IIIB (*ibid.*: 45). Thus, it is assumed that whatever beset the Late Bronze Age town, there was still a continuation of habitation by the local people. The end of Stratum IIIB in building XXVIII is marked, "By a thin layer of burnt organic material" (*ibid.*: 31). This thin burn layer, consisting of mud and burnt straw, separates the floor of building XXVIII, including pottery from Stratum IIIB, from the pottery of Stratum IIIA. Next to building XXVIII, was building XXV. No destruction was mentioned for building XXV; however, it is possible that it was constructed in Stratum IIIA. Thus, because there is no destruction in building XXV, and the burn layer in building XXVIII is very thin, it would seem likely that this was a natural or accidental fire. The pottery of Stratum IIIA also brings a mixed picture. While it is true that some Painted Philistine wares do appear in Stratum IIIA, there is still a strong continuation of the local pottery tradition. The storage jars, bowls, deep bowls, juglets, jugs, and cooking pots of Stratum IIIA all show continuation of the 'Canaanite' styles found in Stratum IIIB taking after the end of the Late Bronze Age pottery tradition.[12] In fact, the most prolific vessel in both Strata IIIB and IIIA are storage jars which show a great similarity between the two phases (*ibid.*: 35–45).[13]

There is some other evidence of burning outside of building XXVIII. In structure XXIX, the excavators found a pavement formed by three large stones with the central pavement containing twenty small circular depressions arranged in rows of three. M. Dothan states, "The pavement of small stones surrounding the entire group of stones shows conflagration marks and a great deal of soot. Underlying this pavement is also a well-defined burnt layer" (Dothan, M. 1955: 32). He goes on to say that some burnt mudbrick was also found on the pavement east of structure XXIX. Other signs of fire included a considerable amount of charred grain found in structures 89 and 90 which the excavators believe to have been grainers. Beside the charred grain, these two structures were also filled with ash. However, while some signs of fire are attested to in structure XXIX and structures 89 and 90, the excavators did not give a date for these whether they came from Stratum IIIB or IIIA as the site was also said to be destroyed at the end of Stratum IIIA (*ibid.*: 32, 51). Thus, if we do not know when these fires occurred it is difficult to associate it with the fire in building XXVIII. With this little evidence, it is again unclear exactly what caused either of these fires or if they were a single event. A possible explanation for both is a natural or accidental fire as there is no direct indication of invasion or war. Moreover, it seems as though the small town of Stratum IIIB was inhabited by the local people, and even after the fire that ended one phase of building XXVIII, the local people quickly rebuilt. It seems that at this time, the owners of the 'Philistine' pottery moved peaceably to the site.

Aphek

The destruction of Aphek at the end of the Late Bronze Age is the only destruction examined here that has evidence of destruction by warfare. Aphek at the time of Stratum X-12 (13th century BCE) was dominated by a

[11] Closer to publication, M. Artzy informed me there is in fact no evidence of a destruction at the end of the Late Bronze Age at Tell Abu Hawam (Artzy, personal communication 04.07.2016).

[12] Though some bowls are said to resemble Philistine pottery.

[13] However, the characteristic knob base found in the end of the Late Bronze Age jars and the Stratum IIIB jars went out of use in Stratum IIIA.

single building thought to be an "Egyptian Residence" at the top of the site. This building, Palace VI, was a continuation of the two previous "Egyptian buildings" Palaces V and IV. Palace VI was built on the South-west corner of Palace V, and it seems that this structure is more akin to a public fortress rather than a true palace, and it demonstrates similarities to other structures built at Beth Shean, Tel Mor, Tel el-Far'ah South, Tel Sera', and Deir el-Balah. However, it was, according to the excavators, most likely the residence of the local Egyptian official or governor at the time of its destruction. It was not a spacious building as it had rather thick walls of 1.4 meters and the first two meters of height built out of stone with the presumed second story finished in mudbrick. The second story was most likely used for residential purposes wall the ground floor was used for storage, and other purposes (Beck and Kochavi 1993: 68). However, Palace VI and Stratum X-12 came to its demise at the end of the Late Bronze Age in a fierce fire and apparent military battle. Throughout the destroyed building, remains of carbonized wood, and burnt plaster were found. Items from the second floor crashed down unto the floor below, and the charred remains of a wooden door were found at the entrance of a stairway connecting to the building's piazza. Remains of destruction are not limited to Palace VI alone as burnt material, detritus burnt bricks, and ash were found scattered over the top of the site. Much of this material was found against the stumps of the palace's walls, but it was also spread for several meters over the site due to the years of erosion following the buildings destruction (Gadot 2009a: 55–63).

Palace VI seems to have been destroyed with all it goods intact indicating the inhabitants did not escape beforehand, and it is quite possible they were killed. In the destruction debris from Stratum X-12 six or possibly seven arrowheads were found in the debris (Gadot 2009a: 67–68; Yahalom-Mack and Shalev 2009: 416–417).[14] One arrowhead was found inside of the structure, and the remainder were found scattered in the debris outside of the building both south and east of the palace. In addition to the arrowheads found in the destruction debris, the excavators also uncovered one armour scale (Gadot 2009a: 66; Yahalom-Mack and Shalev 2009: 417). With this evidence including the complete destruction of the sole building on the site, and the intact assemblage inside of the building, it is reasonable to conclude that Aphek Stratum X-12 was truly destroyed by an enemy force at the end of the Late Bronze Age. However, as the excavators state, "The archaeological finds contain no data revealing the identity of its destroyers, it is possible, however, that the palace was destroyed by the new inhabitants, who settled around the ruins" (Beck and Kochavi 1993: 68). This would be the residents of Stratum X-11 which was built above the ruined palace both to the northwest and southeast of the remains of Palace VI (Gadot 2009b: 88).

The original excavators of Aphek believed that the residents of Stratum X-11 (12th century BCE) were possibly 'Sea Peoples'. They noted the similarity in the two newly constructed residential buildings to those found in Stratum IVA at Tell Abu Hawam. Thus, they came to the conclusion that both sites may have been colonized by the 'Sea Peoples', and thus they would have been the likely perpetrators of the destruction at Aphek (Beck and Kochavi 1993: 68). However, more recently, this view has changed due to a closer look at the evidence. It appears that after the destruction in Stratum X-12 there was a period of abandonment. The two residential structures built in Stratum X-11 were built on top of the destruction debris from Palace VI which had been spread over the site due to erosion indicating there must have been some time in between both events. However, how long this period was, is unknown (Gadot 2009b: 88). These two buildings do have a similar plan to those at Tell Abu Hawam IV; however, similar structures were also found in Tell Abu Hawam VB, at Tel Batash VIA, Hazor Stratum 1a-b, and similar buildings have also been found in Egypt. Thus, as Gadot states, "It appears that there is no particular reason to interpret the architecture of these houses as evidence for foreign migration. Seemingly, the square plan was common and not associated with any one ethnic group" (Gadot 2009b: 92–93). Moreover, the pottery from Stratum X-11 does not indicate that 'Sea Peoples', or people manufacturing LH IIIC:1b pottery lived at the site during this phase. This is best summed up in the statement, "A smooth transition between pottery styles of LB II and LB III is reflected at Tel Aphek Stratum X-11" (Gadot 2009c: 244). There is a general continuation of the local 'Canaanite' forms though some changes did occur in the assemblage. Egyptian and Egyptian style pottery disappears from the site, and, "Stratum X11 at Tel Aphek also lacks any evidence of either Monochrome or Bichrome Philistine pottery…

[14] One of the arrowheads possibly came from Stratum X-13.

Apparently, this stratum at Tel Aphek should be dated later than an Egyptian presence, but also prior to the arrival of the Philistines" (Gadot 2009c: 244). 'Philistine' material culture does appear in Strata X-10 (11th century BCE) and X-9 (11th century BCE) which are both characterized by large amounts of decorated Philistine pottery and the discovery of Ashdoda type heads which were found in pits associated with these strata (Beck and Kochavi 1993: 68–69).[15] However, local 'Canaanite' material culture was still found at the site. Moreover, there was no destruction between Stratum X-11 and Strata X-10 and X-9. This would again indicate a peaceful influx of 'Philistines' into Aphek which had been and was occupied by the local 'Canaanite' population.

Ashdod

At the time of destruction, Ashdod seems to have been limited to the acropolis, and a small hill on the northeastern portion of the acropolis. Of the four excavated areas, which had parts of Stratum XIV (LBIIB/IA I transition) A, B, H, and G, only Area A had any evidence of a destruction as a thick layer of ash found in a very small portion of Area A (Dothan, M. and Freedman 1967: 81; Dothan, M. 1971: 25–26; Yasur-Landau 2010: 220–221).[16] In Area G and Area H, no evidence of a destruction was detected (Dothan, M. 1971: 155; Dothan, M. and Porath 1993: 47; Dothan, M. and Ben-Shlomo 2005: 3, 63; Yasur-Landau 2010: 220–221). This was the area where the 13th century 'Canaanite' or "Egyptian governor's residence" was located. Following the partial destruction of the site, there may have been a settlement gap between Strata XIV and XIII (Ahlström 1993: 306). The settlement in Stratum XIII was markedly different than that of XIV, but it was modest in size. Architecture from Strata XIII and XII were never found outside of Areas A and G, and with this new phase also came the production of locally made LH IIIC:1b pottery (Yasur-Landau 2010: 221–222).[17] However, even with this change, much as all other sites with 'Sea Peoples' pottery, the local 'Canaanite' pottery tradition continued (Dothan, M. and Ben-Shlomo 2005: 78, 109, 120; Mazar 2008: 90). Thus again, there is little evidence to say that Ashdod underwent a complete destruction at the end of the Late Bronze Age nor does it appear to have been violently destroyed by an invading army. As Yasur-Landau states, "In Ashdod, there is no real evidence for destruction" (Yasur-Landau 2010: 340). Or as Ben-Shlomo also states, "Sites like Ashdod display no evidence for destruction in the Early Iron Age levels" (Ben-Shlomo 2011: 202).

Ashkelon

At Ashkelon, there is a debate if there was any destruction at the site during the end of the Late Bronze Age or beginning of the IA I. Phythian-Adams, in the early 20th century, found an extensive layer of ash and blackened soil between the modern excavations Grids 50 and 57 which was between the Late Bronze Age 'Canaanite' material and the following Iron Age 'Philistine' material which was believed to represent the destruction of the site (Schloen 2008: 156). However, the current excavators believe that this destruction found by Phythian-Adams are only localized patches of burnt debris and do not indicate a site wide destruction as they found no evidence of destruction in either Grid 38 or Grid 50. No destruction was detected in Grid 38 Lower; rather, the domestic courtyard dating to the LB II was reused in the IA I with no signs of destruction between the 'Canaanite' layers, and the following Iron Age layers which contained locally made LH IIIC:1b pottery. Additionally, in Grid 38 Upper Phase 21, an Egyptian style fortress was found which appears to be the last phase of the Late Bronze Age in this area. However, this building was never completed and appears to have been abandoned as attested to by the mudbrick detritus found in association with the structure. There was also no evidence of destruction of this building, and this has led the excavators to believe the area was abandoned before the influx of the 'Sea Peoples' material culture.[18] As Stager describes it, "The only clear conclusion that can be drawn is that there is no evidence of destruction" (Stager 2008: 257). In Grid 50 Phase 10, a 13th century BCE courtyard building remained in use apparently until the beginning of the 12th century BCE as no LH IIIC:1b pottery was found in this stratum. The finds in this

[15] However, Gadot has pointed out that it is impossible to tell if there really were two strata, and if there were, it is not known if Stratum X-10 came before or after X-9 (Gadot 2009b: 93).

[16] Area B also yielded evidence of burning; however, this area was seemingly joined with Area A. Thus, the destruction is only in Area A.

[17] Though in Area H, there was most likely a residential area. (Yasur-Landau 2010: 223).

[18] The excavators believe this is a possible fortress built after the conquest of Ashkelon by Merneptah in c. 1207 BCE.

area attest to the continued 'Canaanite' presence and perhaps an 'Egyptian' presence in association with the Egyptian style fort found in Grid 38 Upper (Stager 2008: 251, 256, 304, 306). Moreover, much like in Grid 38, no destruction layer was found in Grid 50, and this area appears to have been abounded for the remainder of the 12th century BCE. Whether or not there is a destruction at the end of the Late Bronze Age Ashkelon is in some ways a moot question concerning the destructive arrival of the 'Sea Peoples'. Either there was no destruction of the site followed by a period of abandonment and then the peaceful intrusion of 'Sea Peoples' material culture, or there was a very minor destruction, followed by an Egyptian style fortress containing Egyptian or Egyptianized material culture along with local 'Canaanite' pottery which was then followed by an abandonment and a peaceful intrusion of 'Sea Peoples' material culture. No matter which way the current evidence is interpreted, there is a peaceful intrusion of 'Sea Peoples' material culture into Ashkelon and the continuation of the local 'Canaanite' ceramic tradition.

Tel Batash (Timnah)

Tel Batash Stratum VI has been an often times cited example of a site destroyed at the end of the Late Bronze Age (Mazar 1990: 290; Dagan 2004: 2679; Yasur-Landau 2010: 216). However, this attribution is not true. There was no destruction at the end of the Late Bronze Age at Tel Batash. This apparent misattribution of destruction appears to have come from the mention in 1990 by Mazar that the site suffered a destruction at the end of the Late Bronze Age (Mazar 1990: 290). However, in at least three subsequent publications, Mazar corrected this statement by saying, "The debris of Phase VIA [the end of the LB] did not show any evidence of violent destruction" (*id.* 1993: 153). He goes on to describe that while little is known about the last phase of the Late Bronze Age at Tel Batash, two architectural phases were found, separating Stratum VI into VIB and VIA. Phase VIB is described as having, "No indication of a violent destruction of this level, except at the southern end of Squares K-33-34, where a thin layer of reddish burnt debris was found" (*id.* 1997: 75). Additionally, he states, "There is evidence for destruction by fire at the end of Phase VIB in the southern building, though no total and violent destruction of the city seems to have occurred at the end of this period" (Kelm and Mazar 1995: 69). This small burn layer would most likely have been from an accidental or natural fire. The end of Phase VIA demonstrates no signs of destruction. Mazar again states regarding the building from Phase VIA, "No evidence was found for a violent end of this building. On the contrary, it was reused by the Philistines in the following period" (*ibid.*: 67). Finally he states, "Stratum VIA, and thus the Late Bronze phase, appears to end peacefully" (*ibid.*: 69). It appears that the site was most likely abandoned by the 'Canaanite' inhabitants at the end of the 13th or beginning of the 12th century and was then later inhabited by a 'Philistine' occupation later in the 12th century (Mazar and Kelm 1993: 153; Kelm and Mazar 1995: 72). Thus, Tel Batash/Timnah should no longer be cited as having been destroyed at the end of the Late Bronze Age by the 'Sea Peoples' or any other group as there is no evidence at all to support such a notion and there is only evidence to the contrary.[19] This long standing mistake should be corrected and no longer cited as the site was not destroyed and was most likely abandoned at the end of the Late Bronze Age and this again demonstrates a peaceful intrusion of 'Philistine' material culture into a 'Canaanite' site.

Beit Mirsim, Tell

The Late Bronze Age stratum from Tell Beit Mirsim is separated into C1 (c. 1500–1400 BCE) and C2 (c. 1400–1235 BCE) each one ending in a layer of ash (Albright 1974: 92, 100). However, much as with many of the older excavation reports, little more than the mention of the ash layer is discussed. There is no mention of weapons found in the destruction of C2 or any other evidence that might help to come to a conclusion as to what caused the ash layer of C2. The only possible helpful information is that the C city is described as being poorer than the Middle Bronze Age City D, and that the site seemed to be poorly inhabited during the phase of City C as no elite houses had been found and the site was marked by a number of grain pits (Albright 1974: 92, 99; 1993: 178–179). This could indicate that part of the site was abandoned or partially abandoned pointing to a natural or accidental cause for the ash layer;

[19] The site had suffered four consecutive burning events from the mid-16th century through the 14th century BCE and was rebuilt every time (Mazar and Kelm 1993: 153; Kelm and Mazar 1995: 71). This makes the fact that the site did not suffer a violent end stand out even more in contrast as even though it was prone to destruction it was abandoned in its last phase.

however, this is far from clear. While there is little evidence to say how the site came to an end, there is still evidence which would indicate it was not caused by the 'Sea Peoples'.

Beit Mirsim follows the same trend as many of the other sites in this discussion in that between the ash layer of the Late Bronze Age site and the arrival of 'Philistine' material culture there is a local 'Canaanite' phase. Albright states that there was no abandonment between City C and B and the City B was built on the ashes of City C (Albright 1932: 52; 1974: 101–102). City B was subdivide into three separate phases based on pottery. B1 (c. 1200–1150 BCE) which was directly after the destruction of the city was characterized by pottery found in grain silos of general Late Bronze Age types with some Early IA I types attested to as well (Albright 1932: 55–60; 1974: 104). The best examples of this phase come from silos 24 and 14 which both demonstrate a continuation of the Late Bronze Age local tradition though there is a complete loss of the artistic tradition and the pottery of Phase B1 is described as, "The worst in the history of Southern Palestine between 2000 BCE and 1500 CE" (Albright 1932: 59). Moreover, no 'Philistine' pottery was found in Phase B1 and was purely local 'Canaanite' in tradition (Albright 1932: 55; 1974: 104; 1993: 179). 'Philistine' pottery does not appear until Phase B2 (c. 1150–1000 BCE) where it was either imported to the site or was locally made alongside pottery which continued the local tradition. However, an important note again is that there is no destruction between Phase B1 and B2 indicating a peaceful intrusion of 'Philistine' material culture into a 'Canaanite' site (Albright 1932: 61–62; 1974: 105).

Beth-Shemesh

"Fire had done its destructive worst on the buildings of our city, or many of them. Roof timbers and clay upper stories had come crashing down on good masonry of the first floor, and charcoal and ash showed where the dwellings had smouldered for days" (Grant 1929: 34). This is the description written by Grant in the guises of a Canaanite who lived at the site of Beth-Shemesh at the end of the Late Bronze Age. However, while such illustrative statements as this give plenty to the imagination, the actual archaeological evidence for the end of the Late Bronze Age at Beth-Shemesh is convoluted. Stratum IV of Beth-Shemesh is broken into two sub phases Stratum IVA (c. 1500–1400 BCE) and IVB (c. 1400–1200 BCE) which are separated by a destruction layer (Bunimovitz and Lederman 1993: 250). However, much as at Beit Mirsim, the destruction event at the end of Stratum IVB is only described as an ash layer found under Stratum III's *Herrenhaus* and in some other sections of Stratum IV though little more is said. The date of this possible destruction event or the creation of this ash layer comes from silos 515 and 530. This pottery is said to come from the last phase of the city as both silos were covered by walls from Stratum III (c. 1200–1000 BCE; Grant 1939: 124). However, these same silos are used to indicate there might have been a short lived 'Canaanite' settlement before the 'Philistine' settlement of Stratum III (Grant 1939: 125; Bunimovitz and Lederman 1993: 250). Thus, it is difficult to date the entire ash layer by these two silos alone as this area could have remained in use after a partial burning of the site. The houses of Stratum IV are seemingly of poorer construction as they are made with unhewn field stones and are only a single stone in thickness and only the finest of houses are said to have had walls two stones in thickness. Pottery from IVB also seems to have been of poor quality as there was no evidence of burnishing or glossy paint used on any of the local pottery (Grant 1939: 11–12, 35–41, 114). Thus, much as at Beit Mirsim, what exactly the state of the Late Bronze Age site was before this ash layer was created is hard to say. However, in the renewed excavations at Beth-Shemesh, they have not uncovered any major evidence of destruction of their Level 8 which corresponds to the end of Grant's Stratum VIB (Bunimovitz, personal communication 22.08.2015.). Thus, at the moment, there is little evidence to say Beth-Shemesh was destroyed at the end of the Late Bronze Age.

The renewed excavations have shed more light on the situation in the IA I at Beth-Shemesh. They found a strong continuation of the local 'Canaanite' ceramic tradition in their Level 7 which corresponds to the first part of Grant's Stratum III. Moreover, they found no locally made LH IIIC or Philistine wares in this level (Bunimovitz and Lederman 2009: 116, 121). Thus, even if there was a destruction event at the end of Grant's Stratum III, the following Stratum is again local "Canaanite." Moreover, there is no clear evidence Level 7 was destroyed. The pottery and the architecture of the site demonstrate a continuation of the Late Bronze Age tradition, and while 'Philistine' material culture is found in Level 6, Philistine Bichrome makes up only five percent of the pottery assemblage (Bunimovitz and Lederman 2008b: 24).[20] Thus, the

[20] Additionally they cite that no pig bones were found from the IA I Period (Bunimovitz and Lederman 2008b: 25).

current excavators do not believe that it is correct to label the Stratum III site 'Philistine' (Bunimovitz and Lederman 2008a: 1644).[21] This again means that Beth-Shemesh cannot be added into the list of sites destroyed by the 'Sea Peoples' or 'Philistines' at the end of the Late Bronze Age as the ash layer from Stratum IVB is difficult to date with the available evidence, there is little other evidence for an end of the Late Bronze Age destruction, there was another 'Canaanite' inhibition of the site after the creation of this ash layer, and the IA I site cannot be considered 'Philistine'. Rather, again it demonstrates a continuation of local ceramic traditions with some peaceful intrusion of 'Philistine' material culture.

Dor, Tel

The destruction of Dor at the end of the Late Bronze Age, supposedly by the Sikil tribe of 'Sea Peoples' people, is attested to by no archaeological evidence. Only scant remains of Late Bronze Age Dor have been uncovered in Area G Phase G/12-11 which yielded no evidence of destruction (Stern 1993: 358; 2008: 1695; 2013: 5). The fate of the Late Bronze Age city is unknown and we cannot know at this time if there was a destruction event there or not, and if there was what caused it. Moreover, Gilboa and Sharon have recently demonstrated that the Early Iron Age material culture from Dor better fits with a gradual transition from the Late Bronze Age to the later Phoenician material culture demonstrating a much more complicated picture than previously imagined (Sharon and Gilboa 2013: 464–467).

Miqne, Tell/Ekron

Stratum VIIIB[22] represents the LB IIB period of Tel Miqne/Ekron. However, very little of this phase has been found at the site to date and it is most likely limited to the area of the north-eastern acropolis (Killebrew 2013: 80–81; Yasur-Landau 2010: 223). From what has been found, it appears that the LB IIB Tel Miqne/Ekron was a small town or village mainly consisting of domestic structures and or possibly an industrial area.[23] Stratum VIIIB Field I upper ended in a fire which is evidenced by a mudbrick storage room which contained a layer of burn debris and fallen mudbricks covering over complete vessels resting on the floor of the structure with one storage jar filled with carbonized figs and another which contained carbonized lentils (Killebrew 2013: 80–81, 83; Dothan, T. 1998: 151; Killebrew 1998: 381). The ceramic assemblage from this stratum matches well with typical LB IIB ceramics. However, it is again difficult to surmise the cause of this fire as there are no mentioned military weapons, and from the preliminary reports, it is again difficult to tell if the site was undergoing abandonment before burning. The following Stratum VIIIA represents the transitional phase between the Late Bronze and the Iron Age (c. 1200–1175/1150 BCE), and the pottery of this phase consists mainly of undecorated local coarse wars and utilitarian shapes that are typical of this LB/IA transition (Killebrew 2013: 81, 83). Once again, this represents a post 'destruction' phase of local 'Canaanites' as no LH IIIC:1b or Philistine Bichrome pottery was found in Stratum VIIIA. Moreover, there was no destruction of Stratum VIIIA in the transition to the much larger site of Stratum VII. As Killebrew states, "The subsequent Iron I occupation on the east slope represents a sudden, but apparently nonviolent, transformation from the modest settlement of Stratum VIIIA to the fortified urban centre of Stratum VII characterized by an Aegean-style material culture associated with the arrival of the Philistines" (Killebrew 2013: 85). However, while in the past Ekron was imagined as being destroyed by the 'Sea Peoples',[24] this is not supported by the archaeological evidence, that is, unless we are to believe that the 'Sea Peoples' destroyed Ekron and let the local people live there for some twenty-five to fifty years before moving into and expanding the site peacefully. This does not make sense, and the evidence from Ekron indicates there was a peaceful intrusion of 'Sea Peoples' into a 'Canaanite' site.

es-Safi, Tell/Gath

A possible destruction event has been found in Area E Stratum 4a[25] at Tell es-Safi/Gath which has been associated with the final phase of the Late Bronze Age site. The possible destruction layer consists of some relatively well preserved and restorable pottery found on the floor of a Late Bronze Age building (Maeir 2012: 18; 2013: 204). However, other than this pottery, there

[21] Grant's Stratum III is the renewed excavation's Level 6 and Level 7.

[22] Formally Stratum IX.

[23] The possible industrial activates are indicated by large amounts of flint debitage, flint tools, slag, copper, and olive pits.

[24] "[At Ekron] the Philistines encountered a small Canaanite city… of four ha and destroyed it in an intense conflagration. Over its ruins and beyond, the Philistines built a city five times larger than the old Canaanite one" (Stager 1995: 342).

[25] Formally referred to as Temporary Stratum 9.

are no other signs of destruction. Found in general association with this pottery was an *in situ* large basalt grinding stone (Shai *et al*. 2012: 229–230). Thus, given this, it is also possible this evidence represents abandonment rather than destruction. Moreover, Aren Maeir has recently uncovered evidence which might support the conclusion that the site was not destroyed and at least partially abandoned at the end of the Late Bronze Age. He states:

"Recent excavations at Tell es-Safi/Gath have revealed additional evidence of the LB/Iron Age transition. In addition to the possible evidence of a destruction like event at the end of the LB levels in Area E, late LB levels have been reached in several other areas. In Area A, there are LB levels (mainly fills layers) with no evidence of a destruction at the end. In Area P, in at least one square, the latest LB level was immediately below a level with Philistine Bichrome pottery and there was no evidence of destruction between the two. In Area F, there was a room (possibly of a cultic nature) which seemed to have been abandoned at the end of the LB. Not far from that there appeared a sequence of late LB and early Iron I levels, with no evidence of destruction between them" (Maeir, personal communication 06.11.2014).

Further excavations will hopefully provide conclusive evidence for what happened at the end of the Late Bronze Age at Tell es-Safi/Gath. However, with the information at hand, it appears as if the site was not destroyed. Thus, for the time being, Tell es-Safi/Gath cannot be included into a list of sites destroyed by the 'Sea Peoples' or by anything else, as it appears to have undergone no destruction and a possible abandonment at the end of the Late Bronze Age though future excavations may change this picture.

Haror, Tel

The Late Bronze Age strata at Tel Haror were found in areas B, K, and L. Area L Strata L2–L3 produced a possible patrician house dated to the 14th century BCE; however, no LB IIB material was found in this area which would seem to suggest this area was abandoned before the 13th century as there is no mention of destruction in Area L. In area K, Stratum K3 appears to have been a domestic area attested to by the sizable refuse pits, poorly preserved mudbrick walls, and pits filled with ash and organic remains and is dated to the LB IIB. This domestic area was built atop a Middle Bronze Age temple, and there is no recorded destruction event in area K at the end of the Late Bronze Age. In Area B, Stratum B7 a fiery destruction of a mudbrick building which is dated to the end of the Late Bronze Age, was uncovered under the Stratum B6 structure (Oren 1993a: 100; 1997: 475). However, an exact date is not given for this destruction event. Additionally, there are very few clues to help come to an understanding of what might have caused this, but with the absence of destruction in Area K Stratum K3, it can be said that this event was not site wide. Moreover, as destruction can only be attested to for one building in Area B, this would again point to something other than a military invasion and could possibly indicate it was either an accidental or natural fire (*id*. 1993a: 100; 1993b: 582). Moreover, this destruction in Area B appears to be so unimportant that it was not even mentioned in a later report of Tel Haror (*id.* 1997: 475).

IA I material was not found in Area K or Area L which would seem to suggest gradual abandonment of the site starting in Area L, then moving to Area K. There was a rebuilding in Area B during Strata B6–B5 which are dated to first half of the 12th century BCE after the fire of Stratum B7. In Strata B6–B5, an impressive building with a one-meter thick mudbrick wall and a nicely paved stone courtyard were over top of the burnt mudbrick from Stratum B7. However, the pottery of this phase again mainly represents a local 'Canaanite' phase where the local 'Canaanite' material culture is present before the introduction of 'Philistine' wares (Oren 1993a: 100; 1993b: 582). The excavators do note that some locally produced monochrome Aegean type pottery was found in Strata B6–B5 (*id*. 1997: 475). However, with no substantial evidence for destruction at the end of the Late Bronze Age, and that most of the pottery from these two phases were local 'Canaanite', it may still indicate a local phase continuing the Late Bronze Age 'Canaanite' settlement much like Beth-Shemesh Stratum III. This continues the trend of a local material culture phase in Strata B6–5 after a minor 'destruction' event which is followed by a 'Philistine' phase beginning in Strata B4–2 were 'Philistine' pottery made up 25% or more of the assemblage found in pits from these strata. Moreover, there is no destruction between Stratum B5 and B4 (*id.* 1993a: 100; 1993b: 582). Thus, at Tel Haror, there appears to be no real evidence for a destruction at the end of the Late Bronze Age, there is minor evidence of some Aegean style ceramics in the following IA I phase, followed by a peaceful intrusion of some 'Philistine' material culture while the dominate material culture remained local 'Canaanite'.

Keisan, Tell

Little is known about the end of the Late Bronze Age at Tell Keisan. The British expedition to the site could not pinpoint the end of the Late Bronze Age, and further excavations have found only meagre remains of Stratum 13 which is dated to the end of the Late Bronze Age. A brick building from Stratum 13 suffered some destruc-

tion attested to by debris which covered over Egyptian style pottery, White Painted wheel made III pottery, a Mycenaean stirrup jar typical of the LH IIIC, several storage jars, and three decorated jugs. However, while the site is said to have been possibly destroyed by the 'Sea Peoples', again a single building or a single room from a building with some evidence of destruction cannot be used as an indicator of site wide destruction. All this means is that any number of events either natural, accidental, or perpetrated by humans could have caused this minor destruction, but there is far too little evidence at this time to say the site was destroyed let alone by the 'Sea Peoples'. The following phase Stratum 12 does contain 'Philistine' pottery; however, with the general absence of information there is again no way to say that these people forced their way into the site (Humbert 1993: 864).

Lachish

The destruction of Lachish Level VI has been one of the most discussed destruction events with a variety of theories proposed as to how the city came to its final end and who or what might have brought it about. With the wealth of information available from the site, it is possible to come closer to a conclusion of what might have caused the destruction event at the end of Level VI and also Level VIIA which has recently been given the possible attribution of destruction by the first wave of 'Sea Peoples' by Cline (2014: 119). A general site wide destruction is attributed to Level VII at Lachish generally attributed to a war or possibly the 'Sea Peoples'; however, a closer examination of the archaeological evidence suggests a much more complicated picture. Destruction was found in both Area S and Fosse Temple III; however, no destruction was found in Area P Level P-1 (Ussishkin 2004b: 62). While it is assumed that the possible cultic structure from Area P Level P-1 was destroyed along with Area S and Fosse Temple III, there is no evidence of fire or destruction of this building. In fact, the following temple in Level VI lay immediately on top of the Level P-1 building, it followed the same orientation, was about the same size though there were different internal divisions, and the floor of the Level VI temple may have been the same as the building from Level VIIA of Area P Level P-1. What seems more likely as even the excavators suggest, is that the building from Level VIIA Level P-1 was removed in the way of the building project which turned into the Stratum VI temple otherwise known as the Acropolis Temple. It appears that the building was dismantled as there is no sign of fire (Ussishkin 2004c: 191, 193, 198; Ussishkin 2004d: 224, 261); thus, it cannot and should not be assumed that this building was destroyed. Rather it was replaced by another structure which followed the same general plan.

In Area S Level VII, a domestic structure was found with two different phases VIIB and VIIA. There was no destruction between VIIB and VIIA, and the end of this building is marked by its general destruction seemingly caused by a fire before the construction of the Pillared Building of Level VI. While this destruction and fire have been typically attributed to warfare, the evidence seems to suggest something much more mundane. In the destruction debris of this domestic structure, no evidence was found to suggest warfare. Additionally and perhaps most importantly is where the fire and destruction seems to have been worst. The kitchen. Units 3766 and 3782 Upper seem to have been a kitchen attested by the large stone blocks with flat tops placed on the floor and a tabun found in the North West corner of the room along with numerous cooking pots, millstones, polishers, and storage jars which were found sealed beneath the destruction layer. Destruction was also found in Unit 3783 which is directly behind unit 3782. Unit 3783 also had a tabun at its south wall W1017 which is the same wall shared by the tabun in Unit 3782. The destruction in Unit 3783 also sealed several complete storage jars (Barkay and Ussishkin 2004: 344, 347, 350, 351). What this destruction appears to be is a kitchen fire as both rooms which suffered fire shared a single wall which had a tabun on either side and Units 3766 and 3782 Upper appear to be a kitchen. This would seem to be the simple answer, but it is certainly not as exciting as to say it was destroyed by an enemy. However, the evidence points to an accidental fire rather than one set by an enemy. The fire in Area S Level VIIA also gives credence that the building in Area P Level P-1 was not destroyed. Why would it be that the people of Lachish did not move any of the destruction debris from Area S Level VIIA before building the public Pillared Building of Level VI while in Area P, they removed every trace of destruction from the building in Level P-1 before construction of the Acropolis Temple?

An objection to this theory that the domestic structure from Area S Level VIIA was destroyed in a kitchen/house fire would of course be the destruction of Fosse Temple III associated with Level VII by its pottery. However, again when looking at the archaeological evidence, another solution can be seen. The Fosse Temple is situated in the former Middle Bronze Age Fosse defensive structure, and thus located some distance from the settlement proper. This structure had three different phases, and there was no evidence of deliberate destruction between Fosse Temple I and II or between Fosse Temple II and III. Instead, the constant renovation of the temple should be seen

as prosperity; however, Fosse Temple III ends in destruction and was never rebuilt again (Tufnell *et al*. 1940: 19–20; Ussishkin 2004b: 62). It would appear that Fosse Temple III and the possible cultic building from Area P Level P-1 were perhaps in operation at the same time and may have shared some kind of cultic function; however, this is uncertain (Ussishkin 2004d: 261).

Found inside the destruction of Fosse Temple III were large amounts of pottery, and surrounding the shrine the excavators found vessels and ornaments of ivory, glass, faience, alabaster, scarabs, cylinder seals, and beads, all of which lay burnt and broken in a confused mass. In the Southern Niche C, thirty-five complete bowls were found. An ivory hand and eye were found in a rubbish pit outside of the temple which were possibly part of a composite statue; however, no more of this statue was found. In addition, no metal was found in the temple, no other parts of a god or goddess were found in the temple, and it seems that anything of value which was in the temple was taken out before the destruction (Tufnell *et al*. 1940: 27–28, 42). At the site of the alter it appears that this is where the fire was the fiercest. The back and walls of the shrine had been turned red like a kiln, glass had started to melt, and ivory was blackened and in some cases calcined. This suggested to Tufnell that this was a deliberate effort to destroy, and this suggestion is most likely correct (Tufnell *et al*. 1940: 27–28, 42). However, the question remains why it was destroyed. It is of key importance that after Fosse Temple III was burned, the building was left alone. No later people dug into the temple to find treasures, no other building was built on top of it, and it was gradually covered over with wash from the tel (Tufnell *et al*. 1940: 28; Ussishkin 2004b: 62). Thus, another possible explanation for this fire is a termination ritual which is why the temple was destroyed signifying the end of its function, but the god or gods were removed before destruction and why it seemed to remain sacred after the fire. It is also possibly no coincidence that directly after this fire, a grand new temple was built in Area P Level VI which Ussishkin has suggested was, "Either instead of the Fosse Temple or as a part of the royal palace" (Ussishkin 1993: 900). While it cannot be certain that these two events are correlated due to the differences in the functions of these two temples, it is at least a possibility that the cultic centre was centralized at the acropolis. Thus, the 'destruction' of Level VII at Lachish seems to be much more complicated than typically thought representing a ritual termination of the Fosse Temple III, a kitchen/house fire in Area S, and no destruction in Area P Level P-1. Therefore, from the archaeological evidence, the 'Sea Peoples' cannot be the cause of these destruction events. However, what of Level VI and this destruction event?

As stated before, the possible cultic structure from Area P Level P-1 was removed and replaced by the so-called Acropolis Temple as it possibly stands on the edge of the site's acropolis. It is otherwise known as the Level VI Temple (Ussishkin 2004b: 62; 2004d: 216). The Acropolis Temple is made up of a main complex with an antechamber, main hall, and cella and the temple includes a number of subsidiary units, and an annex building. Both the cella and the antechamber were poorly preserved; however, despite this, a number of finds came out of the temple which demonstrates the wealth and effort put into its construction (*id*. 2004d: 216, 247). Cedar of Lebanon was used in the temple's construction; however, this appears to have been reused from the MB II Level P-4 palace (*id*. 2004b: 63). Two large columns bases were found which would have supported rock cut octagonal columns, and in the eastern part of the hall, they found painted fragments of plaster (*id*. 2004d: 224, 236, 245). The paint was mainly in light blue, but black, white, red, and yellow were also found, and some of the red paint was found attached to the Cedar of Lebanon. In another area of the temple, the excavators found a piece of gold foil and gesso which might have been used to help the gold foil adhere to the wooden beams. One of the temple's niches, Niche 3323, the excavators found imported ivory panels, glass objects, decorated ostrich shells, scarabs, calcite-alabaster vessels, beads, a bronze axe, a beaten gold plaque with the image of a naked Canaanite-Egyptian goddess standing on the back of a horse, and pottery vessels (*id*. 2004d: 254, 267; 1993: 901). All of these finds attest to the amount of effort, time, and money put into this temple; however, it came to a fiery end.

The Level VI Temple was burned. Burned and charred beams were found in the structure and the floor of the temple was either partially or wholly covered by fallen debris. Fragments of the octagonal pillars were found broken and dispersed. However, many of the temples valuable objects appear to have been taken out before the fire. As Ussishkin states, "The temple paraphernalia had been looted, but that which remained, concentrated in Storeroom 3162, the south-eastern corner of the main hall (Locus 3127) and Niche 3323" (*id*. 2004d: 267). The majority of the cultic paraphernalia that remained and special finds such as the ivory and beaten gold plaque were found in a store room in the north east section of the main hall, which Niche 3323 was a part of. According to the excavators, this gold plaque appears to have been torn of the wall, crumpled and thrown aside. In addition to this, an alabaster vessel was found broken, but the pieces were found scattered

in several different loci all of which according to the excavators attests to the end of the temple (*id*. 2004d: 216, 267). However, I will return to the Level VI Temple after discussing the destruction found in Area D, Area GE and Area S in order to have a full picture of what happened at the end of Level VI.

Area D has been ascribed as part of the destruction of Level VI. It appears that in Square U/11 of Area D there was a domestic structure with a plastered floor. Found on this floor associated with the end of Level VI was broken pottery, and a partial skull of a young woman (Ussishkin 2004e: 302; Smith 2004: 2504). These were said to be found under destruction debris, but there was no mention of any signs of fire. In Area GE a possible gate house from Level VI was found destroyed under the later building activates from Levels IV and III (Ussishkin 2004b: 70–71). However, little else is said about this destruction due to the distorted nature of this level because of the building projects in Levels IV and III.

Area S seems to relate the most tragic tale from the end of Level VI as four skeletons were found in the destruction debris from the Level VI Pillared Building (Smith 2004: 2504–2507). This Pillared building was built on top of the burnt remains of the domestic structure from Level VII though some poor remains found between the Pillared Building and Level VIIA possibly indicating there was another structure. The Pillared Building was made up of three fifteen meter long halls, one of which is columned, and due to the amount of mudbrick and debris found, it is believed the structure may have had a second story. While the Level VI Temple was rich in Cedar of Lebanon, the Pillared Building was mainly constructed of local olive wood and some local oak wood suggesting less effort and money went into this structure. There were at least two and possibly three phases of this structure. The first is interpreted as a public building as such finds as an Egyptian 19th–20th Dynasty scarab depicting the pharaoh hunting, a large bronze spear head, a piece of gold jewellery, a plaster object covered in gold foil, an ivory comb, and ivory hand which may have been part of an anthropoid figure all have been interpreted as being part of the public building. The final phase of the building is markedly different than the first. It appears that the building became a domestic structure in its final phase before destruction. Tabuns were found in three units, domestic pottery was found in the structure, no imported Cypriot or Mycenaean wares were found, a small stone wall seems to have been added to the courtyard of the Pillared Building, and it is assumed by the excavators that this represents refugees living in the city (Barkay and Ussishkin 2004: 352, 355, 357–358). Zuckerman has already rightly pointed out that this is a clear sign of crisis architecture (Zuckerman 2007: 9–10). However, this crisis architecture stands in stark contrast to the lavish Level VI Temple.

The Pillared Building was burned, sealing the remains in the structure. In this debris, four skeletons were found. These was one woman 40–50 years old, an 8 year old child, a 2–3 year old child, and an infant aged 6–8 months. Parts of the woman's and 8 year olds bodies were missing apparently because they were exposed to the elements or were possibly scavenged. The bones of these four individuals were very fragile and it was difficult to determine if they had undergone any blunt force trauma which would have caused death. With this being said, from what could be seen the individuals were not killed, rather they died in the fire. The bodies of the 2–3 year old and infant seem to have either been thrown to the ground before death, fell to the ground, or perhaps in the case of the 2–3 year old died crawling on the ground (Smith 2004: 2504–2507). All of this would seem to indicate death by smoke inhalation.

With all of this information from Areas P, D, GE, and S Ussishkin has come to the conclusion that the site was burned in a military attack by the 'Sea Peoples' (Ussishkin 2004b: 72). He states that, "The destruction was complete, the population apparently liquidated or driven out of the site" (*ibid.*: 70). However, despite claiming that this destruction layer was caused by the 'Sea Peoples' and a military attack he states, "Significantly, no remains of a battle were uncovered, apart from a single bronze arrowhead perhaps attributable to battle" (*ibid.*: 70). In addition to this, there is no evidence of LH IIIC:1b pottery at the site after destruction of Lachish (*ibid.*: 72). With the destruction of the city, it was then abandoned for nearly 300 years meaning there is absolutely no evidence for destruction by the 'Sea Peoples' (Ussishkin 2004b: 72; Barkay and Ussishkin 2004: 361). Cline has recently reexamined the evidence from the Level VI destruction of Lachish and has come to the conclusion that while there is no evidence for destruction by 'Sea Peoples' he cites the supposed looting of the Level VI Temple as evidence for human military activity (Cline 2014: 118–121).[26] However, the story of

[26] He also states there is no evidence of destruction by earthquake.

the end of Lachish Level VI is again much more complicated than what it appears to be.

Beginning with the Level VI Temple, it does appear that there was some human activity involved before the structure was burned. However, exactly what this was is difficult to say. The excavators maintain that the temple was looted before being destroyed seemingly by the invading army. However, given the nature of the evidence it is a difficult case to prove that these materials were looted rather than taken out by the inhabitants of the city before it was destroyed. Either remains a possibility as it is possible the items were looted; however it is also as likely that they were removed by the local people before destruction. The archaeological evidence points solely to human activity not to what kind of activity this was. Secondly, in Area D and GE, there is far too little information to learn much about what happened at the site. While a partial skull was found in Area D Square U/11, the rest of the body seems to have been scavenged or did not survive much like those in Area S. However, we can ask if this partial skull was *in situ* or if perhaps an animal had scavenged another body and brought it there.

Returning to Area S and the Pillared Building, we must first consider its nature as a public building. The Egyptian 19th–20th Dynasty scarab depicting the pharaoh hunting, a large bronze spear head, a piece of gold jewellery, a plaster object covered in gold foil, an ivory comb, and ivory hand which may have been part of an anthropoid figure all have been interpreted as representing the public nature of the building. Additionally, the poor remains from the final phase and the bronze arrowhead are interpreted as being the remains of the refugees' camp and the battle which took place in the city. However, this is only an interpretation as all of these artefacts and the four skeletons were found under the same destruction debris on the same floor (Barkay and Ussishkin 2004: 364)! This is even clearly stated, "Although all the finds in this stratum [Level VI Area S] were sealed by the destruction debris of its final destruction, there are some that by their nature seem to belong to the earlier phases of the building" (*iid*. 2004: 357). Locus 3612 included not only the artefacts attributed to the public phase of the building, but it also contained the bronze arrowhead, and the skeletons of the 2–3 year old and the 6–8 month old infant (*iid.* 2004: 357, 363). Thus, it is quite possible that any of these artefacts were from the last phase or from the first phase as it is an interpretation that they are in two separate groups. However, we can ask that if the public building was changed to a refugee house, why would such valuable objects be left in the building? Moreover, as the bronze arrowhead could come from either the first phase or the last phase of the Pillared Building, it means that the only visible evidence of warfare is muted.

Who though were the people living in the Pillared Building from its final phase before destruction? The excavators believe that, "It must have been occupied by refugees, probably shortly before the catastrophe that befell the Level VI settlement" (*iid.* 2004: 358). It is believed that these people came from surrounding sites which were destroyed by an invading force roughly at the same time, and they fled from their towns and cities to Lachish (Ussishkin 2004b: 70). However, which sites are these that were destroyed in the face of an oncoming enemy? According again to the excavators it was Tel Batash/Timnah, Beth-Shemesh, and Tell Beit Mirsim (Dagan 2004: 2697). As I have already demonstrated, Tel Batash was not destroyed at the end of the Late Bronze Age, and there is no evidence to say that either Beth-Shemesh or Tell Beit Mirsim were destroyed by an enemy force. Moreover, if these people were really refugees, we can assume that they would have brought their most valuable or cherished goods with them. For example, they might have brought an Egyptian 19th–20th Dynasty scarab depicting the pharaoh hunting, a large bronze spear head, a piece of gold jewellery, a plaster object covered in gold foil, an ivory comb, or ivory hand which may have been part of an anthropoid figure. Again, this only goes to demonstrate that these objects could have been from either phase of the building, and in addition, we do not know where these people came from or why they started to live in this building. It is possible they were refugees, but it is also just as likely that they were local people.

What then was the cause of the destruction of Level VI at Lachish? There is no easy answer to this question as there is a conflicting set of data. From the Level VI Temple, it appears there was some kind of human activity in taking objects out before it was completely destroyed. Whether this was looting or panicked citizens taking whatever they could is unknown. Throughout any of the buildings which suffered destruction, there is no evidence for warfare as the single bronze arrowhead could have come from the first or last phase of the Pillared Building, and the people who died in that structure were not killed, rather they died in the fire. The Pillared Building does have clear signs of crisis architecture, but this is not true of the entire site and is in contrast to the Level VI Temple. Additionally, Ussishkin notes that throughout the Level VI remains, there was a higher proportion of land snails which Bar-Yosef Mayer states could be an indication of abandonment as land snails are more populace at abandoned sites

(Barkay and Ussishkin 2004: 361; Bar-Yosef Mayer 2004: 2495). Thus, a possible hypothetical interpretation of all this evidence is that the Level VI Temple was destroyed first before it could be transformed into a habitation area like the Pillared Building. Lachish then underwent a period of decline and abandonment where the Pillared Building was inhabited by either former residents of the city or perhaps others who took advantage of an abandoned structure such as refugees. The Pillared Building then caught fire accidently trapping, what was most likely a family inside and this fire could have spread throughout any remaining standing structures or where combustible material was present. With that being said, this is speculation, and there is in my opinion still no definitive answer for what caused the end of Lachish Level VI.

Sippor/Zippor, Tel

Tel Sippor[27] is another site which should be taken out of any mention of destruction at the end of the Late Bronze Age. Stratum III has typical end of the Late Bronze Age 'Canaanite' pottery and imported Mycenaean wares. A possible 'Canaanite' cultic building was found in Stratum III. It had a raised mudbrick platform, and found inside was the bronze statue of a god and a stone statue which most likely depicts a 'Canaanite' king (Biran 1993: 1527; Biran and Negbi 1964: 285). In another building from Stratum III there was a sever fire as the rooms were found filled with ash and burnt material up to half a meter. The bricks in the lower course were burnt until they were black and brittle and tests show that most of the burnt material in these store rooms was plant material (Biran and Negbi 1965: 256). This would most likely indicate a storeroom of combustible materials which caught fire, but which was managed by the local people. In addition, the excavators clearly state several times, the site did not end in warfare or in destruction. A plastered floor was laid on top of the 'Canaanite' cultic building with no evidence of destruction in between (Biran and Negbi 1964: 285; 1965: 256; 1966: 163). They state, "It can thus be definitely stated that at Tel Sippor the Philistine occupation follows the Late Bronze Age immediately or after a brief interruption" (*iid*. 1964: 285), and, "The result of this season's excavation confirmed the conclusion that the Philistine settlement on Tel Sippor did not bring in its wake the destruction of the Canaanite settlement which preceded it… the Canaanite remains were discovered immediately beneath the Philistine floors, with no trace of fire or destruction intervening between the two" (*iid*. 1965: 256), and, "Here again, no evidence of fire could be detected below the plastered floor of Stratum II, which sealed the remains of Stratum III" (*iid*. 1966: 163). Moreover, while Stratum II does contain 'Philistine' ceramics much of the ceramic assemblage represents a continuation of the local pottery from the Late Bronze Age (Biran and Negbi 1966: 163; Biran 1993: 1527). Additionally, the people of Stratum II continued to use the 'Canaanite' cultic area by constructing a building very much according to the same plan as that from Stratum III (Biran and Negbi 1964: 285). This would seem to indicate that rather than a large group of 'Philistines' taking over the site, there was again a peaceful intrusion of 'Philistine' material culture, and the local people continued to live and worship at the site in a similar way as they had in the Late Bronze Age. Thus, again, Tel Sippor was not destroyed at the end of the Late Bronze Age, and it only again demonstrates a peaceful intrusion of 'Philistine' material culture into a local 'Canaanite' town.

Zeror, Tel

The final site under discussion is Tel Zeror. From the final Late Bronze Age 'Canaanite' site two strata are identified being from 1250–1200 BCE. These are Stratum XII from the northern section of the site and Stratum 9 from the Southern section. In stratum XII a building with a lime stone floor was uncovered, and on top of this floor were some burnt beams. However, from both Stratum XII and Stratum 9, this is the only evidence of destruction at the site from the end of the Late Bronze Age (Ohata 1966: 22, 25, 29). The excavators state, "Although the lower city [Stratum XII] seems to have been taken by force, the contrary is true of the acropolis where a desertion of the palace is indicated by the absence of ashes and debris and the paucity of finds" (Ohata 1966: 29). However, in the original report, they stated, "At the end of the Late Bronze Age (thirteenth century BCE) the city was abandoned. Only the remains of the brick walls, standing sometimes to a height of 1.5 m. or more, were found in this stratum. Grinding stones and other stone vessels were too heavy to carry, a golden earring, and sherds of pottery are the only testimony left of the culture of the last Canaanite city" (Ohata and Kochavi 1964: 284). With a lack of any evidence for

[27] Also spelled Zippor.

warfare in the lower city, it seems that whatever fire took place there was either natural or accidental and most likely occurred after the abandonment of the site. Thus again, Tel Zeror should be taken off the list of sites destroyed by the 'Sea Peoples' or any other group as it appears to have been abandoned suffering a natural or accidental fire.

Moreover, in the following Early Iron Age IA strata XI and 8, the pottery again represents a continuation of the local ceramic tradition from the Late Bronze Age though with a cessation of decoration along with an absence of 'Philistine' ceramics (Ohata 1966: 24–25; 1967: 18; 1970: 3, 13). A burn layer was found between Stratum 8 and Stratum 7; however, because there was an absence of structures from Stratum 8 it is believed that it was a wooden village or perhaps consisting of tents and huts. While the excavators believe this could be a sign of attack by 'Philistines' or 'Sea Peoples', there is again a lack of evidence for warfare. Moreover, once again, in Strata 7–5 the excavators found some 'Philistine' material culture along with a continuation of the local material culture (Ohata 1966: 25, 29–30). Thus, once more, we find a site which was abandoned or suffered a minor fire, had a single phase of local 'Canaanites' inhabiting the site, followed by a phase where local 'Canaanites' lived with people who brought with them 'Philistine' material culture.

Conclusion

The purpose of this study was to examine an area of scholarly research that has all but been ignored other than by a few select researchers. This is of course the study of destruction layers, their formation, and implications. Many have discussed, referenced, and spoken about the great calamity which took place at the end of the Late Bronze Age speaking of the many sites destroyed. In this case, sixteen sites have been listed as being destroyed by the 'Sea Peoples' or the expansion of the 'Philistines' in Israel during the Early Iron I. These sites are: Tell Abu Hawam, 'Afula, Aphek, Ashdod, Ashkelon, Tel Batash/Timnah, Tell Beit Mirsim, Beth-Shemesh, Tel Dor, Tel Miqne/Ekron, Tell es-Safi/Gath, Tel Haror, Tell Keisan, Lachish VIIA, Lachish VI, Tel Sippor, and Tel Zeror. However, to date, this is the first time all of this sites were examined with a theoretical lens to try and understand what might have happened to these sites at the end of the Late Bronze Age and Early Iron Age to determine what might have caused their destruction. These are the results from these sixteen sites.

Tell Abu Hawam[28] and Tell Keisan have too little remains as of this point to determine what might have caused their destruction or if there was any destruction at all. In the cases of Tell Abu Hawam, and Tell Keisan, it is unclear if there was even a site wide destruction or if only parts of the fortification at Tell Abu Hawam or part of a building at Tell Keisan suffered a fire. Both Tel Dor and 'Afula have no evidence of destruction at the end of the Late Bronze Age as the Late Bronze Age settlements have yet to be uncovered or were sparsely uncovered. However, at 'Afula, the first Iron Age settlement was local 'Canaanite'. This was followed by some burning in one datable building and then the introduction of a peaceful intrusion of 'Philistine' material culture while the local material culture also remained present. Recent excavations at Tell es-Safi/Gath, point to that the site was not destroyed at the end of the Late Bronze Age and was perhaps abandoned. Aphek is the only site where it can be concluded that the end of the Late Bronze Age ended in a military attack against the fort or palace. However, following the destruction of the fort or palace, there was a local 'Canaanite' phase, which was then followed in the next phase by a peaceful intrusion of 'Philistine' material culture while the local material culture also remained present. Ashdod demonstrates only partial evidence for destruction which was most likely a fire, as there is no evidence for warfare. The Late Bronze Age city was followed by an immediate influx of 'Sea Peoples' material culture, but this was alongside local 'Canaanite' material culture. The same can be said of Tel Haror which has very little evidence for destruction, and demonstrates the continuity of the local "Canaanite ceramic tradition with some Aegean style sherds found in the assemblage. At Ashkelon,[29] Tell Beit Mirsim, Beth-Shemesh, Tel Miqne/Ekron, and Tel Zeror there was a partial destruction or burning of a single building at the site. However, at each of these, there was no direct evidence of warfare. Moreover, at each of these sites the following phase after the Late Bronze Age 'destruction' was a continuation of the local 'Canaanite' material culture.[30] This was then followed by another phase where there was a peaceful intrusion of 'Philistine' material culture as no

[28] As mentioned above, M. Artzy confirmed Tell Abu Hawam had no destruction at the end of the Late Bronze Age.

[29] Referring to the ash layer found by Phythian-Adams which from the current excavations does not appear to be a destruction layer at all.

[30] In the case of Ashkelon this was an Egyptian style fort.

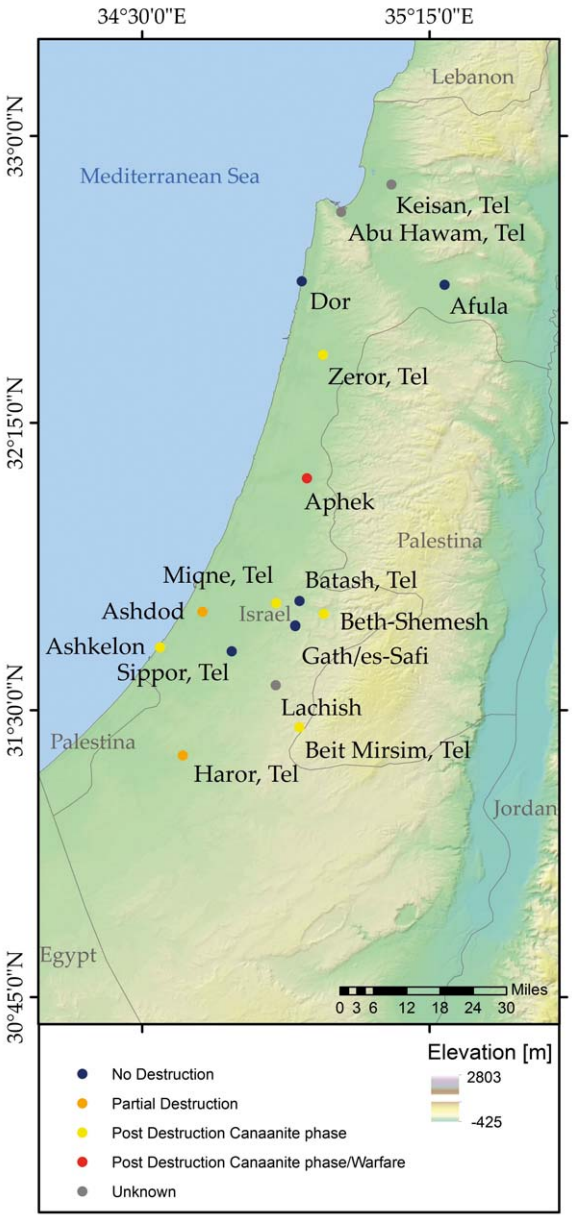

Fig. 2 Summary of 'Destruction' in the Southern Levant

destruction was found between the post-destruction and 'Philistine' strata. In addition, the local material culture also remained present in the 'Sea Peoples' or 'Philistine' phase and was often the dominate material culture. Lachish Level VIIA seems to be representative of a kitchen/house fire in Area S, and a ritual termination of the Fosse Temple III. The end of Lachish Level VI is by far more difficult to determine, and at this point in time there is no clear answer what caused the destruction and end of the Level VI site. Tel Sippor underwent no destruction at the end of the Late Bronze Age other than the burning of a single building. There was again a peaceful intrusion of 'Philistine' material culture while the local people continued to manufacture their own material culture, and reused the Late Bronze Age 'Canaanite' cultic area in much the same way as before.

From this survey, it is clear that several assumptions about not only the 'invasion of the Sea Peoples' but

also the end of the Late Bronze Age in the Southern Levant appear to be misguided. While the end of the Late Bronze Age is typically described as one of violence and destruction, this survey demonstrates that at least for these sites, it was a time of decline, the continuation of local customs, and the peaceful intrusion of some 'Philistine' or 'Sea Peoples' material culture into 'Canaanite' sites. It is a far less violent image than often times pictured as a critical study of the destruction layers has yielded that many do not exist. These include the end of the Late Bronze Age destruction of 'Afula and Dor which have not been found. Ashkelon, Tel Haror, Tel Sippor, and Tel Zeror[31] only show minor burning which can hardly be considered a city wide destruction, and the 'destruction' of Tel Batash/Timnah, does not exist in the actual archaeological record. Moreover, much as with any of these destruction events from the end of the Late Bronze Age throughout the Eastern Mediterranean, each site was destroyed at a different time with a conservative estimate that all of these sites suffered a destruction within twenty-five years, though fifty years would seem to be more likely. This would mean that one site could have been abandoned or burned every several years, and it is doubtful that all of them suffered the same fate at the same time. In addition to this, the six sites which had a post Late Bronze Age 'Canaanite' settlement could not have had their destruction layers caused by some kind of invading army. That is, unless we are to believe this army came out of nowhere, destroyed all the sites, and then did not inhabit any of them. If it is to be believed this was done by the 'Sea Peoples', why would such a powerful people destroy these sites, let the local population come back and live there for twenty-five or fifty years before peacefully moving into the site. This does not seem to be a reasonable explanation.

Despite this, it is still often assumed that these destruction events must have one uniform cause or had to have happened in a very short period of time and should indeed be correlated with Medinet Habu inscriptions. This scholarly phenomenon has been called by Puglisi (2013: 177) the Atlantis Premise, "That is an unconscious premise according to which destructions related to a radical historical change or, more specifically, to the disappearance of a highly developed 'civilization,' like mythical Atlantis, have to be put in a very short, archaeologically undetectable, time span. As a corollary, the evidence of an immediate small scale reoccupation of a site experiencing a previous final destruction, may be easily neglected or mistaken as evidence resulting from the earlier occupation." The 'Atlantis premise' has played a large role in the 'Sea Peoples' invasion model, and it is most likely the reason why the 'post-destruction' local 'Canaanite' settlements were ignored. As Puglisi (2013: 178) also points out, the "Atlantis premise" causes scholars to lose the perception of gradual development of cultural change over time. In the case of the transition from the LM IB to the LM II on Crete, he states, "The 'Atlantis premise' forces this very complex cultural event into a short span of time, in such a way to suggest that the only available explanation was an immediate, as well as unlikely, physical replacement of the original population with invaders speaking a new language" (*ibid.*: 177). This is a very similar explanation for the appearance of 'Philistine' material culture in the Southern Levant which also caused certain factors to be over looked such as evidence for crisis or that these events took place over at least a fifty year period of time if not more.[32]

A lack of wide spread destruction has also been demonstrated in other studies of historically important destructions horizons. Boehm (2013: 319–325), has demonstrated that the *synoikismos* in the later 4th and 3rd centuries BCE in northern Greece and western Asia Minor had far less destruction and there was an overwhelming lack of evidence for wide spread destruction despite the traditional view based on the texts which dictates that there must be wide spread destruction. Jodi Magness (1993: 43, 53, 66–71, 86–88, 90–91, 118) also found that the destruction events associated with the Muslim conquest of Palestine were often times assumed to have taken place at the same time even when some were misdated by more than a century. Thus, it should not be surprising then to find that upon re-examination of 'Sea Peoples' destruction events to find that there is a different picture than what is typically presented.

Another question this study raises is, why did Egypt's control over Israel come to an end? Many have previously used the 'invasion of the Sea Peoples' as the

[31] Tel Haror, Tel Sippor, and Tel Zeror do show some minor burning. However, Tel Haror has destruction in only one building which was the same at Tel Sippor as destruction was only in one building, and at Tel Zeror, the upper city was abandoned without any burning whatsoever.

[32] See also A. Snodgrass's (1987: 36–66) discussion on destruction and the inherent theoretical problems with associating historical events with archaeological findings.

means by which Egypt's control over Israel came to its end (Weinstein 1981: 22–23; Ussishkin 1985: 224; Redford 1992: 244–255; Bietak 1993: 292–301; Falconer 1994: 308; Stager 1995: 332–346; Ussishkin 2007: 603-604; 2008: 206–212). However, as this survey has shown, at least for the sites studied here, there is only evidence for destruction by warfare at Aphek; however, the destroyers of the Egyptian palace or fort there cannot be assumed to be the 'Sea Peoples' as there is no evidence for this. This survey certainly does not include all sites under Egyptian control or hegemony, but from what I can demonstrate here is that if those sites commonly said to be destroyed by the 'Sea Peoples' were in fact not, this would go against the theory of warring 'Sea Peoples' being the cause of Egypt losing its control over the Southern Levant. In fact, the Medinet Habu Year 8 reliefs already have pointed to this as they do not mention any destruction taking place in the land of Canaan (Cline and O'Connor 2003: 136). This has always stuck out, yet it was assumed it was not mentioned that this massive amount of destruction by warring 'Sea Peoples' took place before the final battle with Egypt. However, the archaeological evidence supports the fact that there was not enough destruction by warfare for it to be mentioned in the reliefs and texts or that the 'Sea Peoples' caused no destruction in Canaan. The idea that the 'Sea Peoples' caused this destruction is supported neither by the archaeological evidence nor by the textual data concerning Egypt's view of how the 'Sea Peoples' came to the land. This means we must reconsider the role of the 'Sea Peoples' influx into the region and the end of Egyptian control over Canaan as the two may not be correlated. With all that being said, the study of destruction layers is still in its infancy and requires many more years of research. However, with this research, we may be able to come to a better understanding of how sites came to an end, why they did not end, to challenge long held assumptions, and to aid in future excavations of 'destruction' layers.

One such area that requires attention is not only how to interpret a destruction layer but also how to describe it. Terms such as 'violent destruction', 'violent fire', or 'sever conflagration' are employed to describe a destruction event. However, these words and phrases are often used when they should not be. The word conflagration means, "An extensive fire which destroys a great deal of land and property".[33] However, this word is generally used in archaeological publications to describe destruction events which do not fulfil the definition of the word such as the thin layer of burnt organic material found in building XXVIII at 'Afula which was described as a conflagration (Dothan, M. 1955: 35). This and many other times this word is used to describe a destruction event is misplaced and misused giving a different idea of what happened than is actually represented in the archaeological record. The same is true of using the term 'violent'. This word is added to describe a fire or destruction but what is the difference between a violent fire or violent destruction from a regular fire or destruction? The short answer is that there is none; however, the word is used to be more illustrative rather than helping to describe the actual event as there has been very little research to determine what the difference would be. Thus, we must invent a method of describing these events rather than using words which can give a false impression of what was found in the archaeological record. I hope that this study along with others such as Sharon Zuckerman's investigation of destruction will start a fruitful discussion of how to excavate, interpret, describe, and research the many different types of destruction events.

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[33] Oxford Dictionaries. http://www.oxforddictionaries.com/definition/english/conflagration. Accessed 11.08.2014.

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Some Notes on Philistines, Migration and Mediterranean Connectivity

Assaf Yasur-Landau

"… as the question is not so much whether people migrated in the past, as they clearly did, but rather what kind of migration, at what scale, and how and why did it differ between times and places?" (van Dommelen 2012: 395)

Abstract

The aim of this short paper is to try to plot some of the recent advances in the theoretically informed study of the Philistines, and put it in the context of the recent studies of intercultural contact and migration in the Mediterranean. It will be argued that a theoretical framework dealing only with migration and its identification in archaeology may not be enough in the complex cultural reality of the Mediterranean. There, connectivity takes numerous forms in addition to migration, as the multiple aspects of trade, raids, piracy and more. Two cautionary tales from historical sources of the second millennium BCE, that of Alashiyans in Ugarit and of activities in the port of Avaris are used to illuminate this problem.

Back to the future in the study of Philistine material culture

This aim of this short paper is to try to plot some of the recent advances in the theoretically informed study of the Philistines, and put it in the context of the recent studies of intercultural contact and migration in the Mediterranean.

The opening point to writing this article was the question whether there is a revival of the post-processual 'immobilist' position toward migrations in archaeology (Hakenbeck 2008) visible in the study of the Philistine material culture. Upon reading recent articles by Bauer (2014) and Middleton (2015) I was filled with a nostalgic feeling that we are back in the 1990s and that Sherratt (1998) and Bauer (1998) were only now offering an alternative to Dothan's (1982) reconstruction of the mass migration of the Philistines. While anthropological approaches to the study of migration were already used by Stager (1995) in his study of the Philistines, the early contributions by Sherratt and Bauer were of tremendous importance when published, sparking a vivid methodological discussion on the identification of migration versus trade in the archaeological record (e.g. Barako 2000; Dothan and Zukerman 2004). Still, it may have been expected that Middleton and Bauer's discussions will benefit from the past seventeen years of advances in archaeological method and theory regarding the archaeology of migration. Astonishingly, in these articles determined to debunk a theory of migration, there is no mention, nor any use, of any theoretical framework used to identify migration in world archaeology as well as in the archaeology of the Mediterranean, from Anthony (1990) and Burmeister (2000) to van Dommelen (e.g. 2005; 2006), Hakenbeck (2008) and Dietler (2009) to name but a few (and see most recently van Dommelen 2014). To my mind, these studies cannot be pushed aside as "migrationist literature" (Middleton 2015: 46). It is impossible to reject an archaeological reconstruction without first examining its theoretical foundation, no matter what one's position may be on the possible death of archaeological theory, most likely prematurely lamented (Bintliff and Pearce 2011). In fact, current treatments of the 'Philistine problem' are a very far cry from 19th-century-inspired colonial narrative implied by Middleton, but produce nuanced, theoretically aware insights into processes of interregional interaction and intercultural contact (e.g. Faust and Lev-Tov 2011; Yasur-Landau 2011; Maeir *et al.* 2013). The feeling of nostalgia for the 1990s was enhanced by the fact that the bulk of Middleton's discussion of the material culture in Philistia was conducted according to single traits (e.g. "pottery and nomenclature", "figurines", "hearths", etc.) rather than dealing with complete assemblages and with behavioral patterns connected with the use of several categories of objects in the same, often domestic context (e.g. Yasur-Landau 2012). In some respects this approach can be compared with the 'checklist approach' of material culture traits that characterized

discussions of material culture from sites in Philistia in the 1990s, when more complete 12th-century BCE assemblages began to be excavated and first presented from Tel Miqne-Ekron and Ashkelon, and previously excavated assemblages from Ashdod received fuller publication.

The retreat from hybridization (and creolization, and entanglement)?

The widespread use of the term hybridity, after a climax in the last decade, seems to be now in almost full retreat, some of its uses facing harsh criticism (Stockhammer 2012a). This term, born of postcolonial studies, had considerable merit in several studies: thus it was successfully used to investigate the Late Bronze Age International Style by Feldman (2006). Furthermore, the use of this term in tandem with insularity in Knapp's (2008) analysis of Cypriot society in the Bronze Age was of illuminating value in explaining long-term processes and their manifestation in material culture.

Interestingly, Homi Bhabha's (1994) definition of hybridity as an adaptive strategy of the subaltern in situations of colonial oppression has not been, to the best of my knowledge, used in the archaeology of the southern Levant, despite its great potential value in the impact of asymmetrical power relations between groups on the material culture. Thus, one may envision a study of phenomena of Egyptianizing in the material culture Late Bronze Age Canaan as many distinct phenomena of hybridization caused by the reactions of varied strata of Canaanite society to the rule of the 18th and 19th Dynasty Pharaohs.

However, taken outside its original meaning in postcolonial discourse, hybridity runs the risk of being used as essentially a catch-all phrase describing forms of cultural 'mixture'. As such, it is not a useful diagnostic term for identifying social interactions, as amply put by Dietler: "If archaeologists naively assume that every colonial situation can be reduced to a process of hybridity, then the term loses its explanatory content and ceases to explain anything. It loses its power to inform us about the diversity of processes clustered under the rubric of *colonialism*…" (Dietler 2009: 30). Similarly, Stockhammer (2012a: 53) argues that "although the concept of hybridization is a useful tool to analyse the processes triggered by the encounter with otherness, I do not see its use for distinguishing colonization from other processes of socio-cultural interaction." In the discussion of material culture change in 12th century Cyprus, Knapp paints a nuanced picture of varying degrees of change in different material culture traits, from pottery to metalworking, and relating to the form of interactions causing them, whether it be colonization or socio-political change. The use of the term hybridization in this study indeed creates a rich tapestry of material culture change after being influenced by Cypriot, Aegean, and southern Levantine traditions alike, but does not contribute to the identification of the various mechanisms of cultural contact that created these changes. While Knapp is certainly right by saying for 11th century Cyprus "… social exchange, migration, hybridisation – had been under way for at least 200 years" (Knapp 2009: 231), the theoretical framework needed to differentiate between these interactions, apart from a rejection of the colonization scenario, is not provided in the article. The somewhat offhand use of the term hybrid to describe a change in pottery in Philistia (Middleton 2015: 51), described as a *bricolage*, created to suit the desires of the local inhabitants, does not have any explanatory value. Rather, the use of this creates a smoke screen that hides different forms of interaction. It thus hinders the understanding of the intricacies and differences in the process that lead to material culture change manifested in the ceramic record. It may therefore be bluntly argued that without another theoretical framework that will identify the cause of hybridity, the explanatory value of the term is almost nil, merely stating that some interaction has occurred, and resulted in material culture change.

The concept of Creolization was also sometimes used, and came under criticism, to describe processes resulting in cultural 'mixture' (Hitchcock 2011). It may be broadly defined as "… the forms and dynamics of cultural change that occur over time as phenotypically, religiously, and culturally heterogeneous peoples come into what is commonly known as 'culture contact' and undergo the acculturation that it engenders or demands." (Khan 2007: 653). This concept, like hybridity, originated from a specific term, Creole meaning becoming localized in the Caribbean (Fog Olwig 2007: 668), and became much more inclusive, losing much of its meaning in the process.

The shortcoming of both hybridity and creolization for the analysis of material culture change were addressed by the use in tandem of the concepts of appropriation and entanglement; the latter becomes in vogue following works of Hodder (e.g. 2012), yet is used before to denote the complexity and multi-faceted nature of early colonial encounters (Dietler 2009: 30). Again, as in the case of hybridity, entanglement can be viewed as too general a concept to offer sufficient explanatory value. In an effort to amend this situation, Stockhammer (2012a: 46–50) distinguishes between 'relational entanglement' in which a foreign object

becomes imbued with new meanings, and 'material entanglement' in which a new object is made, which combines the familiar with the foreign. This justified tendency to move from the general catch-all phrase to narrower definitions, even a typology, is a direction that may well prove useful.

Work on appropriation following a situation of intercultural contact between the Aegean and the Levant have been carried out by Yasur-Landau (2005; 2008) and Stockhammer (2012b), elaborating on the mechanisms of consumption of Aegean pottery in the Levant, with special attention to culturally specific behavioural patterns connected drinking habits affecting the use of Aegean wares. Work by Hitchcock and Maeir (2013) has used the concepts of appropriation and entanglement to address several features of material culture in Philistia and in Cyprus. Their study is innovative in the way that they go beyond the identification of the entangled object, into an attempt to reconstruct the mechanism which created the entanglement and appropriation: Thus, following previous works on appropriation, they have argued that following processes of appropriation which already existed in both Canaanite and Aegean society in the 13th century, the use of the deep bowl and krater in 12th century Philistia would have appealed to both migrant and indigenous elements in the Philistine culture (*ibid*.: 53). Similarly, manufacture of anchor seals, showing Cypriot influence combined with Aegean sealing practices, was explained as resulting from the absence of migrant seal carvers from the Aegean (*ibid*.: 55). The rare appearance of 12th century horned altar in Ashkelon (Master and Aja 2011) was attributed to a long process of cultural 'Chinese whispers', in which the idea of a horned altar was transmitted from Crete to Cyprus and from Cyprus to the southern Levant (Hitchcock and Maeir 2013: 55–57). Missing from this reconstruction are two components existing in the previous analyses of both drinking wares and seals: the proposed agents of this process of cultic innovation occurring in the 12th century, and the reason why such innovation is accepted. Perhaps surprisingly, after providing several mind-provoking scenarios which include migrants, and potential mechanisms active in the interaction between migrants and locals, the article ends with a disclaimer which dismisses its own value for the identification of the interregional interactions that created the Philistine material culture: "what the Philistines became is ultimately more interesting than the multiple 'wheres' from which they originated" (*ibid*.: 58). Nevertheless, this study can set the ground for future study that will also include the parameters of the frequency of appearance, status ascribed and the chronology of the appearance of each of these traits, and can thus present an even richer picture of variety in interactions causing change: the Aegean-style drinking pottery is found in every house excavated in Philistia from the 12th century on. It was mass-produced and consumed by thousands of peoples, apparently of all strata of society. The conical and anchor seals are much more prestigious objects, found in their dozens only, many outside Philistia, and only from the 11th century when contacts with Cyprus are improved. Horned altars are even fewer in the early Iron Age, with one late-12th century example from Ashkelon mentioned above and no examples from the 11th–10th centuries, indicating a transmission process of lower intensity than the other examples. Finally, ingot and horned gods from Enkomi are of course unique objects, of immense value and status.

In retrospect, the use of the terms hybridity, creolization, and entanglement when studying changes in material culture emphasized the complexity of the outcomes of intercultural contacts, and acted, to a degree, as a deterrent to simplistic reconstructions of past contacts. Whether or not hybridity, creolization, and entanglement have outlived their usefulness is still open to debate. However, new theoretical approaches to the study of interactions require at least a re-contextualization of these terms within new frameworks.

From fear of colonization to the Mediterranean challenge

The ghosts of the migrationist past with their accompanying political agendas (Adams *et al*. 1978), have been vanquished by half a century of processual and post-processual archaeology, as well as two decades of post-colonial theory in archaeology. The fear of these ghosts and of the colonial past they may represent, creating the 'immobilist' approach in post-processual archaeology (Hakenbeck 2008: 16–17), may be slightly relaxed now, in order to allow the movement of people to be investigated as a legitimate cultural phenomenon. In may also be the time to put to rest the black and white picture of choosing between two oppositions, mass-migrations suppressing the local population or socio-economic change in the indigenous culture, for example in the case of Cyprus in the 12th and 11th centuries BCE we have the colonization narrative vs the politico-economic argument as amply put by Knapp (2009: 224). The question, as quoted in the opening of this article, becomes one of identifying nuances in migration (van Dommelen 2012: 395). The diagnostic tools suggested for creating this multi-faceted picture is the use of comparative migration studies to create a typology of migration (*ibid*.: 404).

Indeed, the illuminating power of comparative case studies for pointing to the finer points of the effects of intercultural contact cannot be underestimated (van Dommelen 2006). It may be added here that this direction of research does not require the creation of typologies from scratch, but can be assisted by reassessment of existing typologies from both archaeological and anthropological research conducted during the past half a century and earlier, (e.g. Willey and Latherap 1956; Peterson 1958; Adams 1968; Trigger 1968; Branigan 1981; 1984; Kilian 1990: 447; Anthony 1990; and Gosden 2004: 26). Some of these studies already contain important insights into changes in material culture caused by different forms of migration that may be employed in the creation of new typologies and new frameworks, which of course need to be further modified by the lessons learnt from the use of post-colonial discourse in archaeology.

Connectivity is an adaptive strategy in the Mediterranean, alleviating the ecological pressure of residing within micro-regions exposed to the uncertainties of the Mediterranean climate and of frequent bad years. Historical case studies show this connectivity to have numerous faces, from the dazzling continuum of trade phenomena (Horden and Purcell 2000: 172), phenomena of depopulations and large-scale population movements in coastal areas, phenomena of organized mobility, whether voluntary or not, such as slavery, and of course the connectivity created by phenomena of piracy and brigandry (*ibid.*: 380–391). Above all, the many forms of mobility are needed for both prosperity and survival (Broodbank 2013: 20). It is perhaps not surprising that migration, being a form of connectivity, returns to the mainstream of archaeological discourse within the Mediterranean. Thus, in a recent volume edited by Knapp and van Dommelen (2014), there is a section dedicated specifically to mobility, migration and colonization. The premises of this section are clearly phrased: "Movement of people and their material culture across the Mediterranean is one of the few factors that have consistently characterized the region from early prehistory until the present day" (*ibid.*: 109). The case studies presented in this section identify, using sophisticated and theoretically aware methodology, several forms of migration as the cause of material cultural change. These, to name only a few examples, include the arrival of Anatolian migrants in Cyprus during the EB I–II (Bachhuber 2014), Egyptian and Kura-Araks culture migrants to the southern Levant during EB I and EB II–III (Greenberg and Palumbi 2014), and Greek and Phoenician colonization in the central Mediterranean (Hodos 2014; Osana 2014).

Connectivity > migration

A challenge to the future study of migration, including the study of Philistine phenomenon, can rise from the notion that a theoretical framework dealing only with migration and its identification in archaeology may not be enough in the complex cultural reality of the Mediterranean. There, connectivity takes numerous forms in addition to migration, as the multiple aspects of trade, raids, piracy and more. Two cautionary tales from historical sources of the second millennium BCE may illuminate this problem. One such case involving both migration and trade in the 13th century can be the census of Alashiyan (Cypriot) households in Ugarit, RS 11.857. It lists 27 Alashiyan households each named by its head. It includes 93 individuals of whom 30 are wives, 4 sons and 4 daughters (both categories probably married), 9 youths, 12 maidens (both categories probably unmarried), and 7 retainers. It is likely to be referring to families of Cypriots residing in Ugarit that are connected with trade activities. The presence of married sons and daughters as well as children may indicate that this is not a temporary phenomenon but rather long-term residence of entire family groups (Schloen 2001: 324–326). A fine example of several co-occurring interactions and the resulting entanglement appears in the second victory stele over the Hyksos. Kamose of the late 17th Dynasty boasts in a raid on the Hyksos capital of Avaris (Redford 1997: 14):

"I haven't left a plank of the hundreds of ships [or 300?] of fresh cedar, which were filled with gold. Lapis. silver, turquoise. bronze axes without number. over and above the moringa [more likely olive] oil, incense, fat. Honey, willow, bow-wood, sticks and their fine woods – all the fine products of Retenu – I have confiscated all of it."

The inscription exposes a startling variety of co-occurring interregional interactions that are active on different time scales and different intensities. The first, of strong intensity and of immediate timescale is the Egyptian raid on the Hyksos town, and the taking of considerable booty said to have originated from the Levant (Retenu).

The second form of interaction referred to, that of maritime trade, has a longer timescale. The massive presence of hundreds of ships in the harbour, acting as a gateway to the Mediterranean, is a continuum formed by the events of the coming and going of boats. It is nonetheless interaction of high intensity, and the foreign products carried by these ships no doubt had an impact on the local material culture. Third and finally, these two forms of interactions mentioned above

come against the background past interactions between Egypt and the Levant. Kamose does not refer to Apophis, his rival, as an Egyptian ruler, but rather as a foreign, Levantine prince. Indeed, by the time of the raid, Avaris had already been under Hyksos rule for a long time. The Hyksos phenomenon began with arrival of people of the Levant at Tell el-Dabʿa (and other Egyptian sites) as early as the 12th Dynasty as soldiers, merchants, workers, and captives from Egyptian raids (Bietak 2010: 139–147). By the transition between MB I and MB II (c. 1720/1700) this population took over the Delta. A great number of cultural traits during the late Middle Kingdom and Second Intermediate period in Tell el-Dabʿa showed Levantine ancestry, from burial types, pottery typology, house architecture and even temple and palace architecture. These changes were by no means caused solely by migration: during the early Second Intermediate period local production of some Levantine forms formerly imported (as Tell el-Yahudiyeh wares) replaces types that were imported before from the Levant, a change connected with the contemporary political and commercial changes (Bietak 2010: 154–163). Complex phenomena of interaction between Egyptian and Levantine cultures (Bader 2013) occurred at Tell el-Dabʿa for almost two centuries before Kamose's raid.

It would seem almost a prerequisite that in order to disentangle and interpret the material culture record left by the events illustrated in their two case studies, and countless other events in which several processes of intercultural interaction co-occur, one would need a theoretical framework that is not limited to the identification of migration alone, on one hand, nor that defines the situation as merely entangled on the other. I have previously argued that in the reality of the ancient Mediterranean, various ranges of interaction co-occur in the same regions, sometimes at the same location, requiring a unified theory of interaction (Yasur-Landau 2010: 10) (Fig. 1; Yasur-Landau 2010: fig. 1.1). Six parameters were presented, so that the values put into them can describe any forms of interaction, may they be trade, migration or other forms (Fig. 2; Yasur-Landau 2010: fig. 1.2). It is suggested here that this mode of description may prove useful in creating a framework that will disentangle the various avatars of connectivity, including the study of the Philistines.

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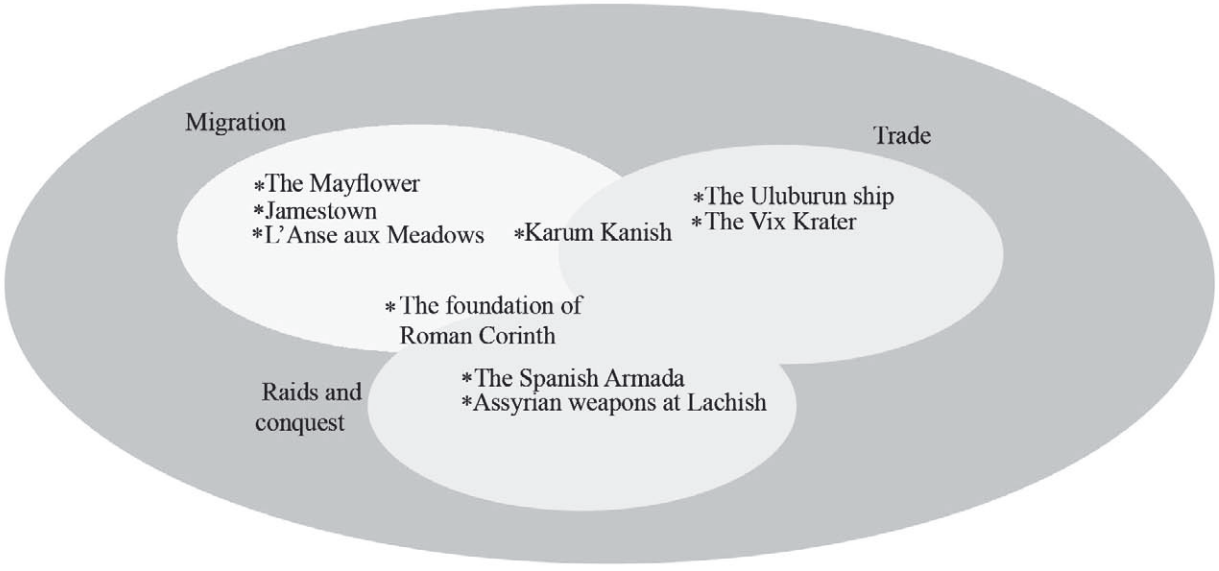

Fig. 1 Interregional interaction events and interaction ranges (after Yasur-Landau 2010: fig. 1.1)

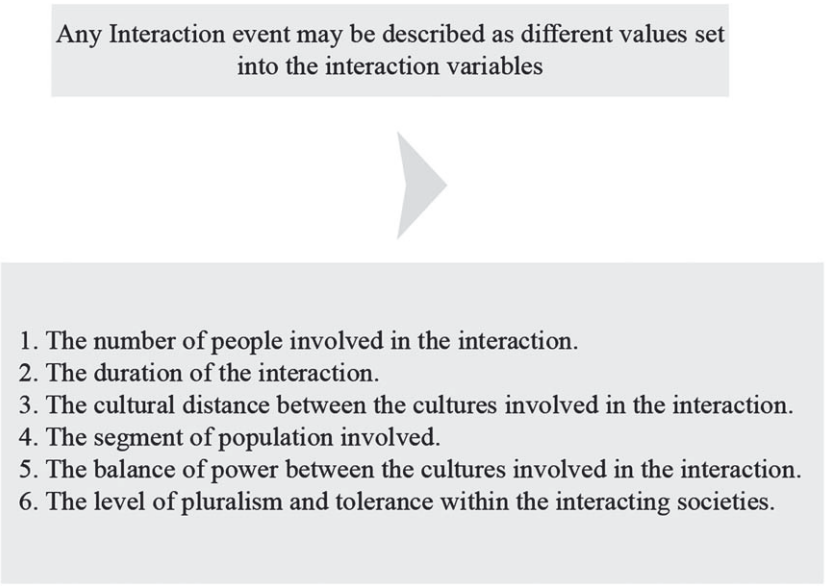

Fig. 2 Interaction parameters (after Yasur-Landau 2010: fig. 1.2)

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The Appearance, Formation and Transformation of Philistine Culture: New Perspectives and New Finds

Aren M. Maeir and Louise A. Hitchcock

Abstract

In the early/mid-12th century BCE, the social and cultural milieu in the Southern Levant went through deep changes (e.g., Ward and Joukowsky 1992; Gitin *et al.* 1998; Killebrew 2005; Yasur-Landau 2010; Cline 2014). This is manifested in various ways, including: 1. the gradual waning of the Egyptian control of Canaan; 2. a drawn-out process of destruction and/or depopulation of many of the Canaanite city states; 3. the appearance of 'new groups' in the region, in the inland (identified by most scholars as the precursors of the 'Israelites', Aramaeans, and others) and along some of the coastal regions; and 4., the primary focus of this article, the advent of so-called Sea Peoples, and the most notable among them, the Peleset, in the southern Coastal Plain of Canaan (e.g., Hitchcock and Maeir 2014; Maeir *et al.* 2013).

During the Late Bronze Age, one can note already the presence of foreigners and traders in the Southern Levant (Artzy 1998; Emanuel 2014). These foreigners, which were of diverse origin (Aegean, Cypriot, Italian, Levantine, Anatolian, etc.), seem to have been mostly concentrated in or near various harbour sites - and played an active role in intercultural exchange up until the early 12th century BCE. The destruction of the Mycenaean palaces in Greece and of administrative centres in Cyprus, may have led to a temporary reinforcement of the activities of these foreigners (e.g. 'Horizon Nami' in Stockhammer forthcoming). Soon afterwards though, in the first decades of the 12th century BCE, in certain regions (Philistia and perhaps the Amuq) these networks collapsed, coinciding with the influx of foreign immigrants, of multiple origins. On the other hand, in some regions these networks seem, by and large, to have continued (e.g., the coastal areas of Northern Israel, the Jezreel Valley, North Syria and Lebanon, Cyprus, and coastal Anatolia), for approximately another century.

In Philistia, the new migrant groups developed and changed, and expanded upon these previously developed inclinations for appropriating foreign cultural styles and habits. This included the incorporation of a wide range of new cultural facets, such as architectural features (e.g. hearths, columned halls, 'baths'), food preparation and consumption habits (hearths, cooking jugs, new foods), new technologies (iron metallurgy, hydraulic plaster) and various new cultic paraphernalia. Significantly, these non-local features cannot be traced to a single geographic or cultural origin, but rather seem to reflect a wide range of non-Levantine cultures (Maeir 2008; Maeir and Hitchcock 2011; Maeir *et al*. 2013; Hitchcock and Maeir 2013). At the same time, evidence of varying degrees of entanglement with local Canaanite traditions can be seen (Mountjoy 2010; Yasur-Landau 2012; Hitchcock and Maeir 2013; Maeir *et al*. 2013; Stockhammer 2013).

As is well-known, this new and entangled culture, which is defined based on a relatively wide set of material attributes (e.g., Dothan 1982; Killebrew and Lehmann 2013; Maeir *et al*. 2013), is identified as the Philistines. This group is described in the biblical and other ancient near eastern texts, and associated with the Peleset, one of the so-called 'Sea Peoples' groups known from the Egyptian texts.

Until quite recently, the prevailing view on the questions of the appearance, transformation and demise of the Philistine culture assumed a rather straightforward sequence of events (e.g., Dothan 1982; Sandars 1985; Oren 2000; but see Noort 1994 for a different view). This paradigm envisioned the organized arrival of a large foreign population, which violently conquered the southern coastal plain of the Southern Levant – and introduced a non-local material culture with a strong Aegean-oriented (and a largely Mycenaean) character. Thereafter, accordingly, over a period of approximately two centuries, this culture became increasingly influenced by the local, Levantine cultures until somewhere in the IA IIA (sometime after 1000 BCE), the unique, foreign attributes of the Philistine culture disappeared. This was interpreted as a gradual process of assimilation, in which the Philistines lost their foreign identity (recently, Faust and Lev-Tov 2011).

From the late 1990s, this understanding began to evolve. First of all, it became clear that the Philistines did not simply assimilate and lose their cultural identity during the early IA II (c. 10th century BCE and onwards), but in fact continued to exhibit various 'foreign' traits and practices until the late Iron Age. Brian Stone (1995), while adhering to the model of the largely foreign origin of the Philistines, suggested that throughout the Iron Age they went through a process of acculturation. During this process, they shed many of their original foreign attributes, while at the same time, certain significant foreign facets continued to be used until the end of the Iron Age, and the Philistines retained their unique identity throughout the Iron Age.

Following this lead, various scholars attempted to elaborate on this in order to propose more sophisticated explanations of this process. Maeir for example (in Ben-Shlomo *et al*. 2004) and others (Killebrew 2005) suggested looking at the emergence of, and changes in Philistine culture, through a socio-linguistic perspective, seeing the emergence of the Philistines as a process of creolization. Some suggested understanding events characterizing the Bronze to Iron Age transition in the Mediterranean as a process of hybridization (Knapp 2008) or entanglement (Stockhammer 2013), while yet others suggested that Philistine culture was simply a process of on-going cultural change (Uziel 2007). Creolization, which Killebrew (2005: 201, 253) defined as cultural mixing, was seen as a 'middle ground' between the hyper-diffusionist colonization model and the other extreme, which reinterpreted the appearance of the Philistines as not being related to the arrival of foreign populations, but rather an economic realignment of local, Levantine groups following the collapse of the Late Bronze Age palatial economies (Sherratt 1998).

Killebrew (2005: 206, 225, 251), for example, saw the production of the Bichrome Philistine pottery (Philistine 2), as an example of creolization, as well as the increase in indigenous pottery in Philistine levels is seen as evidence of a creolization process that lead to the loss of the Philistines' unique character. Creolization and acculturation are treated as processes that typify Philistine 'colonialist activity' (Killebrew 2005: 249).

Creolization has come under criticism, including by the present authors, for functioning as a thinly-veiled substitution for the term colonialism, re-enforcing asymmetrical relationships and reifying a dualistic approach to Philistine identity over the multi-vocal approach argued for here (e.g., Hitchcock 2011: 271–72; Hitchcock and Maeir 2013). The term 'acculturation' is also problematic – in that it implies that the Philistines passively adopted local Canaanite social practices and influences, rather than actively manipulating material culture to construct, re-construct and negotiate their identity.

Previously, we have suggested instead to use the terms 'transculturalism' or 'entanglement' – to describe the transformative processes triggered by the encounter of the foreign immigrants with the inhabitants of the Southern Levant, their material cultures, social practices and world views (Hitchcock 2011; Hitchcock and Maeir 2013). For example, Stockhammer (2013) recently demonstrated (and see his paper in this volume) that the Aegean-type ceramic repertoire of the Philistines has to be understood as the attempt to conduct Southern Levantine feasting practices through the use of Aegean-type shapes. This resulted in the selection and use of just a few Aegean-type shapes in the so-called Philistine households. We recently suggested that Aegean-style ceramics served as symbols around which the identities of the Sea Peoples coalesced (Hitchcock and Maeir 2014, 2017).

Similarly, while in the past it was often assumed that the Philistine language and writing should be connected to the Mycenaean culture, the small corpus, different varieties of inscriptions, different comparisons – and the very dissimilar socio-political environment in early Iron Age Philistia than that of the palatial political-geography of Mycenaean Greece, makes it difficult to simplistically establish a clear correlation between these scripts and languages (Davis *et al*. 2015).

In addition to these developing considerations of Philistine identity, attention was paid both to the early and later stages of the Philistine culture. Close scrutiny of the archaeological evidence from the Late Bronze/Iron Age transformation in Philistia and other parts of the Levantine coast demonstrated that: a) there is little evidence of widespread destruction of the immediately preceding settlement phases at the sites associated with the Philistines or with the Sea Peoples; b) at many of these sites, there is significant evidence for the continuity of local cultural elements alongside newly appearing foreign traits. The very basis for understanding the appearance and transformation of the Philistine culture – as a foreign culture becoming increasingly locally-oriented – was therefore questioned (e.g., Gilboa 2005; 2006–2007; Shai 2009; Yasur-Landau 2010; 2012; Maeir *et al*. 2013). Clearly then, a simplistic understanding of the origins, development, change and ultimate dis-

appearance of the Philistine culture is no longer relevant.[1]

Recent finds and new perspectives warrant a new understanding of the underlying mechanisms, and processes, in the development and transformation of the Philistine culture – from its appearance in the early/mid 12th century BCE (which is the most pertinent for the present paper), until its demise in the late 7th century BCE. While it is evident that many components of Philistine culture do have a foreign origin, and important components of the population of early Iron Age Philistia were of non-local origin, it is also clear that these foreign traits are: 1. of a mixed nature and include features from various parts of the Aegean, Cyprus, Anatolia, South-eastern Europe and beyond – indicating multiple origins for these foreigners (Maeir *et al*. 2013; Hitchcock 2014); 2. As noted above, it is clear that the foreigners that arrived in Philistia in the early Iron Age did not capture and destroy the Late Bronze Age settlements of the Canaanites; at most they destroyed elite zones at some of the sites and became integrated among local Canaanite populations, and adopted some of their customs in these early Philistine sites.

On the other hand, the actual identification of archaeological remains of other Sea Peoples groups, aside from the Philistines, which supposedly should have settled along the Levantine coast north of Philistia, has been much more problematic (and see, e.g., Gilboa 2005; this volume; Sharon and Gilboa 2013; but see Stern 2013 for a different opinion).

Previously, we suggested that one perhaps could view some of the groups of the Sea Peoples as heterogeneous tribal groups, similar to pirates of the historical era. The members of these groups most probably were disenfranchised members of varying cultural traditions and origins, skilled seafarers and craftspeople, and may have been led by warlord-like military leaders (Hitchcock and Maeir 2014, 2016, 2017). These groups took on particular types of items of varying origin (i.e. Aegean-type pottery, hearths, depiction of birds, etc.) as emblematic symbols, but the mixed origins of the members of these tribal groups makes the identification of a particular point of origin (or origins) in the Mediterranean basin impossible to find. This is perhaps why the Philistines adopted the Luwian term of *tarwanis* (later *seren*), meaning military leader, for their leaders, rather than the Mycenaean Greek term *wanax*, meaning king. Giusfredi (2009) recently discussed the term *tarwanis*, noting that it appears in Luwian inscriptions from the 10th to 8th centuries BCE, including, most importantly, at the site of Tell Taʿyinat, which might very likely be connected to the so called 'northern Sea Peoples/Philistines' through its identification as the land of Palastin (Hawkins 2009; Singer 2012; Meijer, this volume). Perhaps the initial use of this term by a 'Sea Peoples' group occurred in this northern region, and from there it spread to the "southern" Philistines during the early Iron Age (but see Younger 2016: 127–135 for a critical view on this).

At the same time, changes can be seen throughout the entire Levant that are of significance as well, even if they are of a very different character. In some cases, there seems to be continuity in the material culture of the local, so-called 'Canaanite' culture, at early Iron Age sites in the Southern Levant, long into the Iron Age. E.g.: Megiddo (Finkelstein *et al*. 2006: 848–850) and Beth Shemesh (Bunimovitz and Lederman 2011; Lederman and Bunimovitz 2014); the transformation of the Canaanite culture in Phoenicia during the early Iron Age – as at Dor (Sharon and Gilboa 2013); while at other urban sites, sudden and dramatic ends can be seen (e.g. Lachish: Ussishkin 2004). In various peripheral regions in the Southern Levant (e.g., Central Highlands, Upper Galilee; in general, Finkelstein 1988; Faust 2007), the appearance of new settlement forms indicates the possible presence of new cultural units, whose origins have been highly debated (whether of internal Canaanite, external origin, or mixed origins), some of which most probably served as the core of what eventually developed into what has come to be called the Israelite and Judahite kingdoms in the later Iron Age (but see cautionary remarks on this supposition of continuity in e.g., Nestor 2010). It is clear then that the entire Southern Levant, way beyond the actual region of Philistia was in a state of flux and change, but not of an even or uniform character, during the extended period of the Late Bronze/Iron Age transition.

From the very early stages of its appearance, the Philistine culture was characterized by an on-going

[1] While we agree with Middleton (2015) that one cannot simplistically trace the origins of many of the Philistine cultural attributes to the Mycenaean culture, and that the origins of the Philistine culture cannot be explained as a monolithic migration of peoples of Mycenaean origin, one cannot deny that substantial and significant portions of the Philistine culture derives from non-Levantine context. As we argue here, and in other previous publications (which surprisingly, Middleton seems unaware of any of them), a set of complex and multi-faceted foreign origins and influences – along with local components – should be suggested for the Philistines.

negotiation and renegotiation between various cultural groups of local and foreign origin. As a result of such entanglements, the emergence of the Philistine culture should not be viewed through the lens of a simplistic process of cultural change. We cannot view and understand the appearance of Aegean-style pottery and other supposedly Aegean features (such as was suggested in the past regarding hearths – which in fact show Cypriote influences; see Maeir and Hitchcock 2011, and earlier research there) and see this as being the result of 'Mycenaean colonists' imposing their civilization on 'backward' Levantine natives. Instead, multivalent patterns of identity negotiation occurred between the various groups within, and on the margins, of Philistia, which are evidenced in distinctive material culture patterns and regionalisms. This is so between the various 'Philistine' sites in Philistia (e.g., pebbled hearths vs. clay hearths (Maeir and Hitchcock 2011); different patterns of pottery decoration at Philistines sites (Ben-Shlomo 2008); different patterns of food consumption (Maeir *et al*. 2013), but also in the connections between sites within Philistia and between cultural, political and ethnic groups in the regions surrounding Philistia, with influences travelling in multiple directions (e.g. Ben-Shlomo *et al*. 2008). Throughout the Iron I and II, one can see an influx of 'Levantine' elements into the Philistine material culture (such as in pottery types), and at the same time, 'Philistine' cultural elements appear in surrounding Levantine cultures (Maeir *et al*. 2013). The same thing can be said about the material remains of the Philistine cult (e.g. Vieweger 2012) and iconography (Ben-Shlomo 2010; Press 2012; 2014), in which a wide range of intermixed facets can be seen with the appearance of horned altars and the persistence of Aegean-stylistic elements on Canaanite-style chalices.

It should be noted that there are quite a few inherent problems with many of the commonly-used, mostly modern definitions of the various groups in the Aegean (Mycenaeans, Minoans, etc.) and the eastern Mediterranean during the LB/Iron Age transition. In fact, not only are some of these labels completely modern (e.g. Minoan), others are oversimplified, 'essentializing' definitions of complex cultural and ethnic groupings which existed in each of the regions supposedly described by these overall cultural/ethnic names (for discussions relating to Aegean ethnonyms, see, e.g. Roessel 2006; Maran 2011; but see Feuer 2011 who retains a somewhat conservative view on this). By the 13th century BCE, Italic and Aegean cultures were already becoming entangled as discussed by Jung (2009). Thus, caution is thus warranted in the all-too-facile use of ethnic determinations in the identification of various groups in the early Iron Age Levant. It is clear that various 'ethnic' groups did in fact exist in the Iron Age Southern Levant, and are noted as such in the various textual materials. For the most part, the terms used for the identification of the various groups in these texts are etic (external) – and very rarely emic (internal). 'Neatly packaged' group definitions most likely reflect the *ideologies* of the texts in which these ethnonyms appear, as opposed to the realistic, and at time perhaps 'fuzzy' identities of these groups.[2] This is most surely the case in border zones between groups – such as in the Judean foothills [the *Shephelah*] – the contact zone between the Philistines and the Israelites. This should raise red flags against attempts to simplistically define this site, or that region, as belonging to a specific cultural group (e.g. Philistines, Israelite, Canaanite, etc.), based on a relatively narrow set of archaeological correlates. While one must acknowledge the existence of different social (possibly also 'ethnic') groups in early Iron Age Philistia and surrounding regions, it is also cardinal not to confuse an emic with an etic perspective, and attempt to view fluid and ever-changing group identities – as 'frozen' cultural/ethnic manifestations.

The very term Philistine and/or Philistia is not attested in Iron Age Philistine inscriptions (albeit there are not a large number of these), but rather only from texts of biblical (some of which are clearly of Iron Age dating), Egyptian, Assyrian and Babylonian origin. Thus, while it is clear that the region of Philistia, and peoples within this region, were identified as Philistines during the Iron Age, it is not clear what were the emic group-name definitions of the Philistines themselves (see, e.g., Lemche 2012, who already stressed this point). A hint to the problematic character of this issue can be seen in post-Iron Age cuneiform documents from Babylonia (Zadok 1978), in which people from Philistia who had been exiled from Philistia and resettled in Mesopotamia by the Babylonians, were not identified as 'Philistines' – but rather as being from various cities within Philistia (e.g. men of Gaza, men of Ashkelon, etc.). Thus, while the term 'Philistine' may have been used in the Iron Age as an ethnic designator – for sure by others describing the Philistines, but perhaps as an emic Philistine term as well, smaller-scale group identities were also of importance in defining cultural affinities and group identities of people from this region.

[2] See now Ehrlich 2016 who notes the ambiguity of ethnic gentilics in the biblical texts, including in relationship to 'Philistines', another indication of 'fuzziness' of the group identities at the time.

Attempts to differentiate between the 'Philistines' and other ethnicities in the Iron Age Levant, on the basis of a small set of material correlates can lead to simplistic, or simply mistaken differentiations. Suggestions to characterize what we might call the *Philistinicity* of a site based on a small group of traits such as the presence/absence of decorated Philistine pottery, consumption of pig and dog meat, 'Aegean-style' pinched loom weights ('spools'), hearths, and such singular items (often related to as Philistine *type fossils*) are problematic. As already noted in the past, many of these specific items can appear on 'both sides' of the supposed Philistine/Israelite ethnic boundaries – and even beyond (Maeir *et al*. 2013; Hitchcock and Maeir 2013; Maeir and Hitchcock 2016).[3] Without a doubt, when viewed as a whole, the material assemblages at major sites in Iron Age Philistia are different from that of sites in regions associated with other groups (Israelite, Judahite, Phoenician, etc.). But time and again, specific types of objects can be seen in many areas and used by many groups (as noted above regarding pottery types appearing in different cultural areas; Ben-Shlomo *et al*. 2008). The appearance of supposedly Philistine objects should not be seen as evidence of Philistine expansion into these other zones (unless the evidence is unequivocal), and vice-a-versa for Israelite/Judahite facets among the Philistines. Rather, artefacts need to be interrogated in the context of their assemblages and architectural spaces in order to draw out different cultural encounters, functions, and entanglements as well as to elucidate new ones (e.g. Ross 2012).

The Philistine cultural identity is often regarded as clearly opposing the Israelite group identity, and following the biblical text, it is seen as a major impetus for the crystallization of Israelite identity (most recently, this view is particularly espoused by Faust (e.g., 2013; Faust and Lev-Tov 2011; 2014). This opinion is problematic. To start with, most of the assumptions on the antagonistic relations between the Philistines and the 'Israelites' are based on the biblical text – and it is not clear how much of this represents actual early Iron Age reality, and what part of this is a reflection of later Iron Age – or even post-Iron Age – realities and ideologies (on this, see Lemche 2012). For example, there is very little archaeological evidence of weaponry in early Iron Age Philistia (e.g. Koller 2012: 191–192), despite the very martial picture depicted in the biblical narrative regarding early Iron Age Philistia. In addition, the very assumption that one can define and relate to a singular 'Israelite' identity in the Iron Age is fraught with difficulties. Although the biblical texts do portray such a unified group character at various stages of the Iron Age, the archaeological, epigraphic, and historical documents indicate that this was far from being the case – and in fact one should relate to disparate Israel and Judahite identities (e.g., Fleming 2012; Maeir 2013).

Recently, it has been repeatedly suggested that not only can the Philistine and Israelite/Judahite ethnicities be clearly identified archaeologically an additional 'Canaanite' group can be seen in the archaeological record, in the 'Shephelah' (the Judean foothills) buffer zone between the Philistines and Israelites. This has been suggested for the early Iron Age phases at sites such as Beth Shemesh (Bunimovitz and Lederman 2009; 2011; Lederman and Bunimovitz 2014), Tel Eton (Faust and Katz 2011; Faust 2013) and Khirbet Qeiyafa (e.g. Na'aman 2010).

Bunimovitz and Lederman have suggested that it is possible to identify a process of 'resistance' among the local, 'non-Philistine' population at Tel Beth-Shemesh. According to their view, at the time of the arrival of the Philistine migrant communities, people at Tel Beth-Shemesh refrained from consuming pork and from using the decorated Philistine pottery, which they associated with the newcomers (Bunimovitz and Lederman 2009; 2011; Lederman and Bunimovitz 2014). While there is validity to their suggestions, one must remember that: a) Philistine decorated pottery has been found at Beth-Shemesh (see Münnich 2013; and add to this that in the recent 2014 season, additional quantities of this decorated pottery was found; Lederman pers. comm.); b) as noted above, the Phil-

[3] The recently published faunal assemblage from Tell Jemmeh (Maher 2014) reiterates this issue. While the Iron I pottery assemblage of the site (Ben-Shlomo 2014) clearly indicates a strong connection with the Philistine culture, pig bones are absent. This strengthens our previous claims (Maeir *et al*. 2013; contra Faust and Lev-Tov 2014) that pig consumption, which was often seen as a primary marker of Philistine identity, should not be viewed as a *conditio sine qua non* for the identification of a site as Philistine. Other factors, whether environmental or organizational (more pig in urban sites; less in rural) seem to play a substantial role as well (Maeir and Horwitz 2015; Horwitz *et al.* in press). The presence of closed cooking jugs and cylindrical loomweights, very possibly influenced by "western" cultural traditions, at the site of Tell Abu el-Kharaz in Transjordan (Fischer and Bürge 2013), only stresses the need to be careful with defining objects types as being typical of specific ethnic and cultural groups (thanks to P. Fischer for suggesting this reference).

istines themselves were comprised of both foreign and local Canaanite components. Further, caution is warranted simply given the constantly changing understanding of this region as a result of intensive archaeological investigation.

As opposed to such a tight, site-specific interpretation, attempts to formulate an overall definition of ethnic groups living in clearly defined and bordered regions is harder to justify (such as suggested by Na'aman 2010; Faust and Katz 2011; Faust 2013). As pointed out above, the very definition of 'who is' and 'who is not' a Philistine or an Israelite/Judahite is hardly agreed upon. And thus, suggesting to explicitly define the supposedly static ethnic identity of a group living in the contact zone between these groups remains complicated. The very fact that 'Canaanite' (local Levantine) features are seen in Iron Age Philistia (see above) and at the same time, form a major part of the so-called 'early Israelite' culture can be traced to local Levantine ('Canaanite') origins, makes it difficult to distinguish between a 'real' Canaanite – supposedly living in this buffer zone, and a 'transformed' Canaanite – who lives in the Philistine regions on the one hand and/or Israelite/Judahite regions on the other.

A short digression on the use and definitions of ethnic labels in the early Iron Age Levant is called for at this point. Time and again, many of the recent archaeological and historical studies of the ancient Levant which deal with questions of ethnicity – and in particular – those with discussions on the identification of archaeological criteria for defining ethnicity and group identity, place much emphasis on Barth's (1969) seminal contribution to the field of the study of ethnicity. In particular, focus is placed on Barth's observations, which have been accepted, and stressed, by many social theorists, that 'boundary definition' is perhaps the most important aspect of group (and in some cases, ethnic) definition. Meaning, that the most important criteria for defining between groups is how one group sees itself different from the other – and those aspects of choice through which this difference is manifested.

While without a doubt Barth's understanding of ethnicity is of utmost importance, several caveats should be mentioned: 1) Barth's views represent one of the 'schools' of the understanding of ethnicity in modern social theory – other views are espoused as well;[4] 2) In contemporary discussions on ethnicity in social and cultural anthropology and sociology (e.g. Wimmer 2008; 2013; Brubaker 2009; 2014; Eriksen 2010; Jiménez 2010), even if 'boundary maintenance' is seen as a crucial aspect in the definition of ethnic groups, 'boundary maintenance' can be viewed as but one aspect of a complex and multi-layered inter-relationship of various factors – as opposed to being the sole, or at least most focussed on factor – as often portrayed in attempts to illustrate the existence of ethnic groups in the archaeological remains. For example, while the supposed differences seen between groups – and their boundaries – are crucial, so are internal social factors (e.g., Eriksen 2001; Wimmer 2008); 3) Ethnic identity, as Barth (1969; 2000) himself noted, is fluid and mutable, and a person's (or group's) ethnic identity can change within a relatively short time; 4) As Barth (2000) and others (e.g. Jenkins 2008: 26–27) have noted, the very concept of a 'boundary' has different meanings in various cultural contexts, and one cannot simplistically define a boundary based on western conceptions of geographical boundaries. Such boundaries may have archaeologically-invisible characteristics.

In this light, attempts to clearly and to neatly delineate ethnic groups in the early Iron Age Southern Levant, based on a list of what is seen as archaeologically-identified 'markers' which served for boundary definition (e.g., Finkelstein 1997; Bunimovitz and Faust 2001; Faust 2006; 2007; Faust and Lev-Tov 2011; 2014; Faust and Katz 2011) should be viewed with caution. How can we be sure that the very definition of supposed ethnic groups in the Iron I is not an ideological reflection of texts from a later period? Can we be certain that in fact there were distinct Philistine and Israelite ethnicities in the early Iron Age – or were there several groupings, some of them at times rather nebulous in character? And even if there were – did the archaeological markers, which have been suggested (e.g. pig consumption, pottery, etc.), in fact serve as boundary markers for the different groups at that time? As noted by Maeir *et al*. (2013; see as well Maeir and Hitchcock 2016), the variability in the appearance of some of these supposed markers in early Iron Age

[4] The various 'schools' on the understanding of ethnicity (see, e.g. Sokolovskii and Tishkov 2010), which have various offshoots of their own, are usually divided into the 'primordialists' (e.g. Geertz 1963), the 'instrumentalists' (e.g. Cohen 1969), and the 'constructivists' (Barth [1969] being the best-known proponent of this school). While the constructivist view is that which is most often espoused, it is not without its critics (e.g. Cohen 1978). In addition, attempts to find a middle ground between these schools have been suggested as well (e.g. Wimmer 2008; Brubaker 2009; thus, it is hard to accept Lemche's [2012] claim that such a middle ground is theoretically impossible).

Philistia itself raises questions regarding the validity of simplistically using such markers.

As mentioned above, ethnic identity is often fluid and can quickly change (e.g., Hall 2000; Malkin 2001; Dougherty and Kurke 2003; Casella and Fowler 2005; Siapkas 2014). Thus, modern perceptions of group identities during the early Iron Age, which are based, by and large, on written sources from later periods (dating to the late Iron Age and post-Iron Age periods), more than anything else may reflect on the social and/or ideological environment of these later periods than that of the supposedly described earlier periods. Thus, can one confidently speak of distinct and neatly packaged ethnic identities which are archaeologically visible (of e.g., Israelites, Philistines and Canaanites) during the early Iron Age, when in fact – a more heterogeneous and constantly mutating matrix of identities might have actually existed during this time (see as well Bauer 2014)?[5]

This suggestion, that the Canaanites lived in between the Philistines and the Israelites, might be influenced by a modern reading of the biblical text – in particular the mention of Canaanites in this region in the 'Tamar and Judah narrative' in Genesis 38 – as there is no clear corroboration of this in contemporaneous Iron Age texts. As very few biblical scholars would date this text to the early Iron Age (on the dating of this text [to no earlier than Iron Age IIB], see now Leuchter 2013), one wonders whether this text in fact reflects a historical reality at all.[6] Can we speak of a Canaanite group identity in this region during the early Iron Age – and even if so – how can this be identified archaeologically?

To a large extent, the problems inherent with attempts to identify this 'Canaanite enclave' is reminiscent of Hakenbeck's description of the problems with identifying ethnicities in early medieval central Europe:

"Furthermore, studies of ethnicity in the early medieval period have relied heavily on a literal reading of historical sources, creating a self-referencing circular argument. The sources are thought to provide a framework of facts and dates into which archaeological evidence can be fitted. Fragments of information gained from historical sources are taken out of context and used to identify the movements and settlement areas of the barbarian peoples. Distribution maps of specific artefact types then apparently identified these areas on the ground. The next step is to identify the ethnicity of individuals by making a connection between these artefacts and the identity of those that were buried with them. Once the tribal areas became populated with people, these people then turned fully-clothed into the actors mentioned in the historical sources" (Hakenbeck 2011: 39).

Thus, we believe that the supposition of the identification of such a 'Canaanite enclave' in the early Iron Age Shephelah (e.g., Bunimovitz and Lederman 2011; Faust and Katz 2011; Faust 2013) rests on shaky foundations. If one accepts the existence of a Canaanite 'identity' (or better, 'identities') during the Late Bronze Age (and we are of the opinion that one should), this does not by necessity mean that this identity continued unchanged into the Iron Age in a period when technological and socio-political structures were in flux. This would require one to assume that groups living in the border zone between the regions in which the cultural identity in later sources was seen as Philistine on the one hand and Israelite/Judahite on the other (and the archaeological evidence indicates that these identities were in fact in the process of formation and transfor-

[5] Not to mention, that even if some of the supposed ethnic markers are archaeologically visible, one must take into account that modern ethnography has demonstrated that ethnic markers can include very subtle, and archaeologically, virtually invisible 'markers' – such as gestures (e.g., Kendon 1984; Wulf *et al*. 2011) – which due to the lack of relevant iconographic materials (e.g. Ben-Shlomo 2010), Philistine 'gestures' are *terra incognita* (and this is true as well for most other early Iron Age groups in the Levant). Similarly, significant items for the definition of group identity, which were made of perishable materials (and ethnographic studies demonstrate that this is most often the case), would also have no 'signature' in the archaeological record. Thus, over confidence in suggesting what were the ethnic markers of a given group (such as, e.g., decorated pottery, dietary preferences, or circumcision) should be treated with caution (e.g., Shai 2011; Maeir *et al*. 2013; Maeir and Hitchcock 2016).

[6] Perhaps, a better way to view the biblical tradition of the Canaanites residing in the Shephelah (as manifested in Genesis 38), would be in the context of the shaping of the group identities of later Israelites/Judahites – as seen through their 'collective memories' of a real or imagined past. See, e.g., Halbwachs 1941; 1992; Mendels 2004; Ben Zvi and Levin 2012; Gehrke 2014. Through such a perspective, perhaps the Shephelah itself should be seen, following P. Nora (1989), as *a lieu de memoire* (site of memory) of the Israelite/Judahite collective identity. For examples of the use of landscapes in the creation of identity in the ancient world, see, e.g., the essays in Alcock *et al*. 2001, and most recently, Harmanşah 2014. For a recent collection of studies in which the role of the Canaanites in biblical and post-biblical ideologies are discussed, see now Berthelot *et al*. 2014.

mation, albeit in complex mechanisms, already in the early Iron Age) continued to grasp onto the cultural and ethnic identities of the Late Bronze Age. This is hardly to be taken for granted. As ethnic and cultural identities can quickly change, unless there is clear evidence of this, there is no reason to assume that the ethnic identities of the Late Bronze Age 'froze' and continued to exist over such an extended period. Observed continuities in certain aspects of the material culture between the Late Bronze and early Iron Age do not, by definition, allow one to claim that there is a continuity in Canaanite (or for that matter Aegean or Cypriot) identity. The lack of explicit evidence of this supposed 'identity continuum' – whether archaeological or textual – and not simply the fact that similar pottery or other choice material aspects are seen in Late Bronze and early Iron Age sites in the Shephelah, makes such a claim hard, if not impossible to accept. Just as Nestor (2010) rightfully cautions against simplistic attempts to demonstrate explicit continuity between Iron Age I and Iron Age II Israelite identity – even when there was perhaps some evidence for this – it goes without saying that in the case of the supposed Canaanite identity in the early Iron Age Shephelah, where we are completely dependent on the suppositions of scholarly opinion – a cautious approach is warranted. While one cannot deny the theoretical possibility of the existence of such a 'Canaanite identity' in the Shephelah, it is far from proven!

Quoting Eriksen (2010: 213–214):

"… the existence of ethnic anomalies or liminal categories should serve as a reminder that group boundaries are not unproblematic. These are groups or individuals who are 'betwixt and between', who are neither X nor Y and yet a bit of both. Their actual group membership may be open to situational negotiation, it may be ascribed by a dominant group, or the group may form a separate ethnic category.

In addition, as demonstrated both archaeologically and textually, both the Philistines and the Israelites/Judahites had substantial 'Canaanite' components in their formative stages, so it would be somewhat difficult to demarcate clear borders between 'Philistine Canaanites', 'Real Canaanites' (supposedly living in the Shephelah), and 'Israelite Canaanites'!"

Perhaps then, one should prefer to look at the transition between the Philistia-Shephelah-Central Hills, as a region in which boundaries did exist, but which were 'fuzzy' and constantly changing (compare, e.g., Gardner 2007). While there is no question that during the early Iron Age there were peoples that identified themselves separately – perhaps as 'Philistines' (and they resided mainly in Philistia) and as Israelites/Judahites (and they resided mainly in the Central Hills) – and for the arguments sake – perhaps even 'Canaanites' (residing in the Shephelah), it would be very hard to define, at any given time, based on the available archaeological data, the cultural/ethnic affiliation, and more than that – the exclusive, or even static, group identity – of the inhabitants of a given site in the border zones (see now Lehmann and Niemann 2014 and Mazar 2014: 362–364 for attempts to deal with certain facets of the flux in the cultural identities in the early Iron Age Shephelah).

It would be most logical to assume that overlapping 'micro-identities' existed in this region (e.g. Whitmarsh 2010; Poblome *et al*. 2014). Building, for example, on van Nijf's (2010) perspective on cultural interactions in Pisidian Termessos during the Roman period, the inhabitants of the Shephelah might have been actively involved in cultural 'code-switching' – in which they could actively switch between emblematic identifying characteristics – according to specific contexts and needs. This can even be taken further if one looks at the identities in the Shephelah region (and in fact, in all contexts), as 'nested identities' – in which various identities (including ethnicity) operate simultaneously at different levels – very much like a Russian 'Babushka' doll.[7] These various levels of identity could be manifested simultaneously, and over time, in different manners in the archaeological record – and the supposition that material differences and changes reflect ethnic identity is all too simplistic.

It might be suggested to view the Shephelah as an example of a 'Middle Ground' (e.g. White 1991; Woolf 2011; Reger 2014) or a 'Third Space' (Bhabha 1994), also discussed in Knapp (2008) with regard to Cyprus. In this light, the varied material culture 'packages' seen at sites in this region could be seen as the developing 'Social Imaginaries' (e.g., Castoriadis 1975; Taylor 2002; Stavrianopoulou 2013) that evolved during the Iron Age in this region of intense intercultural contacts (see as well Mengoni 2010 for the complexity of identifying ethnic groups in a border situation).

[7] For a classic study of 'nested identities', see Herb and Kaplan 1999. For recent applications in archaeology, see, e.g., Janusek 2005; Hakenbeck 2007; 2011; Roberts 2011; Salazar *et al*. 2014; Scopacasa 2014.

Simplistic interpretations of the archaeological correlates for identifying 'ethnic' Philistines as opposed to other groups in the Iron Age Levant should be viewed with caution. Similarly, attempts to identify a unified 'Philistine identity' may be problematic as well. Not only are the Philistines of a very mixed origin, there are discreet (and not so discreet) regional differences between the material culture at various Philistine sites as noted above, and the Philistines themselves defined themselves based on their cities of origin – and not necessarily as 'Philistines' in general.

An additional hint to the complex nature of the group name 'Philistines' has now emerged, with the new evidence of the name 'Palistine' – very similar to 'Philistine' – in use in early Iron Age Syria – by other groups with Aegean connections as noted above (e.g., Harrison 2009; Singer 2012; Weeden 2013; see though Schneider 2012; Younger 2016). If this is the case, then the very definition of what it means to be a Philistine, or to be called a Philistine, becomes even more multifaceted. In addition, in light of our suggested understanding of some of the Sea Peoples as tribes of pirates (e.g., Hitchcock and Maeir 2014, 2016, 2017), the northern Philistines could represent a breakaway group or splitting off of such a tribe, a phenomenon that is well-known in the historical era of piracy (e.g., Rediker 2004: 80–81, esp. fig. 4). The loosening grip of the Hittites on Anatolia and of the Egyptians on Canaan may have facilitated settlement by the Sea Peoples in these areas (e.g. Gilan 2013).

Summing up, during the early Iron Age in Philistia, a complex process of cultural negotiation took place – between various foreign and local groups, bringing about the formation of an entangled cultural identity. The on-going interaction of groups within Philistia, and of other groups outside of Philistia, created a fluid and very complex set of dynamic processes and 'identity politics'. The clear cut definitions of who belonged to which group(s), how regions were defined as 'Philistine' or not, and how these processes developed and changed, are clearly not as simplistic as often suggested. This said, despite the difficulties in defining and identifying who and what "being a Philistine" was during the Iron Age, and when did this identity (or rather, identities) form, one should not "throw out the baby with the bathwater" and completely deny the existence of group identities relating to the Philistines and to the Israelites in the Iron Age (as Lemche 2012 seems to be inclined to suggest). Ethnic identities, and for that matter, national identities, were very much in existence during the Iron Age[8] – it just may not be so simple to define and delineate them, and to demarcate their development and change over time (for similar views, see now Kletter 2014). Employing more nuanced and multifaceted approaches may pave the way for a better understanding of these issues.[9]

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[8] As opposed to the very commonly-repeated mantra of contemporary historiography and social theory, that nationalities are a modern phenomenon (e.g., Kohn 1969; Anderson 1983; Hobsbawm 1990), we completely agree with Gat's (2013) *tour de force*, in which he demonstrates that nationalism has deep historical roots (contra, e.g., Lemche 2012).

[9] It should be stressed that we do not, in any way, subscribe to the view that ethnicity cannot be identified in the archaeological record (e.g. Brather 2004; 2011 – but see Curta 2013), but rather that its definition and identification remains a constant challenge and that it is more complex than often assumed (also McInerney 2014).

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Anglo-Saxons and Sea Peoples: Comparing Similar Approaches for Tracking Ancient Human Migration

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Abstract

Research on the migrations of Anglo-Saxons and Sea Peoples faces similar general problems in regard to tracking actual migration. Specific archaeological aspects are often comparable in both cases. The Anglo-Saxon migration occurred during the 5th and 6th centuries CE (Early Anglo-Saxon period) from the Continent to Britain, while the migration of the Sea Peoples took place in the early 12th century BCE at the end of the Bronze Age from rather unclear places in the Eastern Mediterranean or even Italy and Southern Europe to the Levantine coast of the Mediterranean. This paper will discuss and compare some of the approaches that have been applied in both archaeological disciplines. These comprise the discussion of the fairly obscure written documentation on the (potential) homeland of the migrants, the recent contribution of methods from the natural sciences to trace migrations, as well as specific archaeological evidence from habitation, burials and specific artefacts. I will specifically compare the archaeological evidence from Early Anglo-Saxon England and the 12th century BCE Southern Levant (Philistia). It is hoped that this will contribute to a more comparative approach and a methodological dissemination of the study of ancient migrations.

Introduction

Prehistoric archaeology is in essence a comparative historical humanistic discipline, yet it is today becoming more and more fragmented into sub-disciplines. This contribution attempts to compare two migrations of two 'populations' set in different periods of time: the one of the Sea Peoples in the Eastern Mediterranean at the transition from the Bronze to the Iron Age in the 12th century BCE and the one of the Anglo-Saxons in the Early Middle Ages in the 5th and 6th centuries CE. I use the term 'populations' here as it is at the core of the problem to define the people or peoples in ethnical terms. The following crucial issues will be shortly analysed in both cases in regard to the potential homeland of the migrants: Written sources (1), DNA/strontium isotope studies (2), and archaeological data from settlements (3), burials/cemeteries (4) and specific groups of artefacts (5). As the reader of this volume will be more informed about the Sea Peoples, more detailed information will be given for the Anglo-Saxon migration case.

Written sources and the (potential) homeland of the migrants

Anglo-Saxons

While in the case of Anglo-Saxons the origin of the newcomers seems to be evident and it is stated by their actual name, it turns out that many key facts are controversial: the precise origin of the newcomers, the number of migrants and the time period of the whole migration process. First of all, the written sources appear to give clear-cut statements, yet a closer examination reveal problems. The most detailed account was penned by cleric Bede in his *Historia Ecclesiastica gentis Anglorum* but only in the early 8th century CE. This was already several centuries later and the political process of unification and the creation of an "imagined community" (Anderson 1983) was long on the way, hence the credibility of the account may be questioned in details. Bede states: "The newcomers received of the Britons a place to inhabit, upon condition that they should wage war against their enemies for the peace and security of the country, whilst the Britons agreed to furnish them with pay. Those who came over were of the three most powerful nations [*populi*] of Germany: the Saxons, the Angles, and the Jutes. From the Jutes are descended the people of Kent, and of the Isle of Wight, and those also in the province of the West Saxons who are to this day called Jutes, seated opposite to the Isle of Wight. From the Saxons, that is, the country which is now called Old Saxony, came the East Saxons, the South Saxons, and the West Saxons. From the Angles, that is, the country which is called Anglia, and which is said, from that time, to remain desert to this day, between the provinces of the Jutes and the Saxons, are descended the East Angles, the Midland Angles, Mercians, all the race of the Northumbrians, that is, of those nations that dwell on the north side of the river Humber, and the other nations of the English. The two first commanders are said to have been Hengist and Horsa" (I, 15, Translation L.C. Jane). Unfor-

tunately, we do not know from contemporary sources how settlers of continental origin in England called themselves in the 5th century CE, as Angles, Saxons, Anglo-Saxons or by another name (cf. Kleinschmidt 2011: 15). Also, Procopius mentioned that also the Frisians took part in the migration and they were not mentioned by Bede. Furthermore, by archaeological finds it is obvious that there was also a Merovingian contribution. For example, Merovingian-type radiate-headed brooches or belt-buckles have been found in various graves, especially in Kent, implying either trade, intermarriage or migration (Soulat 2013). In addition, already the first generation of professional Anglo-Saxon Archaeology, most prominently represented by E.T. Leeds (1877–1955), discovered that the archaeological answer to where the various Germanic tribes conquested land in Britain is much more complicated (see below) than stated by Bede (e.g. Leeds 1935; cf. Brugmann 2011). Besides the written documentation it is also unequivocal that the newcomers brought the Germanic language with them. This is exemplified by the etymology of medieval toponyms, for example of Birmingham: *Bir-* > personal name (*Beorma), *-ing-* > group of people [under control of *-Bir*] and *-ham* (German: –heim/-hem) > farmstead (Piroth 1979; Copley 1988; Kleinschmidt 2011: 35–38). One major question is how many speakers of the new language are needed in order to implement a change of language. The language change was profound and one-sided: the "failure [of the Anglo-Saxons], or refusal, to absorb any of the speech of the Britons into their wider language is quite remarkable. At present, only some thirty words in Old English are believed to derive from Brittonic." (Ward-Perkins 2000: 514). Given the evidence from the texts, place-names and archaeology (see below) a massive migration of people of Germanic origin was long taken for granted. Yet, with the establishment of scholars raised in an intellectual milieu which was based on principles of the New Archaeology/Processual Archaeology, the anglophone archaeology became increasingly 'immobilist' and 'anti-migrationist' (cf. e.g. Hakenbeck 2008). In the 1980s and 1990s the scale of this migration was downsized. It was assumed that a rather small foreign elite could control southern Britain and this eventually led to the change of language. Such an "elite replacement model" became popular in Anglo-Saxon Archaeology in the 1980s and 1990s (e.g. Arnold 1984; Higham 1992; Dark 1994) even if there was also opposition to this view (e.g. Welch 1994; Härke 1998). It is in this respect very interesting to see what results studies with ancient DNA and isotope have contributed to the discussion (see below).

Sea Peoples

"… as for the foreign countries, they made a conspiracy in their islands. All at once the lands [i.e. the people] were on the move, scattered in war. No country could stand before their arms. Hatti, Kizzuwatna, Carchemish, Arzawa and Alashiya … Their league was Peleset, Tjeker, Shekelesh, Denyen and Weshesh, united lands" (Wilson 2011: 237). This quotation from Pylon of the Temple of Ramesses III at Thebes is well known, yet an agreement from where the peoples, called today collectively "Sea Peoples", mentioned in the text originated has not been found in the last more than 160 years of research. The written sources give no clear clues to where the homeland of these Peleset, Tjeker, Shekelesh, Denyen and Weshesh has to be located. The Central Mediterranean, Italy – or Sardinia and Sicily more specifically – as well as the Aegean, Southern Balkans, Western Anatolia, Cyprus and even Central Europe have all been suggested. At least it is commonly agreed that the Peleset are identical with the Philistines who came from Crete according to the Bible (Cline 2014: 4 with further references). A highly interesting new piece of the evidence in this regard are inscriptions recently identified at the Iron Age temple on the city mound of Aleppo which refer to a region called Palastin/Walistin, apparently the Amuq Plain (Hawkins 2011). This could indicate that the Peleset settled also in the Northern Levant (cf. Meijer in this volume). It is also more or less completely unknown how many migrated. Only for Philistia in the Southern Levant numbers of a few thousands and up to 15000 people have been suggested (Yasur-Landau 2010: 295, 333–334 with further references). Again, this lack of data is largely due to the state of archaeological evidence in easily identifiable settlements and cemeteries of the new settlers (below) and scientific data (like ancient DNA). The onomastics of Philistine personal names, deities and things found in a few inscriptions have been discussed in their possible non-Semitic origins with eventually may point to potential homelands of the migrated population. Yet there are numerous problems including the very limited amount of data available from the Levant and Iron Age Philistia in specific, the lack of contemporary data (12th/11th centuries) from 'potential homeland regions' like the Aegean and finally the general linguistic difficulties in interpreting these short inscriptions. In a recent study, it was concluded that "while a rather straightforward – perhaps even simplistic – Aegean connection has been suggested in the past for most of the non-Semitic names and terms from Iron Age Philistia, we believe that their origins are much more complex and multifaced" (Maeir *et al.* 2016: 335).

Tracking migration with methods from sciences

Anglo-Saxons

The Anglo-Saxon migration has been investigated with scientific methods in the last ten years like other barbarian migration in the Roman world at the end of antiquity (e.g. Geary and Veeramah 2016). The discussion has not yet reached a conclusion, but interesting insights have been produced. An initial study on the Y-chromosomes demonstrated that Central English and Frisian samples were statistically indistinguishable; these "are best explained by a substantial migration of Anglo-Saxon Y chromosomes into Central England (contributing 50%–100% to the gene pool at that time) but not into North Wales" (Weale *et al.* 2002: 1008), even if this change in the DNA on Britain cannot be dated independently. In 2006 M.G. Thomas, M.P.H. Stumpf and H. Härke published a study where they also built their argumentation on the Y-chromosome variation, which implies that the Germanic contribution to the modern English gene pool was very high. They stated that the indigenous population had an enormous reproductive disadvantage and they went so far as to argue, on the basis of some historical, yet inconclusive documentation, that they had an "apartheid-like social structure" which systematically discriminated the indigenous Britons (Thomas *et al.* 2006). But there has been criticism both of the choice of the historical sources and the interpretation of the genetic evidence arguing that there was substantial Northwest European migration before and after the Anglo-Saxons (Pattison 2008; Richards *et al.* 2008). Yet, most recent studies have indeed verified that there were few population changes at all later than 600 CE in Britain; the population has been rather stable since this date (Leslie *et al.* 2015). Interestingly also the Viking migration has left some traces in the modern DNA of British population. However, the major population change must have occurred during the Early Anglo-Saxon period in the 5th and 6th centuries BCE. Studies based on strontium and oxygen isotopes unfortunately do not seem very suitable for tracing Anglo-Saxon migration so far because the isotope values from south-eastern Britain and north-western Germany and Denmark are rather similar (Montgomery *et al*. 2008).

Sea Peoples

The systematic application of methods using ancient DNA or strontium isotopes are largely lacking so far. Surely it will not be the disinterest of scholars to conduct this kind of studies in the Eastern Mediterranean, but for a long time the compilation of ancient DNA was confined to regions with cold and temperate climates (Shapiro 2013). It seemed not amenable from regions with hot climates where it appears to be completely destroyed. Constant advances with now third generation sequencing highlight the swift changes in present molecular evolutionary biology. It is likely that the chances of recovery even from extremely damaged samples will increase in the future. R. Pinhasi concluded in a recent study that "it may be possible to obtain endogenous DNA … also for samples with relatively low amounts of endogenous DNA from hot environments, although extreme caution will be necessary in the interpretation of the results obtained from such samples" (cf. (Pinhasi *et al.* 2015: 11). In addition, fundamental research on the base lines of the strontium isotope values for the geological regions of the eastern Mediterranean and beyond is just starting to be build up (e.g. Arnold *et al.* 2016). A core problem is, however, also an archaeological one: cemeteries with a large number of individuals are missing for key regions for this period, e.g. the Southern Levant, they are not yet published or available for research (cf. below) or the bone material from the excavations conducted many decades ago is now lost or contaminated. This may be the case with the bone material from the old excavations of potential "Philistine" or foreign burials at Tell el-ᶜAjjul or Tell Farᶜah. But one can mention a case study on the DNA of ancient and modern pigs and boars in Israel. The results imply that during the Late Bronze Age the domestic and wild pigs in this region possessed haplotypes which originated in the Near East. The European pig was introduced during the Early Iron Age (after 1200 BCE in the Levantine chronology) and by 900 BCE it was already dominant. Apparently, some of the European domestic pigs became feral and within a few hundred years, wild boar with European haplotypes were present in the Southern Levant. However, this study also found one bone already from Middle Bronze Age context at Ashkelon which had a European DNA signature, which could unfortunately not be independently dated by ^{14}C (Meiri *et al.* 2013). Interestingly, the use of pigs can be observed during the Iron Age in Philistine but not in local Canaanite settlements (Hesse 1990; Sapir-Hen *et al.* 2013). This is considered to be another sign for the migrated population within the Philistine settlements. However, it does not really tell us much about the homeland of the migrants.

Settlement evidence pointing to a potential homeland

Anglo-Saxons

Anglo-Saxon settlements are characterized by small 'Grubenhäuser', also known as 'sunken-floored build-

ings' in British archaeology, with an average size of 3 m × 4 m and 'halls' which have a length of 6–14 m and width of 4.5–6.5 m in the Early and Middle Anglo-Saxon period. The excavations at Mucking and especially West Stow exemplified that several Grubenhäuser were grouped together with one hall (West 1985; Hamerow 1993). It is interesting to compare this with the settlement evidence from Northwestern Continental Europe (Northern Germany, Denmark). While we have ample evidence for large timber buildings or longhouses ("Herrenhöfe") on the Continent, such buildings are not known in Britain before the late 6th and 7th centuries CE (Hamerow 2011: 59). This is the major contrast when comparing the architecture of Southern Britain and the Northwestern Continent in the 5th and 6th centuries CE. In the latter region, large rectangular timber buildings have a long tradition since the Iron Age and even before at the continental coastal zone (e.g. Waterbolk 1999). How one can explain this difference? Does it reflect a different social organisation or are there practical reasons? These "chiefly farmsteads" ('Herrenhöfe') do not seem to be so impressive if one considers how most were actually used, as 'Wohnstallhäuser': the cattle was kept within the house, at least during the winter. One plausible explanation (Zimmermann 1999) why the 'Wohnstallhäuser' are not present in Britain while they are ubiquitous on the continent takes credit again from a quotation from Beda Venerabilis in his *Historia ecclesiastica* I, 1 "… Ireland surpasses Britain in the latitude of its location and its healthful and mild climate, so that snow rarely stays for more than three days. Because of the moderate winters nobody is haymaking or builds byres for the cattle …" (I, 1, Translation G. Spitzbart/W.H. Zimmermann in Zimmermann 1999). Hence, such buildings were simply not needed. This could be taken as a warning when we imagine that the architecture of the migrant population in their new homeland might simply copy their traditional architecture. The architectural style can change rapidly and adapt to the new environment if the landscape, the available building materials, the soil composition, the groundwater-level (cf. Callmer 2007: 239; Brather and Jagodziński 2012: 283), the prevailing climate, etc. require adjustments. However, other scholars explain the absence of the longhouse in England as the result of the fact that the descendants of the Romano-British/Celto-British population still outnumbered the Anglo-Saxons. Hence, the rather small 'halls' or ground level timber buildings of that period are to be seen in the Romano-British house building tradition (Dixon 1982). Therefore, they "… seek to explain the absence of the longhouse in England through the combined impact of migration and acculturation, and of changes in the composition and economy of the household …" (Hamerow 1999: 126). The preferences in the explanation mirror so to say the discussion of how far we should reconstruct the invasive foreign population input during this period (cf. above the impact of DNA-studies).

Sea Peoples

As the potential homeland (or homelands) of the Sea Peoples is open to much discussion we are facing considerable problems when trying to compare settlement evidence in one potential homeland with the area where Sea Peoples most likely settled, for example in Philistia on the Southern Levantine coast. According to the Bible Crete was the homeland of the Philistines and many scholars favour the Aegean in general (e.g. Yasur-Landau 2010). But which Aegean architecture – and of which period – should we compare to the Philistine settlements? The late Palatial architecture of the late 13th century BCE (LH IIIB) or the early Post-Palatial architecture of the early 12th century BCE (LH IIIC Early)? In his recent attempt to reconcile the archaeological evidence from the Aegean and Philistia in order to prove a migration from the former to the latter region A. Yasur-Landau compared typical Palatial corridor houses of the LH IIIB period from Mycenae or the Menelaion on the Peloponnese with habitation layers at Ashdod Area G, Strata XIIIb and XIIIa (Yasur-Landau 2010: 271–276, 343). However, only small portions of the wall have been exposed from these layers at Ashdod because they are covered by structures and walls of the upper stratigraphy. The full reconstruction of the building(s) as corridor houses therefore remains dubious. Even if people from the Aegean also belonged to groups who migrated to the Southern Levant it is quite probable that the architecture they built was shaped by the new local constraints and by a different social organisation, potentially quite different from the one during the Mycenaean palatial period of the 14th and 13th centuries. Hence, the case of the Anglo-Saxon migration might give an example of how difficult it can be to trace migration through architectural style and building types.

Cemetery evidence pointing to a potential homeland

Anglo-Saxons

In general, the burial evidence provides the best archaeological indication to place the origin of the migration to the north-western continent and specifically to northern Germany with the Elbe-Weser triangle or

Schleswig-Holstein, at least this is suggested by the evidence from some Early Anglo-Saxon cemeteries like Spong Hill in Norfolk (Hills and Lucy 2013). Here both the treatment of the dead and the objects can be well compared to cemetery data from Northern Germany, like for example at Issendorf, Lkr. Stade, in Lower Saxony. The latter cemetery was mainly used from the late 4th to the early 6th century CE (Hässler 1994; Weber 2000). Typical are cremations placed in urns, but also several dozens of inhumations have been excavated. In general, the burial rites and the objects placed in the graves can be very well compared to the ones from Spong Hill, making a direct link most likely. The use of the urban Romano-British cemeteries in England next to Roman cities and towns, like at Winchester (Lankhills), London (East cemetery), Colchester (Butt Road), Dorchester (Poundbury) etc., comes to an end around 400 CE (Esmonde Cleary 2011: 22–23). There are no archaeological indications for any burial of a person of Anglo-Saxon/Northwestern continental origin within these large cemeteries, yet there are a few graves which have brooches or other objects which could also be found in north-western Germany like for example a tutulus fibula in Grave B374 at the Eastern Cemetery at London (Barber and Bowsher 2000: 184). However, these artefacts rather reflect the mixed late Roman style with Germanic influences which was distributed by the 'multi-national' members of the Late Roman army (and this is again well documented at Lankhills by strontium isotope data by which individuals of 'Mediterranean' descent could be identified, see Evans *et al.* 2006 and Eckardt *et al.* 2010 – the objects from these graves fit these data rather well, cf. Clark 1979; Booth *et al.* 2010). The Late Roman/Saxon chip-carved geometric decoration (Kerbschnittstil) then evolves further in Britain to the so-called Quoit-Brooch-Style, visible for example in the girdle of an apparently very early Anglo-Saxon grave (no. 117) from the earlier 5th century CE at Mucking (Hirst and Clark 2009: 366, fig. 192, 1). However, it is difficult to identify any cemetery with a mixed Romano-British and Anglo-Saxon population or even the contemporary use of a neighbouring area for burials by both populations – one such case at Queensford Park (Romano-British) and Berinsfield (Anglo-Saxon) at Dorchester turned out to be chronologically separated when a new series of ^{14}C-dates was analysed (Hills and O'Connell 2009; cf. now Gerrard 2015). Interestingly, studies of stable isotopes on the bone material indeed imply differences in the nutrition of the individuals buried in these two separate cemeteries (Privat and O'Connell 2002; Fuller *et al.* 2006). One candidate of a cemetery of the Early Anglo-Saxon period (5th/6th century CE) with both Romano-British and Anglo-Saxon burials is the cemetery of Wasperton in Warwickshire. The problem is the identification of the Romano-British burials: "By the last third of the 4th century virtually everywhere, except perhaps Lankhills, unfurnished extended inhumation was the burial rite of the vast majority of Romano-Britons" (Philpott 1991: 226). Whereas Anglo-Saxon burials are most commonly furnished by weapons (typical male graves) and/or jewellery (typical for female graves), in the potential Romano-British graves only shoe nails and sometimes bracelets are found. These earliest graves of phase 1 at Wasperton date approximately between 300 (?) and 480 CE, yet precisely datable objects are missing. The earliest Anglo-Saxon graves of phase 2 (suggested date c. 470–500 CE) of which some contain now well-datable glass "Traffic light beads" (Scheschkewitz 2006: fig. 68; Brugmann 2004; Penn and Brugmann 2007: pl. 1). It was not possible to refine the chronology by a series of ^{14}C-datings, but they were in general agreement with the archaeological dates (Hamilton *et al.* 2008). Interestingly, the radiocarbon dates of child burial cremation grave 20 with a stamped urn and cremation grave 26 of a mature female equipped with an urn and an equal-armed chip-carved brooch, both clearly Anglo-Saxon in terms of material culture, fall into the time span of 130/250–430 CE (2 sigma), hence dating to a bit earlier than previously assumed. J. Scheschkewitz, who published the cemetery data from Wasperton (2006), concluded that the archaeological material is not suited to exclude a hiatus between the Late Roman phase 1 and the Anglo-Saxon phase 2. The Anglo-Saxon archaeological material in Britain simply cannot be dated so far as precisely as for example in 5th and 6th century CE Central Europe (where frequent coin finds in graves have admittedly helped to build up a refined chronological scheme) and Romano-British finds are very difficult to spot and date for this period as well (but cf. Härke 1998). Nevertheless, the continuation of burials from the Late Roman to the Anglo-Saxon period is striking in the cemetery of Wasperton. Some burials like grave 156 (phase 1a, 'Roman') and grave 156 (phase 2a–b, 'Anglo-Saxon') are situated next to each other and seem to be considerate of each other. Hence, Wasperton provides some idea of how the acculturation and ultimately assimilation of the indigenous population to the Anglo-Saxon burial rites took place (Scheschkewitz 2006: 195). Like in the Late Roman cemetery at Lankshill mentioned above it was possible to prove for Wasperton the high mobility by oxygen and strontium isotopes in the Late Roman phase 1 whereas it

has not been possible to do this so far for the individuals of the archaeologically defined Anglo-Saxon graves (Montgomery *et al.* 2008).

Sea Peoples

The basic problem we face with potential Sea Peoples burials along the Levantine coast is that there are only a few known cemeteries from this crucial period and none could be clearly attributed to such a population. One explanation could be that the coastal plain is often formed by alluvium layers of soil which are cover cemetery sites (Kletter and Nagar 2015: 20). It is especially unfortunate for the only region on the Levantine coast where we have the most indications for a new incoming population, in Philistia: "one type of context for which we have almost no information, however, is funerary, as no cemetery of the Philistine cities has been excavated" (Ben-Shlomo 2010: 166). The few so far discussed cemeteries and tombs, for example, those at Azor (Ben-Shlomo 2008) or Tel 'Eitun (Edelstein and Aurant 1992), have now to be re-evaluated according to the most recently announced discovery of "the first Philistine cemetery" at Ashkelon (Sauter 2016). However, the findings from this cemetery cover only the 11th and 8th century BCE – the crucial initial phase of the 12th century seems to be missing. In other regions, individual burials can be pointed out in a few cases, for example on Cyprus, with objects which can be paralleled by finds in the Central Mediterranean (see for example Jung 2009a, 2009b), yet whole cemeteries which could be easily identified as alien (by location, construction, layout, offerings, etc.) within the local burial traditions cannot be identified. Hence, we so far lack the basic archaeological data to make a good potential case for a migrated population based on burial data alone.

Specific artefacts pointing to a potential homeland

Anglo-Saxons

The evidence from the artefacts is overwhelming for making a case of the migration from Northern Germany and Southern Scandinavia to Southern and Eastern Britain. Only a few examples need to be mentioned. Well known are the grave urns with incision and plastic decoration from Wehden in Lower Saxony and the one from Markshall in Norfolk which are so similar that it is most likely that they were made by the same potter – who belonged to these migrants of the 5th century CE (Myres and Green 1973: pls. 10–11; Capelle 1990: figs. 8–9). The imagery of the Anglo-Saxon grave urns echoes Germanic traditions, even if different modes of decoration were employed very soon in Britain, from animal depictions in reliefs to stamped decorations (Bantelmann 1981; Capelle 1987). The distribution of certain types of fibulae like equal-armed brooches or the Saxon Relief style very strongly imply a northwest Continental origin with especially Northern coastal area of German as the origin for these types of artefacts (Böhme 1974; 1986; Inker 2006). Next to fibulae also gold bracteates, thin coin-like pendants or foils originally inspired by Late Roman Imperial medaillons and coins, also appear around 500 CE for the first time in Britain, whereas they are known in Central Europe from 400 CE onwards (see now the first certain hoard of bracteates in Britain known from Binham in Norfolk: Behr *et al.* 2014). The iconography of the bracteates is clearly referring to parallel artefacts in Central Europe and Scandinavia (Haseloff 1981).

Sea Peoples

Specific artefacts, like characteristic pottery, tools or adornment, have also been potentially connected with the Sea Peoples. The so-called ‚Handmade burnished ware' (HBW), also known as 'Barbarian ware', is believed to be an indication of the presence of a foreign population in the late 13th and 12th century in the Aegean. So far, this type of pottery has only rarely been encountered in the Eastern Mediterranean, even if the number of known sites is growing (Karageorghis 2011). An association of this pottery with the Sea Peoples is possible (Lis 2009: 155), yet it is for example missing from Philistia. The best links for the Aegean/East Mediterranean HBW can be found in Southern Italy (Jung 2006: 21–46; 2009: fig. 10). Also some weapon types like swords, daggers, spears with a cast socket from the Aegean, Cyprus and the Levant can be well compared to Central Mediterranean or even Central European types (Jung 2009a, 2009b). More indicative is the study of the common pottery from Enkomi, Cyprus, recently carried out by R. Jung. He observed a "radical change in every-day pottery repertoire" from LC IIB to LC IIIA which "is clearly indicative of a strong Aegean impact after the destruction of Level IIB. But it is not clear to which Aegean region this new influence should be traced back" (Jung 2009b: 81), but refrains to attribute this to processes of either migration or colonisation or merely changes in production and exchange. Another group of artefacts which can potentially be attributed to migration processes in its geographical distribution are clay spools or cylinders. They are suddenly common all over the East Mediterranean during the 12th century BCE while they are still rare in the 13th century when they are known only from a few Aegean sites (Khania, Sissi, Thebes, Troy). Their appearance

on Cyprus and East Mediterranean coastal sites might indicate the movement of Aegean people to the East after 1200 BCE (Karageorghis 2002: 100; Yasur-Landau 2010: 132–133). This is possible but more complicated and needs further investigations in various regions because the study and publication of such mundane objects is often poor. What C. Hills observed in general for the Anglo-Saxon material, that "not only are such maps [of the material culture] never complete, but they have inevitably passed through a filter of survival, recovery, and record which can make a pattern which has more to do with the present than the past" (Hills 1998: 146), is also very true for these humble artefacts. It is also important to note that the chronology and general presence of HBW and the clay spools do not correspond at several sites, e.g. at Tiryns (Rahmstorf 2011: fig. 5), hence we cannot speak so far of a clear package of some new artefacts which can be assigned to a potential Sea People population. More specifically, it is also not possible to make a straightforward match between the material culture of any specific region, the potential homeland of the migrants, with the material culture of a specific area where Sea Peoples most likely settled, i.e. Philistia. Some material indicates a strong Aegean contribution, other artefacts point to Cyprus or Italy as the source of inspiration and even further regions may be pointed out in regard to other specific groups of objects. In this respect the material evidence might only indicate the various regional sources of the material cultures of the Sea Peoples similar to the ethnic mix of the peoples involved as it is also implied by the Egyptian written sources. Hence, the Sea Peoples are conceived "as already mixed and entangled cultural entities that had pre-existing connections with various parts of the Mediterranean" and that "they shared an affinity for particular Mycenaean symbols and once arriving in the Levant, further intermixed with local Canaanite elements" (Maeir and Hitchcock 2016: 151).

Conclusions

What is the point of comparing two migration events which are separated very considerably in time and space? There are at least three answers to this question. First, the comparative approach helps to recognize and identify phenomena which may not have been noticed in one migration case but are apparently of importance when considering the other better documented migration. The generally more plentiful data for the Anglo-Saxon migration are a reminder of what is so far missing for any improved reconstruction of the migration of the Sea Peoples, for example the well documented cemetery data or studies on ancient DNA and isotope studies. Secondly, the comparative approach enables us to observe similar phenomena but also some common problems, hence by analogy more insights can be gained into what processes are generally occurring during migrations and how these might be traceable in the archaeological record. Thirdly, it might be especially rewarding to compare the potential archaeological data and applied methods from natural sciences for historical documented migrations, like the Anglo-Saxon case, and prehistoric or protohistoric migration events, like the migration of the Sea Peoples. Such an approach is still rather seldom used (but see for example Prien 2005).

This short contribution has focused mainly on the problem of pinpointing the region from where the populations migrated in the first place. In both cases the written documentation is either not fully reliable, no longer conceivable or written down at a much later time in history. These sources already give the impression that the whole migration process was much more complex in regard to the key questions 'when?', 'who?', 'from where?', 'how many?' and 'why?'. The new methods from the natural sciences using especially DNA data have given interesting results for the Anglo-Saxons, even if in detail many questions remain open, for example how the replacement of the Romano-British population and/or the assimilation of the Anglo-Saxons was taking place. The archaeology of the Sea Peoples mainly relies on pottery evidence (cf. Sherratt 2013; see the numerous contributions in Killebrew and Lehmann 2013 dealing with pottery), but ceramics can merely provide one hint, as the Anglo-Saxon migration makes obvious. Many more different material classes and potential approaches also from the natural sciences need to be tested and investigated. The complexity of the Anglo-Saxon migration process is indicated by the various different evidence of which a selection has been briefly presented above. It should give us an understanding of how much is still missing in order to give more definite statements about Sea Peoples migration, yet it should also be taken as a motivation to go beyond the present state of research. Consequently, future research on the Sea Peoples should combine bio-archaeological analytical methods, detailed functional and contextual analyses of the archaeological material and comparative data obtained from other observed migration processes.

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The 13th/12th Century BCE Destructions and the Abandonment of Hala Sultan Tekke, Cyprus

Peter M. Fischer

Abstract

Renewed excavations at Hala Sultan Tekke under the direction of the author, which have so far extended over seven field campaigns (2010–2016), have exposed three new city quarters. These comprise City Quarters 1–3 with three phases of occupation, of which Stratum 2 and the most recent Stratum 1 are of chronological relevance to this paper. Excavations took place near the ancient harbour, i.e. close to today's Larnaca Salt Lake, in the north-western part of this large city, the total extent of which is still not known but which seems to have exceeded 25 hectares according to the recent findings.

Destructive events affected both Strata 2 and 1. Stratum 1 structures with a partly new layout were built on the ruins of the occupation of Stratum 2 shortly after its destruction. Radiocarbon dates suggest that the transition from Stratum 2 to Stratum 1 most likely occurred around 1200 BCE, shortly after 1200 BCE at the latest. The evidence from pottery supported by radiocarbon dates proposes that the end of the settlement in Stratum 1 can be placed around the mid-12th century BCE. Domestic and industrial structures, where copper and textiles were produced, were destroyed twice, and the once flourishing city was abandoned after the second destruction, never to be reoccupied again by permanent settlers.

The present paper will discuss the possible reasons for the destructions of Hala Sultan Tekke and the eventual abandonment of the city. Hypotheses will be presented as regards the fate of its population after leaving the city. In addition, destructive events and the abandonment of roughly contemporaneous settlements will be summarized and discussed.

Introduction

From the early 1970s onwards, P. Åström, the author's former colleague and friend, conducted surveys and excavations at Dromolaxia-Vizatzia/Hala Sultan Tekke (henceforth only Hala Sultan Tekke following established practice). Åström concentrated on remains mainly from LC IIC and LC IIIA (13th and first half of the 12th century BCE) in Area 8, but excavations were also carried out in the adjacent Areas 21–23. The excavations confirmed that Hala Sultan Tekke and its uniquely protected harbour was a hub in intercultural trade (Åström 1996).

Today, Areas 8, 21 and 22 are inside a common fence which encloses roughly one hectare (in Figs. 1–3 centre). Another fenced area of roughly 0.25 ha, City Quarter 1 (CQ1, the former Area 6), is approximately 100 m north by north-west of Area 8 (Figs. 1–4). In 1972 limited trial excavations, which were carried out around the highest spot in the northern part of Area 6, did not reveal any interpretable architectural remains (Åström, E. 1983: 59–105; Hatziantoniou 1983: 106–143). In 1998 additional minor soundings were carried out in the northernmost part of Area 6 (Åström and Nys 2001). The results from these soundings point to a settlement predating LC IIC, a deduction that was based on the ceramic evidence.

After the untimely death of P. Åström in October 2008 the Swedish excavations were resumed in 2010 under the direction of the author from the University of Gothenburg, Sweden. Because of frequent stray finds from Åström's excavations, which date back to the beginning of the Late Cypriot period, the determination of the complete occupational sequence of the site, including investigation of pre-12th century levels, became the main task of the current project. Another task became the search for the total extent of the city based on geophysical prospecting, mainly georadar, and test excavations.

In order to increase the efficiency of the excavations by pinpointing areas with architectural remains three geophysical surveys with georadar supported by magnetometer measurements were carried out: in 2010 prior to the first field season (Fischer 2011: 70–72), and in the course of the project in 2012 (Trinks and Fischer in Fischer and Bürge 2013: 57–59; see also Trinks *et al*. 2013) and 2014 (Trinks in Fischer and Bürge 2015: 56–59). The geophysical prospecting led to the discovery of three new city quarters (CQ1–3, Fig. 4): one inside the southern part of the fenced Area 6 where no previous excavations had been carried out, another one roughly 25 m west of Area 6, and the third another 25 m to the west of the latter. The radar surveys implied that there are streets which separate the three city quarters from each other. As regards the street between CQ2 and 3, two trial trenches support this hypothesis (Fischer and Bürge 2014: 77–79). Other geophysical surveys, i.e. geora-

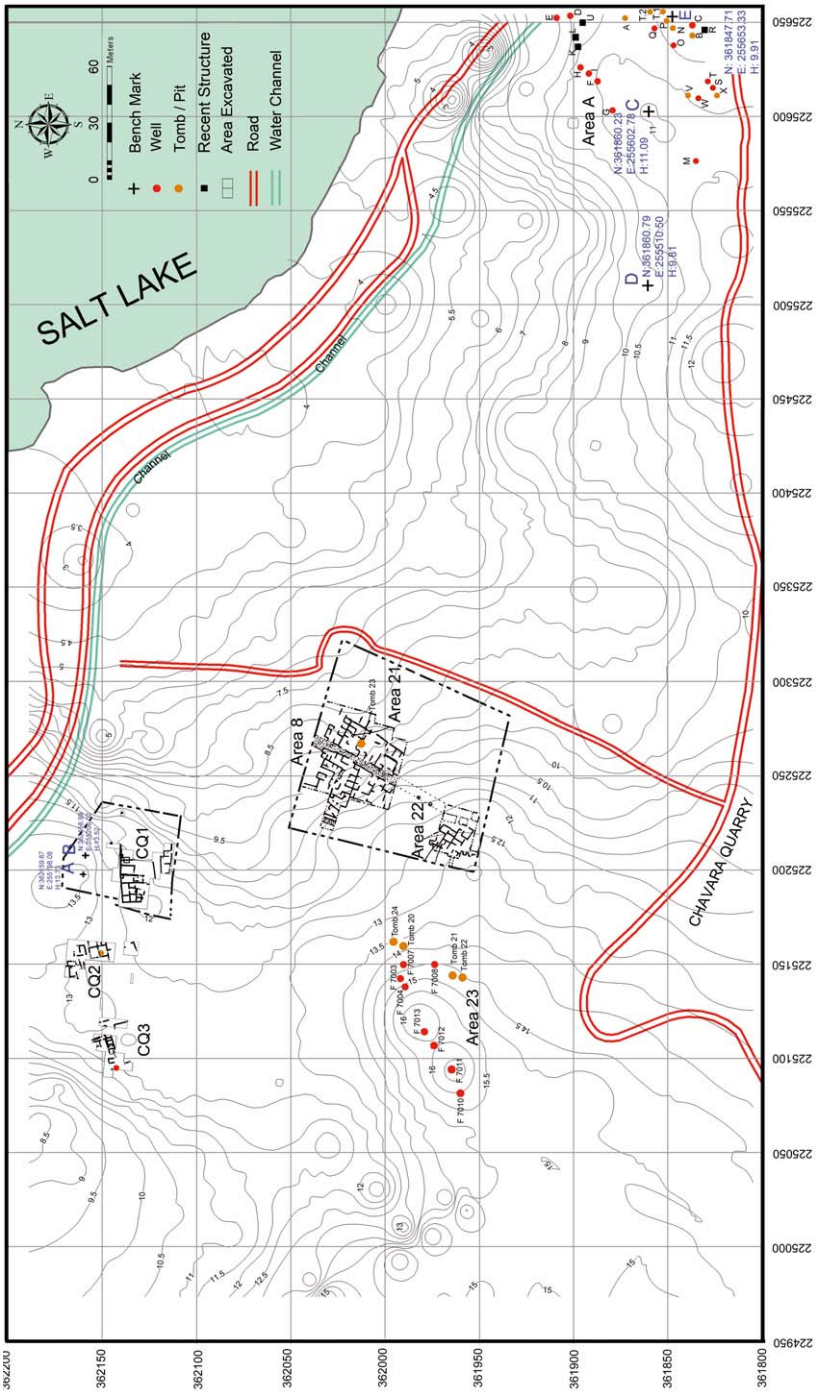

Fig. 1 The position of CQ1–3, Areas A and 8. The mosque of Hala Sultan Tekke is just to the east of the eastern limits of the map

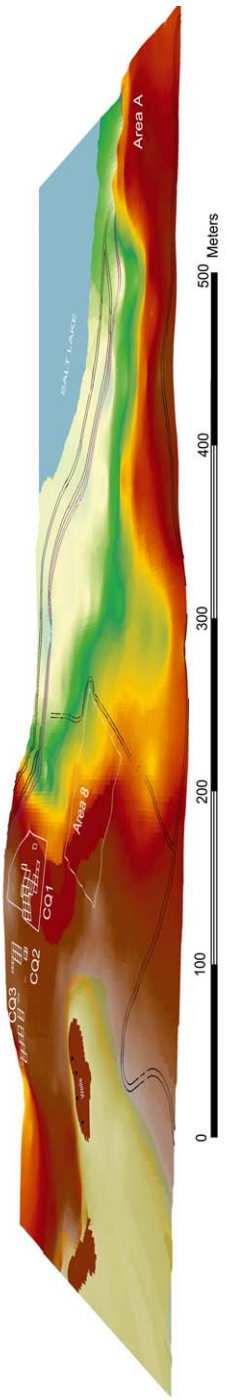

Fig. 2 Digital Elevation Model (DEM) of Hala Sultan Tekke

Fig. 3 Air photograph of CQ1–3 (west), Area 8 (centre) and Area A (east); maximum distance from south-west to north-east: 600 m

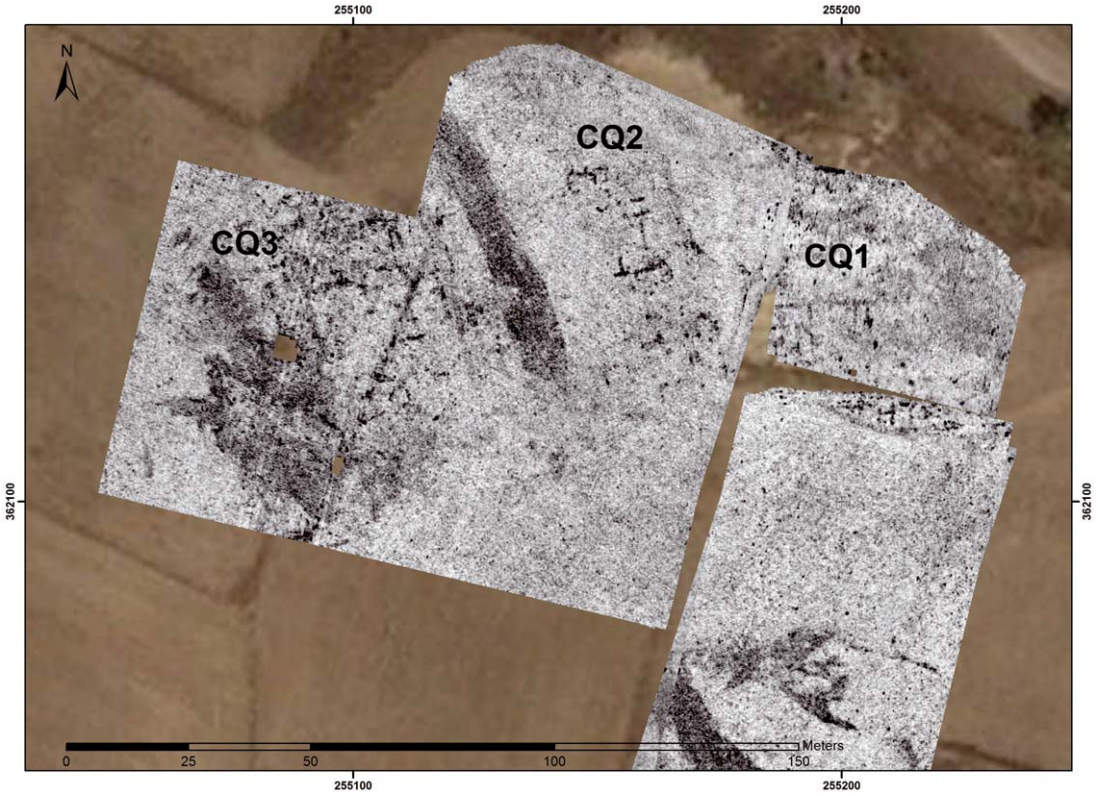

Fig. 4 Georadar images of the area of CQ1–3 (processed I. Trinks and T. Bürge)

dar and magnetometer, were carried out in 2014 in Area A, roughly 600 m east of CQ1, where tombs, offering pits and wells were found (Figs. 1, 2).

The object of this paper is to present new evidence from the past seven seasons of excavations (2010–2016) from the occupational Strata 2 and 1. Insights were gained on the period of occupation which corresponds to these two strata in the course of the pursuit of the complete occupational sequence of the site. Further light was thrown on the fate of the city around 1200 BCE and its abandonment around the middle of the 12th century BCE. These dates are supported by radiocarbon – or at least not contradicted (see also Manning *et al*. this volume) – which suggests a date between the last quarter of the 13th century BCE and soon after 1200 BCE for the transition from Stratum 2 to 1 (see below). There are clear indications of occupation in pre-Stratum 2 layers; however, the discussion of the earliest phases of occupation at Hala Sultan Tekke is beyond the scope of this paper which is primarily concerned with the topic of the workshop, i.e. the crisis years around 1200 BCE. In the presentation of the evidence from CQ1–3, emphasis will be laid on those rooms and spaces in the three quarters where obvious indications of destructive events could be ascertained.[1] In order to argue against the earlier forwarded claim that Hala Sultan Tekke was 'peacefully' abandoned (Iacovou 2013: 599), the author will describe the evidence of the results of destructive events.

The evidence: Hala Sultan Tekke, Stratum 2

CQ1 (Fig. 5)

This part of the city is the original, but in 2016 extended, Area 6. The stone-built structures are represented by a compound with an estimated size of 654.5 square metres, i.e. roughly 40 m (east–west) by 30 m (north–south).[2] Since the occupants of Stratum 1 partly built upon the remains of Stratum 2 only 10 walled spaces could be isolated as clearly belonging to Stratum 2: These are Rooms 14–18, 21, 63–66.[3]

The interpretation of the function of Room 14, where patches of ash, which are not connected with any cooking installations, were found, is not possible. This is evidently due to the fact that exactly the same space with the same foundation walls was reused in Stratum 1 (Room 10) when the settlers cleared this space of its original contents. Room 21 is a large open courtyard. The dominating installation in this space is an almost square, 3 m × 3 m lime-plastered basin which was roofed judging by the three post holes to the west and two to the east of the basin (Fig. 6; cf. Fischer and Bürge 2013: 98–103). A reused stone anchor was found inside the basin as well as numerous ellipsoidal objects of unfired clay which are interpreted as sling bullets (Fig. 7). These objects – in total 44 – were also found outside the basin lying on the floor mainly in the northern part of Room 21. The placement of the objects next to the basin can be related to the production of these objects since clay and water are needed to manufacture them. However, the primary function of the basin has certainly been another, since the basin is far too large for the production of sling bullets. Our prevailing hypothesis is that the basin has been used in connection with the dyeing of textiles in times of peace (see also CQ2 and 3 below), and that this manufacture was replaced by the production of clay sling bullets just before Stratum 2 was destroyed. Consequently, the change in use of this facility seems to have been an adaption to extraordinary circumstances. The sling bullets could have been used in the defence of the city.

Room 15 is a space where several intact/complete juglets of Mycenaean and Base-ring I ware were found (cf. Bürge 2012). This room is interpreted as a space for getting together where people drank and ate. The intact/complete small vessels, which may represent heirlooms, were buried under the destruction debris of Stratum 2 which protected them – a situation from which the excavations profited.

Room 18 is the walled and roofed space from which our excellently executed Creature Krater stems (Fig. 8 cf. Fischer 2011: 80–82). The centrally placed stone (0.70 m × 0.90 m, Th. 0.25 m), hewn flat and square, and the stepped stone in front and to the west of it suggest that the krater once stood on the square stone which served as a house altar before the roof collapsed

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1 The results from the excavations of these city quarters are in Fischer 2011, 2012; Fischer and Bürge 2013–2016, forthcoming a, forthcoming b.

2 This is the size of the compound in Stratum 1, the occupants of which have removed, reused and altered the structures of Stratum 2. There are good grounds for assuming that the original size of the Stratum 2 compound roughly corresponds to that of Stratum 1.

3 According to regulations by the Department of Antiquities of Cyprus stone structures are not allowed to be completely removed. Consequently, the complete access to the Stratum 2 remains is limited.

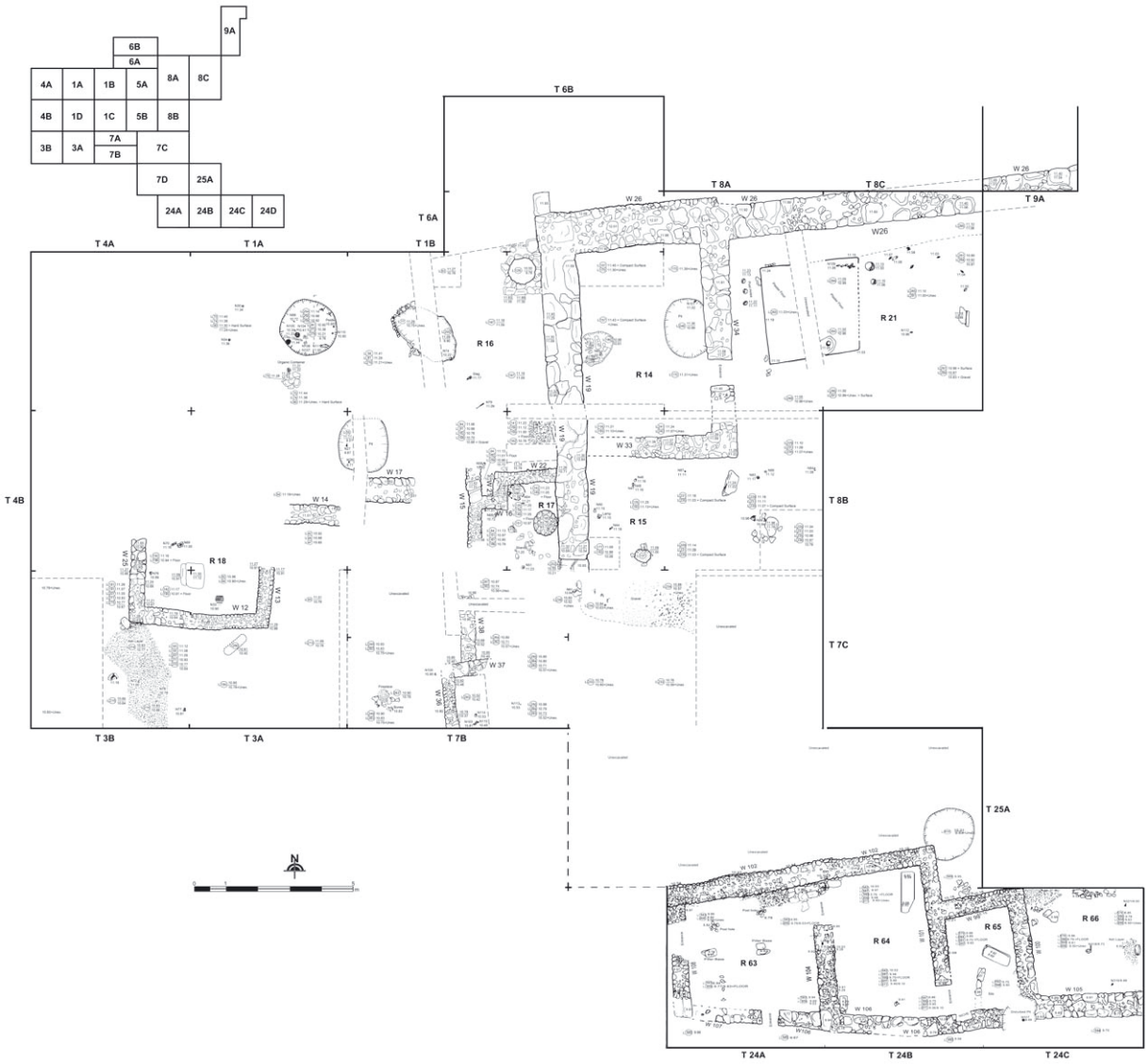

Fig. 5 CQ1, Stratum 2

on the krater. In the following Stratum 1 Wall 3 was built upon the krater (Fig. 9). To the south of Room 18 is a thick layer of ash which stretches beyond the limits of the excavations.

The floors of Rooms 63–65 were covered with patches of ash. Substantial remains of ash were found in R66 which is an only partly exposed open space. Ash and destruction debris were found concentrated in the northern and eastern part of the exposed area. In conclusion, there is no doubt that the Stratum 2 compound in CQ1 suffered a catastrophic event which brought this flourishing phase to an end.

CQ2 (Fig. 10)

This city quarter of roughly 20 m × 20 m (as exposed) is approximately 25 m to the west of CQ1 and most likely separated from the latter by a street. In general, Stratum 2 is only partly preserved in this part of the city. There are two reasons for this: one is that the occupants of Stratum 1 removed, reused and altered the previous structures which during excavation made it from time to time difficult to decide at certain spots which structures were originally built in Stratum 2. There are, though, several stone structures which undoubtedly

Fig. 6 Basin in CQ1, Stratum 2 below wall of Stratum 1; observe reused stone anchors

Fig. 7 Sling bullets of clay from CQ1, Stratum 2

Fig. 8 'Creature Krater' from close to the house altar in CQ1, Stratum 2

Fig. 9 Find position of 'Creature Krater' below Wall 3 of Stratum 1

were built in this phase and, later on, reused and/or altered in Stratum 1. Two havara floors, clearly separated from each other, provided help in distinguishing between the structures of these two strata. The second reason for the state of preservation of this area is modern farming: since the area was never fenced and the ancient structures are close to today's surface, ploughing had dislocated and even destroyed several walls.[4]

[4] According to the local famers ploughing affects only 20–30 cm from surface. However, some Stratum 1 structures are very close to the surface. In addition, Stratum 2 structures are at some spots within the ploughing depth.

Fig. 10 CQ2, Stratum 2

The north-western unit

In the northern exposed part of the Stratum 2 compound are four walled spaces (Rooms 43–46). Gold and silver jewellery, which had been left behind before Stratum 2 was destroyed in a conflagration, derives from Room 41 (Fig. 11): this includes a silver amulet,[5] a bead of a disc-shaped black stone, a gold leech earring with an attached profiled plate of gold with a possible representation of a bull (Fig. 11:3), a bronze ring, a silver earring with a gold pendant (Fig. 11:2) and a sheet of silver which was attached to the item (Fig. 11:4), two gold earrings and a partly molten lump of silver (chain?) where another object of gold (ring?) was embedded (Fig. 11:1). The conflagration is verified by an ash layer and the partly melted jewellery, which point to quite high temperatures. The objects of silver jewellery started to melt, whereas the gold objects which in fact were alloyed with silver, still remained intact. Considering the melting point of silver, 962 °C, and that of gold, 1064 °C, temperatures around 1000 °C must have been reached.[6]

Fig. 11 Partly molten gold and silver jewellery from CQ2, destruction layer of Stratum 2

The southern unit

There are several walled spaces which are ascribed to Stratum 2: Rooms 31–39 of which Rooms 31–33, 35 and 38 are of specific relevance to the topic of this paper because of evidence of a destructive event with demolished walls and ash.

Amongst the features and finds in Room 31 is a kidney-shaped pit. This pit and its surroundings contained around 300 kg of material which is related to copper-working: this includes tapped slag, furnace walls, fragments of tuyères, crucible fragments, copper/bronze fragments and pieces of raw copper. The pit was used for storage of raw material for the production of copper. However, a complete furnace has so far not been discovered. Also, the adjacent spaces to the east, Room 32, and to the south, Room 33, contained objects which point to the use of these rooms as a workshop for copper production: there are, inter alia, five tuyères which originally were used as torches.

Room 35 is a 5.2 m × 3.6 m space with a flat stone, which functioned as a roof support, in the centre of the room. A fairly complete large White Painted Wheel-made Pictorial (WPPS) krater with skilfully executed painting comes from this room (Fig. 12). It was named the 'Horned God Krater' because of a painted figure with a horned headdress resembling the representations of horned gods from Enkomi.

Room 38 is a space to the south of the former. Amongst the small finds are several loom weights and spindle whorls, which point to the function of this room as related to textile production. These finds together with finds of sophisticated pottery including the 'Horned God Krater' from the southern part of this compound (see below) point to the home of rich guilds of craftsmen, who specialised in copper/bronze and textile production. Also in this quarter, there is evidence that Stratum 2 suffered a catastrophic event.

CQ3 (Fig. 13)

During the preparation of this paper the third city quarter, which was discovered in 2013, is still under excavation (so far 200 m^2 are partly exposed). Consequently, the description of the occupational strata is very preliminary. Guided by the georadar map, test trenches were dug in 2013 (Fischer and Bürge 2014: 77) and 2014 (Fischer and Bürge 2015) followed by excavations in 2015 (Fischer and Bürge 2016).

Stratum 2 is represented by a compound with several rooms. It seems that the main function of the compound has been industrial. The dominating installation

[5] There is certainly a pictorial representation on one side. However, the corrosion of the surface of the amulet does not yet allow any interpretation. Cleaning and conservation work will be undertaken by the Department of Antiquities in Nicosia.

[6] It is highly unlikely that this jewellery was in the process of being recycled since it was found in an ash layer without any associated metal melting facilities.

Fig. 12 'Horned God Krater' from CQ2, Stratum 2

Fig. 13 CQ3, Stratum 2 (state 2015)

of Stratum 2 in this quarter is a rectangular basin of a plaster-like material supported by surrounding stones. It is 2.65 m × 2.05 m with a preserved height of 0.30 m and a calculated volume of roughly 2–3 cubic metres. Our preliminary interpretation is that it was used for purple-dyeing textiles. It has also been suggested that it was used to tan leather. In any case, it once contained a liquid. Water was available from a deep well with a massive well head of hewn limestone close to the basin, on which wear marks of ropes can be seen.

Finds from Stratum 2 include numerous sling bullets of lead, alabaster vessels of which a virtually intact pilgrim flask should be mentioned, Mycenaean-imported pottery although of minor quantities (residual?), and faience objects of obvious Egyptian origin: amongst these are sherds of a dark brown decorated bowl of white faience and sherds of Egyptian Blue, a small figurine of the *ushabti*-type and a *wedjat* eye-amulet.

Large patches of ash – at some spots of considerable thickness – were found all over the opened-up area of excavation. These observations point to a violent end of this phase of occupation also in this part of the city.

The evidence: Hala Sultan Tekke, Stratum 1

CQ1 (Fig. 14)

The bulk of finds, before the city was finally abandoned, comes from this layer of occupation. The thickness of the occupational debris is up to 0.8 m. It consists of collapsed roof constructions of clay, wood and straw intermingled with ash, mudbrick superstructures, stone-wall foundations and several floors. In addition to the rich find assemblage it also produced architectural elements of limestone, once parts of door/roof constructions, water/drainage systems, a cistern and ashlar masonry.

Fig. 14 CQ1, Stratum 1

This quarter consists of two connected compounds, one to the west and one to the east, which share the massive north-south running Wall 19 which is built of very large blocks of conglomerate stone. The walled spaces from this phase of occupation comprise Rooms 1–13, 19 and 20. The western part consists of Rooms 1–9, 12 and 13, and the eastern part of Rooms 10, 11, 19 and 20.

The western unit

Room 1, which is in the north-western part of the compound, contains a working bench and numerous finds of fine tableware in addition to objects of bronze and lead, and ash. An intact spearhead was found covered by a flat stone which seems to represent a foundation deposit. This roofed space was used as a room for living and working.

Room 2 to the east of the former has similar finds. Architectural elements are lying inside the debris of the collapsed roof, some decimetres above the floor, which makes it evident that they were part of the collapsed roof construction. There are blocks of hewn, flat limestone which once belonged to a water/drainage system. Other ashlar blocks of stone were found on the floor and might have served as bases for wooden roof supports. There is a circular stone-and pottery-paved working space. This roofed space was used for various household activities including spinning.

The dominating structure of Room 3 is the cistern which was originally built in Stratum 2. It is possible that the cistern was still used in Stratum 1 but eventually became a rubbish container: the upper part was filled with several kilograms of animal bones and other waste covered by ash. There are pieces of copper slag, iron ore and a large, irregular, piece of melted lead which point to a workshop where metal melting/working and probably textile production were carried out. Room 4 has only a few finds whereas Room 5, an open or only partly roofed courtyard, comprises finds, for instance a crucible, which point to the processing of metals but also to the preparation of food. Room 12, which is only partly preserved, was used for the preparation of meals. The same can be said about Room 8. Finds from Room 6 also point to the preparation of food. There are objects which are related to hunting and fishing from this space. Room 13 to the north is most likely an outdoor annex which was not roofed. The fireplaces point to this space being used for the preparation of food. The area to the south of Rooms 8 and 9 is also an outdoor area where a lot of ash and finds related to textile production were discovered.

The eastern unit

Room 10 was a multi-purpose working space for food processing and storage, and textile production, and Room 19 was a working space where two main activities were carried out: food processing and the production of ceramic containers. Room 20 was an open space with several food-processing installations: a hearth, another fireplace and an oven. The bench may have been used to temporarily deposit the processed food. Textiles were produced there. Room 11 was an open space where numerous intact vessels of, inter alia, Base-ring II together with a cylinder seal of haematite were found. The drinking vessels would point to a place where people gathered and consumed liquids and food.

Although the evidence is not as strong as in the CQ2 (see below), this quarter, too, suffered a catastrophic event judging by collapsed and charcoaled roof structures and much ash.

CQ2 (Fig. 15)[7]

The remains of three architectural units separated by passages were exposed: the north-western, the central and the southern structures. The north-western unit consists of four walled spaces (Rooms 39–42), the central of two (Rooms 22 and 23) and the southern of seven (Rooms 24−30).

The north-western unit

To the south of Room 40 is an outdoor area where 25 kg of murex shells, making up a 10 cm thick layer were found. The area contained ash and pieces of charcoal. Room 42 is an outdoor area which contained several large worked stones, which represent the remains of a large basin with raised walls. There is a thick layer of ash and burned debris in this space. This space seems to have been a working place where food was prepared and olives were pressed.

The central unit

Room 22 suffered from a severe destruction with many dislocated stone walls. There are several mudbricks which were interpreted as a possible basin for dyeing textiles. Numerous loom weights were found in this room. Textile production and dyeing seem to have been its main functions. Room 23 to the south contained a lot of ash. There are several complete and even intact small

[7] For the position and additional description see above Stratum 2.

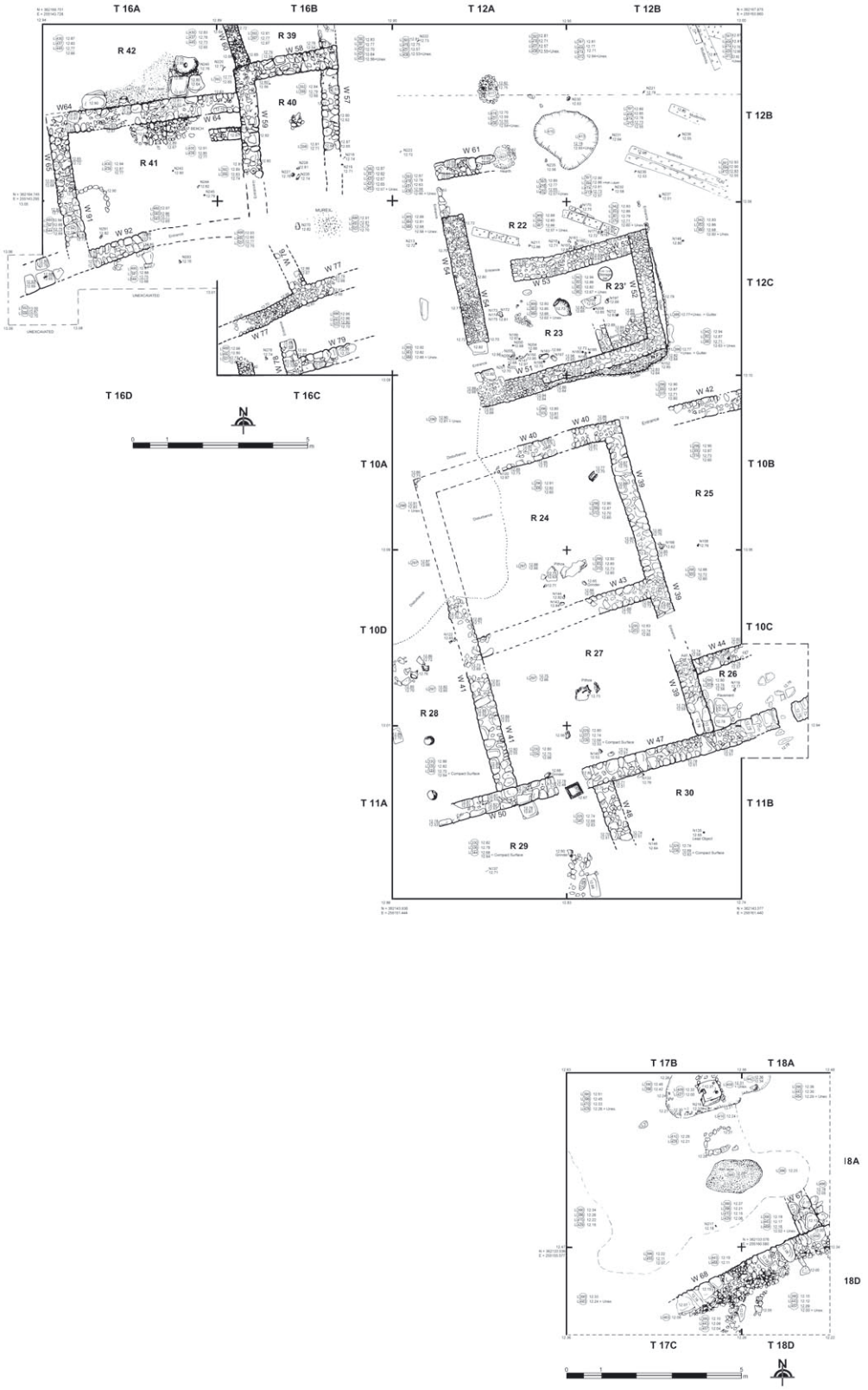

Fig. 15 CQ2, Stratum 1

Fig. 16 Destruction layer in CQ2, Stratum 1

Fig. 17 Bichrome White Painted Wheel-made Geometric Style jar from CQ 2, Stratum 1

vessels of fired clay in situ from when the structure collapsed (Fig. 16). Textile-production-related tools and specific vessels point to the activities which were carried out there: spinning and the preparation of food including the production of cheese (Fischer and Bürge 2014: 65–68).

The southern unit

Room 25 contained an almost complete 34 cm tall Mycenaean-style piriform jar of White Painted Wheel-made Geometric Style and ash (Fig. 17). When the roof collapsed, this vessel may have fallen down from a higher level and shattered on the floor. To the south of Room 25 is another small walled space, Room 26, which is stone-paved. This structure was originally built in Stratum 2 but reused in this stratum. Loom weights were found in the debris above this space. The two southernmost spaces, R29 and R30, which were only partly excavated, were reused from Stratum 2.

CQ3 (Fig. 18)

Excavations are in progress, i.e. only parts of this city quarter have been exposed so far (see above). The most striking observation as regards architectural structures is the increased widths of a number of walls, for instance Walls 69 and 95, which reach roughly 1.2 m, which is almost twice the width of the walls of the previous phase. These are so far the widest walls which have been exposed at Hala Sultan Tekke. Since they are far too massive to support a standard house they may represent defensive structures. In order to understand their correct function a larger portion of this quarter will be exposed in the coming seasons. There are patches of ash but the proximity to today's surface and the effect of ploughing have (so far) partly obliterated a coherent picture of the fate of this phase of occupation before this quarter was also abandoned.

Hala Sultan Tekke: the crisis years and the harbour

The 13th/12th century events at Hala Sultan Tekke assign the city an important role in the debate on the riddle of the Sea Peoples phenomenon. This phenomenon is connected with a period of a wide-spread general crisis, which started in the late 13th century BCE. According to many scholars these 'crisis years' are characterised by social upheavals, sweeping warfare and migration in the Eastern Mediterranean (see e.g. Sandars 1978; Dothan 1982; Dothan and Dothan 1992; Yasur-Landau 2010; Cline 2014).

Investigation of the possible causes behind these destructions and the eventual and definitive abandonment of Hala Sultan Tekke can to some extent contribute to disentangle this riddle. In general, amongst the most logical causes for the destruction / abandonment of Hala Sultan Tekke – or any ancient city – are warfare, the worsening of the environmental and climatological conditions, other natural disasters and epidemic diseases, and economic and political causes. The most common explanations for destructive events in the archaeological literature are enemy attacks (see, though, the paper by Millek in this volume in which he sets the 'evidential bar' for destructions very high). This is by no means surprising considering written sources from *historical* periods when destructions of cities or even entire civilisations are most often caused and consequently ascribed to attacking forces.[8] Are there any signs of enemy attacks in the archaeological record at Hala Sultan Tekke? Or, are there any other plausible explanations for the abandonment of the city?

Contra-warfare arguments explaining the abandonment of Hala Sultan Tekke include, for instance, those by Iacovou (2013: 599), who claims that "the silting of the harbour, rather than any violent attack, must have played a decisive role". To support the argument, the palaeographic investigation by Gifford (1978) is quoted.[9] However, the silting up of the harbour does not explain the *destruction* of the most recent Stratum 1 just before the city was abandoned. Was the final destruction contemporary with the problems concerning the harbour?

In order to investigate the silting-up hypothesis, the recently published study by Devillers *et al.* (2015), which deals with the paleo-environmental evolution of the Larnaca Salt Lakes and the relationship to second millennium BCE settlement, will therefore be referred to in detail. By means of new coring data and a radiocarbon sequence – in fact from c. 9000 BP onwards – the authors confirmed the prevailing view that the western part of today's Salt Lake was used as Hala Sultan Tekke's harbour in the Late Cypriot period. This harbour actually represents the largest sheltered anchorage known on the island. The navigable routes between the port of Hala Sultan Tekke and the open sea were determined by additional coring and geomorphological mapping by the team of Devillers. Two natural

[8] References are not provided because of the enormous amount of relevant narratives and written sources.

[9] Iacovou refers in fact to Gifford 1980 which most likely should be 1978.

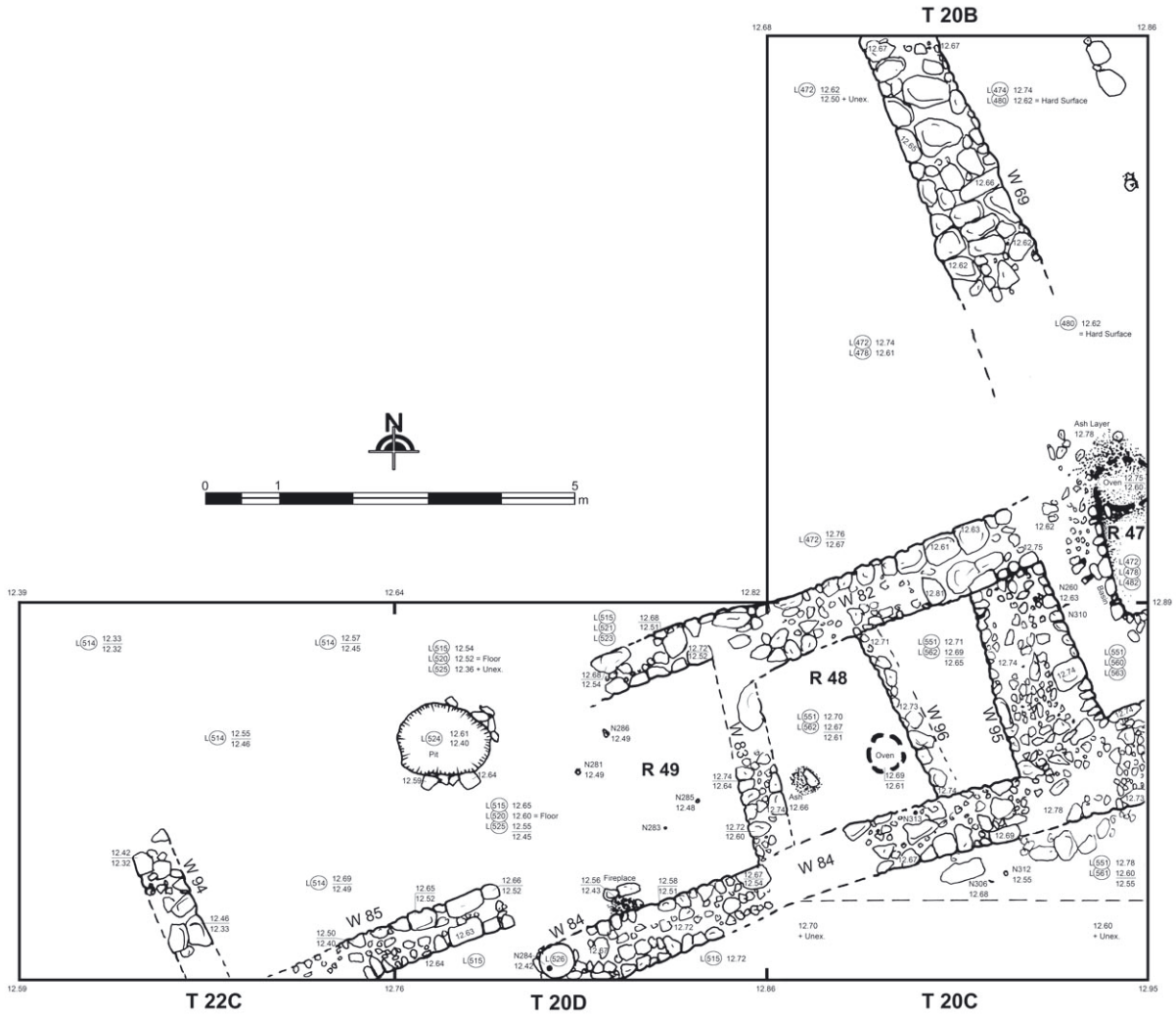

Fig. 18 CQ3, Stratum 1 with possible defence system

main channels, a northern and a southern passage, and a third, artificial, cut could be verified.

These data suggest that siltation of the harbour appears to have been under way during the period when it was used as a harbour. This means that the shippers were forced to use varying routes suitable for navigation inside the harbour. Gifford (1978: 166–168) suggested a northern passage as a natural entrance for Late Bronze Age ships arriving and departing the lagoon based on the then belief that sea-level was c. 3 m below its present level. However, more recently Dalongeville *et al.* (2000) have on the contrary demonstrated that relative sea-levels were up to c. 1–1.5 m higher in the second millennium BCE and that the lowering of the sea level appears to be based on a gradual process of tectonic uplift which stabilised c. 3000 BP (Dalongeville *et al*. 2000: 16–19), i.e. more than a century after the abandonment of the city. Devillers *et al*. (2015: 76) suggest that both natural routes were used for navigation at different times. The choice of either route depended on the conditions of the lagoon bed during the silting-up process.

The third possible channel from the harbour to the open sea is an artificial cutting through the marly limestone on the eastern side of the Salt Lake. It is 40 m wide, 8 m deep and 100 m long. Gifford (1978: 49–50, 160–161) dated this channel to the Venetian period, when it could have been used for the transportation of refined salt from the Salt Lake. Gifford based his view on the now revised assumption that sea levels were lower in the second millennium BCE. However,

Devillers *et al*. (2015: 76) are inclined to support an alternative hypothesis, namely that the cutting may represent a channel excavated during the later second millennium BCE between the harbour lagoon and the open sea. Their argument is partly based on the data of relative changes in sea level along the south-east coast of Cyprus documented by Dalongeville *et al*. (2000) and Morhange *et al*. (2000). If the channel was dug by the people of Hala Sultan Tekke it points to ongoing siltation of the previously used routes into the harbour and demonstrates the strong need to keep their lifeline open, i.e. the passage between the harbour and the sea, considering the enormous efforts it must have taken to build this channel.

Destruction, rebuilding and abandonment of various sites (see Table 1)

Hala Sultan Tekke

The area to the south and west of today's Salt Lake has been settled since the end of the Middle Cypriot period (e.g. Fischer 2011 with further references). The find material from the settlement spans the entire Late Cypriot period except for its latest part, viz. LC IIIB (see the division and the *relative* chronology[10] of the Late Cypriot periods in Åström 1972: 755–781). Finds from the earliest settlement period have been unearthed in not insignificant numbers in every season since the start of the new excavations in 2010. However, architectural remains from the end of the Middle Cypriot, the LC I and the first half of the LC II periods have so far not been located.[11] In accord with the objectives of this meeting the following discussion will concentrate on the transition from the 13th to the 12th and the first half of the 12th century BCE.

Very recently, the absolute dates for the transition of Stratum 2 to Stratum 1 at Hala Sultan Tekke have been calculated from 13 radiocarbon dates from the renewed excavations employing Bayesian statistics (Höflmayer *et al*. forthcoming).[12] The difference is less than 50 calendar years between the most likely dates for the transition from Stratum 2 to Stratum 1 according to two models (*ibid*.). Thus, it is argued that this transition most likely occurred sometime during the second half of the 13th century BCE, shortly after 1200 BCE at the latest. This includes a date around 1200 BCE which in this study will be used as a "working date/period" for the beginning of the transition from LC IIC to IIIA (cf. Manning 2006–2007). However, the complexity of radiocarbon dates from the period around 1200 BCE, which includes the dates from Hala Sultan Tekke and other contemporaneous settlements on Cyprus, should be emphasized (Manning *et al.* 2001). The date for the abandonment of the city, the destruction of Stratum 1, is suggested around the middle of the 12th century BCE. This date is supported by pottery from the destruction layer of Stratum 1 according to traditional pottery typology (see also Manning *et al*. in this volume)

One of the central arguments in this paper is that destructive events affected both Strata 2 and 1. This is based on indisputable find contexts which had been exposed during the latest seven seasons starting in 2010. Stratum 1 structures with a partly new layout were built on the ruins of Stratum 2 but there are several architectural units from Stratum 2 which were reused by the dwellers of Stratum 1. It is also clear that the people left the city shortly after the final destruction in LC IIIA: there are no indications of repair in the exposed areas. Only stray finds and the absence of new architectural structures from post-LC IIIA periods strongly suggest that Hala Sultan Tekke was never settled again if we discount seasonal dwellers in the ruins after the city's destruction.

The most common find group at Hala Sultan Tekke which can be connected with probable warfare are sling bullets of lead and clay.[13] Additional warfare-related finds are only from Stratum 1 and comprise a few arrowheads and spearheads, all of bronze. The total number of sling bullets from the new excavations is 72 of which 27 are of lead and 45 of clay.[14] The older Stratum 2 contained 17 sling bullets of lead and 45 of clay, whereas Stratum 1 produced ten, only leaden, sling bullets. There are another 42 sling bullets of lead from the old excavations which at present cannot be correlated

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[10] According to new sets of radiocarbon data and synchronisation with a revised Egyptian chronology based mainly on historical sources Åström's dates should be adjusted (Fischer and Bürge forthcoming c; Aston 2012).

[11] In Area A are tombs and offering pits from these early periods (Fischer and Bürge 2016; forthcoming b, c).

[12] In this volume Manning *et al*. discuss the first set of six radiocarbon dates from Hala Sultan Tekke since the new set was not available to the authors. However, their offered absolute dates are fully comparable to our additional dates.

[13] Stones were certainly also used as sling bullets.

[14] The final report from the old excavations in Area 8 and adjacent areas has not yet been published by K. Nys. Consequently, the statistics presented concentrate on the new excavations.

to either stratum.[15] This gives a minimum total number of 114 sling bullets (69 of lead and 45 of clay). In the author's opinion, sling bullets are more functional in defence than in attack because of the better precision to hit a moving target when the slinger stands still and is protected by defence structures. In times of peace one can assume that people, who were specialised in hunting with sling bullets and shepherds who used them on a daily basis to keep the herd together and to protect it,[16] were placed at strategic spots in order to participate in the defence of the city. The fairly high number of sling bullets from a limited exposed area may therefore point to defence during both assaults on the city. The extremely low numbers of other weapons in Stratum 2, especially those of bronze, are most likely the result of clearing the destruction debris at the beginning of the following period. The low number of weapons other than sling bullets in Stratum 1 seems to indicate systematic looting of more valuable objects, for instance, metals, during and after the destruction of the city.

Who or what caused the destructions at Hala Sultan Tekke? At present, this question cannot be answered through the archaeological remains, which leave us only with hypotheses. Prior to the presentation of hypotheses, let us briefly examine the situation at other selected, more or less contemporary, Late Cypriot coastal or near-coastal settlements and urban centres which were destroyed, rebuilt or just abandoned during the period covering the end of LC IIC and LC IIIA. These coastal or near-coastal sites will be presented as an overview from north-west to east, which includes the most important settlements along the southern littoral of the island.[17]

Tomba tou Skourou

This settlement is described by the excavators as an "outlying fragment of a lost Bronze Age town" (Vermeule and Wolsky 1990: 397), with the verdict that "Tomba tou Skourou itself is scarcely a town" (Vermeule 1996: 50). It demonstrates an important Cypriot link with the Aegean and in particular Crete from the 16th to the 13th century BCE. Vermeule and Wolsky (1990: 396) state that "the workshops seem not have been functioned after about 1230–1200 BCE, unless the bulldozer stripped off the later 12th century BCE." This means that occupation seems to have lasted until LC IIC (see also Karageorghis and Demas 1985: 272, fig. 1), although the excavators designate the last period of occupation as LC IIB (Vermeule and Wolsky 1990: unnumbered diagram on p. 396). There are no explanations for the end of the Late Cypriot occupation. The problem with these excavations is, as the excavators rightly pointed out, that the exposed part is only an "outlying fragment" of a possible nearby town. We can only speculate as regards a once existing nearby town – there should have been a settlement which was associated with the workshops – and had this settlement been excavated professionally, and not bulldozed as actually happened, we might have had a different and longer occupational sequence.

Maa-Palaeokastro

This small fortified settlement was established in a period of crisis and is generally associated with immigrants from the Aegean according to Kharageorghis and Demas (1988: 160). It had been destroyed around the LC IIC/IIIA transition (Period I, Floor II). The destruction layer of Floor II contained numerous weapons, for instance, arrowheads, daggers and sling bullets. In LC IIIA (Period II, Floor I) the rebuilt and impoverished settlement was finally abandoned at the end of LC IIIA.

Palaepaphos

The information on the size and settlement sequence of the nearby site of Palaepaphos in the Late Bronze Age is limited (see though Georgiou in this volume) and consists primarily of a temenos which had been constructed during the transition LC IIC/IIIA (Maier 1984: 8–15; see also a summary in Iacovou 1994; 2013: 601–603).

Kourion area

The same is valid as regards this area from which the information on more recent fieldwork is confined to preliminary reports (Walberg 2003). According to Karageorghis and Demas (1985: 93) there was an urban centre in LC IIC (see also Benson 1972; Weinberg 1983; Steel 1996). Benson (1972: 43–58) states that

[15] The majority of the sling bullets of lead come from the author's surveys between 1977 and 1980 (Fischer 1980: 28–43). Eleven sling bullets of lead which were previously published by other authors are included (Öbrink 1979: 44–45; Åström and Nicolaou 1980: 29–33; Hult 1981: 7–44; Hatziantoniou 1983: 68–124). There may be additional, as yet unpublished, sling bullets from the old excavations. The task of the final publication of the old excavations was forwarded to K. Nys.

[16] One can assume that shepherds used small rounded stones to keep their herd together and that the larger and heavier sling bullets of lead and clay were used for hunting and defence.

[17] The northern part of Cyprus is not included because of insufficient archaeological information.

the LC IIIA settlement is followed by that of IIIB in Period 2 without an occupational gap. This in contrast to Steel (1996) who suggests a hiatus in LC IIIB according to the evidence from tombs.

Kalavasos-Ayios Dhimitrios

The Vasilikos valley was settled in LC I. It is possible that Kalavasos-Ayios Dhimitrios was founded in this period (Todd 2013: 92). This city became the most important urban centre in this valley in LC II (*ibid.*: 94). It had an estimated population of at least 1,500 and the valley as a whole at least 2,000 (South 1996: 40). There is no evidence of a defensive outer wall. The site was partly abandoned in LC IIC following the destruction of the impressive Building X in a conflagration (Todd 2013: 94–97). It seems, however, that other areas were abandoned without accompanying destruction. It has been argued that there is so far no clear explanation for these events but it has been implied that some very drastic changes in conditions must have occurred to account for the "total abandonment" (*ibid.*: 97; South 1995: 196–197) of the settlements in the Vasilikos region during LC III. However, contrary to earlier statements by the excavators, there is some evidence of continuation of short-lived settlement at Ayios Dhimitrios in LC IIIA but on a very small scale (Todd 2013: 97). Todd also states that the general situation in the Vasilikos Valley, i.e. the abandonment of the settlements, is "strange in view of the important natural resources of the valley which should have continued to be valuable".

Maroni-Vournes

Maroni-Vournes has a considerably lengthy sequence of occupation in the Late Cypriot period: Vournes I (LC I), Vournes II (LC IIA–B), Vournes III (LC IIC) followed by a long occupational lacuna (Cadogan *et al*. 2001: 77). There are, however, some findings from Vournes III which stretch back to LC IIB and which suggest that Vournes III may have started already before the transition from LC IIB to IIC (Manning and Monks 1998). Cadogan (1996: 18, 19) states that Maroni-Vournes in LC IIC was surpassed in grandeur by Kalavasos-Ayios Dhimitrios mainly because of more and better farmland and a better location for the exploitation of the copper ores. The LC IIC ashlar building at the site obviously had a short life before it was abandoned without any apparent signs of destruction (Cadogan *et al*. 2001: 84). Nevertheless, Cadogan (1996: 19) emphasizes the vulnerability of Maroni-Vournes and Ayios Dhimitrios to attacks from the sea. This observation may have relevance to their abandonment.

Kition

The earliest remains[18] of the large urban centre of Kition date from LC IIC (Floor IV; Karageorghis and Demas 1985: 3–4). According to Karageorghis and Demas (1985: 272, fig. 1) there have been major stratigraphical breaks between Floor IV and IIIA in Areas I and II but "no signs of a violent destruction" which ended the occupation of Floor IV or that the area had been abandoned for a longer period. However, the excavators qualify this statement by adding "at least in the area of the temple precinct" (*ibid.*: 92; cf., however, Iacovou 2013: 599). Extensive rebuilding was carried out in the occupational period of Floors IIIA and III, both in LC IIIA where the latter represents the more recent phase of Floor IIIA without any occupational break between them. Karageorghis and Demas (1985: 93) suggest that increase in power and wealth at Kition in LC IIIA may have been at the expense of Kalavasos and Maroni. In the authors' opinion, it is likely that other coastal towns, for instance, Hala Sultan Tekke and Enkomi, also profited from an economic and demographic shift in LC IIIA, whatever the reasons might have been. There is no evidence of any major destruction, either in Area I or in Area II (*ibid.*: 266) between Floors III and II. Floor II is dated to the LC IIIB period and connected to the appearance of Proto-White Painted pottery. Occupation continued at Kition in Cypro-Geometric I (Floor I) where White Painted and Bichrome I appears.

Pyla-Kokkinokremos

This settlement was established in LC IIC and abandoned after being destroyed at the end of this period, thus suggesting a settlement lifespan of roughly 50 years (Karageorghis 2014: 162). However, the new excavations at the site suggested that the settlement lasted until the beginning of LC IIIA1, after which it was abandoned (Bretschneider *et al.* 2015: 34). It was primarily a defensive settlement or a kind of "refugee camp without fortifications built at a time of upheavals in the latter part of the 13th century" (Karageorghis 2014: 159). Karageorghis suggests that a sizable portion of the population were foreigners from Crete and the remainder of the Aegean. He supports this opinion by pointing to the fact that Pyla-Kokkinokremos yield-

[18] There are earlier remains from the Middle Cypriot period, viz. tombs in Area I and II, but they are not associated with any architectural remains (cf. Karageorghis and Demas 1985: 263); cf. the situation at Hala Sultan Tekke.

ed more large Late Minoan kraters than any other site in Cyprus. Pyla-Kokkinokremos was abandoned abruptly, prior to the abandonment of another short-lived settlement, Maa-Paleokastro (see above).

Sinda

The information on this site is extremely limited and should be used with caution because of the very short, single, season of excavation at the site, the insufficiently recorded material remains and the "final" report which was published more than half a century after the excavations (Furumark and Adelman 2003: 62–68; see also Åström 2003: 69–73). Sinda lies in the hinterland of Enkomi and was founded in LC IIC as a fortified town in Period I. It suffered a major catastrophe at about the end of LC IIC at the same time as Enkomi Level IIB was destroyed. It had been rebuilt in Period II in LC IIIA1, which corresponds roughly to Enkomi Level IIIA. It was again destroyed and finally abandoned in Period III, corresponding to LC IIIA2 (Enkomi Level IIIB).

Enkomi

Enkomi together with a few other sites including Hala Sultan Tekke is an older site than the majority of the other sites discussed in this section. It was founded at the MC III/LC I transition. A strong fortification was constructed in Level IIB which is earlier than the major catastrophe which ended the occupation Level IIB in LC IIC (Dikaios 1971: 512–514). In Level IIIA (LC IIIA1) the city was rebuilt and adopted the well-known street grid system (*ibid*.: 522–523). Another disaster brought Level IIIA to an end. Also the city of the next Level IIIB (LC IIIA2/IIIB1) was destroyed. According to Dikaios there are indications of an earthquake (Area I) and a hostile attack (Area III, *ibid*.: 530–531). Dikaios interprets the hoard of sling bullets of lead and clay and stone pebbles as the inhabitants' "… readiness to face an emergency … hostile attack …" In the next Level IIIC, LC IIIB2, i.e. after Hala Sultan Tekke was already abandoned, a number of structures were repaired prior to another possible new attack which resulted in the final abandonment of Late Cypriot Enkomi (*ibid*.: 534).

Discussion

Reflections on the role of the harbour of the city of Hala Sultan Tekke, climate, absolute and relative chronology, attempts to synchronize sites and events, including destruction and abandonment and their possible causes, written and other sources relating to the crisis years, and speculation on the fate of the people which settled Hala Sultan Tekke in Strata 2 and 1, are here included.

The basis of the author's discussion on synchronizing sites, and the estimation of their individual life span and the causes of their destruction/abandonment are published reports, which are relevant and significant. These reports are further backed up by first-hand results from work in progress from the ongoing excavations at Hala Sultan Tekke which during the latest seven seasons have exposed remains mainly from this crucial period around 1200 BCE. Some caveats must be inserted, however: In the course of field work, when find contexts are interpreted, all excavators are confronted with recurring situations which do not allow clear-cut conclusions. In many reports the excavators emphasize this fact, namely that unambiguous conclusions cannot be drawn, often following this with the presentation of various first-hand alternatives and hypotheses. Other reports leave it to the reader to draw conclusions which, when presented in secondary reports by other scholars, may suffer from a good deal of subjective interpretations and circular argumentations which should be considered with utmost caution.

The harbour of Hala Sultan Tekke

The coring data from the Larnaca Salt Lake which could be retrieved by Devillers *et al*. (2015) are of importance to the present discussion.[19] Siltation of the harbour appears to have been under way during the period when it was used as a harbour. As long as it had been possible, two natural routes were used inside the harbour and the choice between them was guided by the shifting siltation process. Devillers *et al*. (2015: 76) seem inclined to believe that the third channel, an artificial cut, which could be traced, may represent a channel between the harbour lagoon and the open sea. Since the authors believe that the artificial cut could have been dug as early as in the later part of the second millennium BCE, it would be the earliest known example of a navigation canal in the Mediterranean (Devillers *et al*. 2015: 79). However, it may be difficult to produce the ultimate proof for this challenging theory.

The silting-up of the harbour might have contributed to the abandonment of the city but we cannot discard

[19] There are new cores which were drilled during the excavations at Hala Sultan Tekke in 2016. They are in the process to be analysed and therefore cannot be included here.

the destructive event from which the last settlement of Hala Sultan Tekke suffered. It might have been the case that Hala Sultan Tekke was abandoned after the destruction of Stratum 1 because the efforts to build up the city again in combination with the need to maintain the silting-up harbour and the artificial channel, which were essential for their economy, were too demanding. A scenario could have been that major parts of the population left or were forced to leave the city directly after the last destruction. This resulted in insufficient manpower for the necessary repair and maintenance tasks. Consequently, due to neglect in maintenance of the harbour and the tectonic uplift which did not stabilise earlier than 3000 BP (Delongeville *et al*. 2000: 16–19) the harbour became a shrinking lagoon cut off from the open sea and therefore useless for direct anchorage with serious trade-related consequences. Thus, re-building the city after the last destruction was not motivated, and later re-occupation was not encouraged because of the efforts and costs arising from the inconvenient anchorage.

Nevertheless, when the harbour and the three aforementioned naval routes were in the process of silting-up one should not discard the possibility that larger vessels continued to sail to Hala Sultan Tekke and anchored on the beach in the area of the open sea just east of the city during a certain period. From there goods could have been brought the short distance[20] from the open sea over the sand dunes to the eastern shore of the lagoon (and vice versa) from where they were shipped with smaller shallow-draft vessels to the western shore of the lagoon which was not far from the heart of the city. Apparently, the open-sea anchorage did not provide the same favourable conditions for shipping and cargo handling as the once well-sheltered harbour of Hala Sultan Tekke – during the Bronze Age maybe the best island-wide – and shipments moved to other harbours. This would certainly have had a devastating effect on the economy of Hala Sultan Tekke.

The climate: the trigger for the events of the crisis years?

The Holocene covering roughly the last 11700 years is characterized by a fairly stable climate. There are, however, exceptional periods of rapid climate change (RCC) with increasing aridity in the entire Eastern Mediterranean of which the best known and most discussed are around 4200 and 3200 BP (e.g. Kaniewski *et al*. 2013; see also Rohling *et al*. 2009; Finné *et al*. 2011; Riehl *et al*. 2012: 120; Langgut *et al*. 2013; Kaniewski and Van Campo in this volume). Can we consider the 3200 BP RCC as the main factor eventually leading to the cataclysmic events which took place in the crisis years?

In the Eastern Mediterranean, the climatological change with severe drought around 1200 BCE was identified in coastal Syria at the ancient port of Gibala-Tell Tweini of the Ugarit Kingdom (Kaniewski and Van Campo in this volume; see also Kaniewski *et al.* 2008, 2010, 2015). This ancient port is only a little more than 200 km north-east of Hala Sultan Tekke. A corresponding climate shift was also recorded from Cyprus (Kaniewski *et al.* 2013): a pollen-derived climate proxy from the harbour of Hala Sultan Tekke suggests that the area around the harbour turned into a dry land and the agricultural activities surrounding the site decreased and finally came to a halt.

If we accept that the 3200 BP RCC struck the entire Eastern Mediterranean from Italy over the Aegean to the Levant – and the available data seem to confirm or at least not contradict this situation – a possible scenario could have been that this fairly abrupt climatological change was a contributing factor, if not the trigger, for people in the Aegean to start to move south-eastwards at the beginning of the LH IIIC period in the hope of improved conditions. The decision to move south-eastwards could have been based on first-hand experiences or hearsay of those who travelled the area during a period when the living conditions were still decent there – at least much better than in the Aegean at the time the decision was made to move. In addition, one should not rule out the possibility that the homeland of the Mycenaeans was affected by waves of migrations coming from the north-west (Kristiansen 2017). The present author believes that RCC with drought and damage to crops has not been the sole factor behind the migration from the Aegean to the Levant, but together with interacting factors such as changed rule, altered social conditions, increased social mobility and economic motives at the end of the Mycenaean palatial period it could have been the event which set south-east migration in motion.

Chronology: absolute and relative

As far as absolute dates are concerned, the problem of dating events from around 1200 BCE, which roughly

[20] Today, the shortest distance from eastern shore of the Salt Lake to the open sea is 700 m. During the Late Bronze Age the distance certainly was shorter.

	LC IIC1		LC IIC2		trans. LC IIC/IIIA	
Toumba tou Skourou	Upper House B	MS?/A	→?	→?		
Maa-Palaeokastro			Period I/Floor II	S	Period I/Floor II	S/MD
Palaepaphos		MS		MS		MS/D?/MD?
Kourion	Stratum D	MS	Stratum D	MS	Stratum D	MS
Kalavasos-Ayios Dhimitrios	Building X	MS	Building X	MS/D		S
Maroni-Vournes	Vournes III	MS	Vournes III	S/A		
Hala Sultan Tekke	Stratum 2	MS	Stratum 2	MS	Stratum 2	MS/MD
Kition	Floor IV	MS	Floor IV	MS	Floor IV	MS/D?
Pyla-Kokkinokremos				S		S/A
Sinda	Period I	S	Period I	S	Period I	S/MD
Enkomi	Level IIB	MS	Level IIB	MS	Level IIB	MS/MD

S = settlement
MS = major settlement
D = limited destruction/stratigraphic discontinuity
MD = major destruction
R = rebuilding
A = abandonment (end of period)

Table 1 Synopsis of the events

includes the end of LC IIC and the close of LH IIIB, and the transition to LC IIIA and LH IIIC respectively, has already been highlighted. The reason behind our inability to narrow down absolute dates in this time interval is the natural radiocarbon variations as represented in the radiocarbon calibration curve (IntCal13 in Reimer *et al*. 2013: 1881, fig. 5; see the illustrated calibration curve and the discussion in Manning *et al*., this volume). The traditional date for the transition LC IIC/IIIA 'around 1200 BCE' is well within the time frame of published radiocarbon data from this period. Therefore, I suggest the continuing use of a date range around 1200 BCE for the beginning of the transitional period LC IIC/IIIA as a rough 'working date/period' as long as we keep in mind the possibility – or even likelihood – that this absolute date should be adjusted by a few decades up or down.

As regards relative dates from Late Cypriot settlements it is quite obvious when studying excavation reports and syntheses that various excavators – very justifiably – are fairly vague in their definitions of events which happened around the end of LC IIC and the start of IIIA at their sites (see sites and references above). Destructions, rebuilding and abandonments are dated to the 'latter part of the LC IIC', the 'end of the LC IIC', the 'transition of LC IIC/IIIA', the 'outgoing 13th century BCE', the 'beginning of the 12th century BCE' and so on. These equivocal dating attempts can lead to various conclusions of which a few are mentioned here: the first is that *these events do not need to have been contemporary across the whole studied area*; the second is that these episodes were *not points of events but rather periods of time of varying lengths at various sites*; and the third is *the varying interpretations and distinctions of the material culture from the outgoing LC IIC and the start of LC IIIA* by different excavators.[21] Observe though, that all three possible conclusions which are based on the excavators' reports are usually placed within the range of suggested radiocarbon dates from this period (cf. Manning 2006–2007, who also advocated a date around 1200 BCE for the LC IIC/IIIA transition; see also Manning *et al*. in this volume; but see Hagens 2006 who suggests, fairly unconvincingly, radically lowering this date to 1125 BCE).

[21] In connection with the discussion on absolute dates, it would have been appropriate to discuss the formal definitions of Late Cypriot IIC and IIIA based on the material culture, i.e. mainly pottery, and how much this division is dependent on the definition of LH IIIB and C. However, this would have overloaded the present paper.

LC IIIA1		LC IIIA2		LCIIIB1		LCIIIB2	
Period II/Floor I	R/S	Period II/Floor I	S/A				
	R/MS		MS		MS		MS
Stratum E	MS?A?	Stratum E?	MS?A?	?	?		
	S/A						
Stratum 1	R/MS	Stratum 1	MS/MD/A				
Floor IIIA	R/MS	Floor III	MS	Floor II	R/MS	Floor II	R/MS
	S/A?						
Period II	R/S/MD	Period III	S/A				
Level IIIA	R/MS/MD	Level IIIB	R/MS/MD	Level IIIB	R/MS/MD	Level IIIC	R/S/A

from LC IIC–IIIB

The 'synchronization' of sites and events, and their possible causes

The synopsis of the events which deals with eleven sites from LC IIC–IIIB2 is presented in Table 1.[22] The column 'transitional LC IIC/IIIA' includes sites which produced material evidence, which would allow a dating at the end of LC IIC or the beginning of LC IIIA.[23] From this table it can be seen that there is only one site, Toumba tou Skourou, which seems to have been abandoned without any plausible explanations as early as LC IIC1 or 2 (see though, above, the reservations concerning the bulldozed area of the excavations which might have affected more recent remains).[24] The remaining ten sites were occupied in LC IIC2. Two sites were abandoned before LC IIIA, viz. Maroni-Vournes and Pyla-Kokkinokremos. Eight sites including those with uncertain occupation according to Table 1 were settled in the transitional LC IIC/IIIA period and in LC IIIA1. At the end of LC IIIA1 Kalavasos-Ayios Dimitrios has already been abandoned, all the others remained settled. Of the lasting seven sites, Maa-Palaeokastro, Hala Sultan Tekke and Sinda were abandoned in LC IIIA2. Enkomi and Kition survived into LC IIIB1 and 2, maybe also Palaepaphos[25] and Kourion-Bamboula.

According to Table 1, major or limited destructions occurred at several sites in the transitional LC IIC/IIIA period. Since there is an obvious cultural continuity from LC IIC to IIIA, and since we do not know exactly when LC IIC ended and LC IIIA began, we are in no position to decide if these events happened at the same time at all sites. This ambiguity is very much depending on the terminological definition of the two periods: the absolute and relative dating of the end of LC IIC2 and the start of LC IIIA1 are conditional not only on wide-range-radiocarbon dates but also how we individually and subjectively classify the material culture, mainly the ceramics, and how we look at the absence and pres-

[22] There are certainly several contemporaneous sites from the northern part of the island which could contribute to the current discussion. Nevertheless, we have not enough published evidence to include these sites in the argumentation.

[23] Another problem, which should be highlighted, concerns incomplete vessels or sherds which either belong to the actual period of occupation or which are residual. This is not always clear-cut in excavation reports.

[24] Nevertheless, one can assume that more recent pottery would have appeared in the bulldozed area even though the structures to which it belongs were destroyed.

[25] Georgiou in this volume advocates a dominating economic and political position of the Paphos polity.

ence of certain wares, and how we individually use or modify the formal definition of these periods (see the basic definition in Åström 1972: 755–781, which to a large extent was based on tomb material).

Around 1200 BCE, when numerous major sites and societies in the Eastern Mediterranean and the Near East experienced a period of decline and even collapse, Cyprus also became involved in these events (see *inter alia* Oren ed. 2000; Yasur-Landau 2010; Killebrew and Lehmann eds. 2013; cf. also Knapp 2013: 447–470 and further references). Although a definite synchronization is not at present possible there are undeniable indicators which highlight transitional LC IIC/IIIA as a *period* of destructive events along the southern Cypriot littoral from Maa-Palaeokastro to the west over Hala Sultan Tekke to Enkomi to the east. Are these events at several sites coincidental?

Even if we consider that these events did not absolutely necessarily happen at exactly the same time, they may have happened within a fairly short period which cannot be excluded based on the archaeological and radiocarbon evidence. Of course, one could dismiss the option that these events were the effect of the arrival of foreign peoples and hypothetically explain them with natural causes, such as lightning or a local fire which got out of control maybe in connection with a tempest, or earthquakes, or the result of an attack by an enraged neighbour – whatever causes might have lain behind the assault. At the same time, we cannot and must not exclude other – and in the present author's view more likely – factors such as attacks from seaborne people, either pirates or rather waves of desperate migrating people. The latter could have come into conflict with local people when anchoring in their well-protected harbours along the southern coast of Cyprus in order to acquire life-saving goods such as food and water for their continued journey towards the east. The majority of the listed sites did not have any significant defence systems. Consequently, it must have been fairly easy for well-trained and maybe despairing ship crews to gain access to settlements in order to plunder them for sheer survival, and eventually destroy them when peaceful diplomatic trading was unsuccessful.

Nevertheless, there were also fortified settlements which were destroyed in this transitional period, for instance, Maa-Palaeokastro to the west and Sinda to the east. I doubt that all these destructions, which took place far from other, can be explained by natural causes or some more enraged neighbours. The excavations at Hala Sultan Tekke in 2015 exposed for the first time walls which are almost twice the widths of walls compared to domestic structures and therefore seem to represent defensive structures (see e.g. W69 and W95 in Fig. 18).[26] These massive structures belong to Stratum 1, i.e. LC IIIA2, and might have been built with precautionary intentions following the destructive event which brought the previous occupation, Stratum 2 from the transitional LC IIC/IIIA period, to an end.

How then can we explain the abandonment of sites from where (so far) no destructions are reported? One quite simple and at the same time not unlikely explanation could be that rumours about assaults and plundering at other sites could have reached nearby settlements before the arrival of invaders. This could have resulted in their hasty abandonment especially at those sites where sturdy defence structures did not exist.

Written and other sources relating to the crisis years

These sources are scarce and only the most relevant will briefly be discussed:

Amongst the most quoted and at length debated sources are the inscription (Kitchen 1983: 39–40) and reliefs from the mortuary temple of Ramesses III of the 20th Dynasty at Medinet Habu, which portray events which took place in the 8th year of Ramesses III's reign, viz. around 1186 BCE (1177 BCE is the date according to Kitchen 1987: 52).[27] The complementary reliefs from the mortuary temple show that Ramesses III fought invaders on land and at sea and that he defeated them in both battles. In much of past and today's literature all attacking forces are bundled together under the name of 'Sea Peoples'. Nevertheless, O'Connor (2000: 95) stated that – according to the Medinet Habu records – the only 'Sea Peoples' which represent a confederation who had the plan in carrying out their movement into the Levant and towards Egypt were the Peleset, Tjekker, Shekelesh, Denyen and Weshesh. They intrigued against significant powers in the Levant and Egypt in their homelands, "in their isles", and not – again according to O'Connor – in a secondary location they had established elsewhere. They seem to have been quite successful on their way to Egypt – otherwise they would not have reached this remote area – until they were defeated by Ramesses III.[28]

However, according to texts of the New Kingdom these *sea-faring peoples* ("from the isles") are restricted to the ethnonyms Sherden-Shardana, Eqwesh and Shekelesh (cf. Killebrew and Lehmann 2013: 4, table 2). Other ethnic groups which usually are part of the Sea

[26] This system of walls is only partly exposed. Further excavations are necessary in order to present a well-founded interpretation.

[27] In this discussion the most important parts of this source will be highlighted.

Peoples phenomenon are the Denyen-Danuna, Lukka, Karkisha, Teresh, Peleset-Philistines, Tjekker-Sikila and Weshesh – as they are mentioned chronologically in Egyptian texts from the 18th to the 22nd Dynasties (cf. Adams and Cohen 2013: 645–664).

Although, today, the majority of scholars accept that waves of migration took place in the Eastern Mediterranean during the crisis years, arguments have been forwarded which dispute the historicity of the text and reliefs from Ramesses III's time (cf. Knapp 2013: 448–449 where he listed contra-arguments by various scholars with further references). The present author is inclined to believe that the text and reliefs from Ramesses III's temple are not pure fiction considering the detailed representation of the various groups of the attacking peoples and their ships (see Wachsman 2000: 105–106, fig. 6.1). Of course, we cannot rule out political propaganda or a condensed depiction of a process and minor episodes which stretched over several decades, but even if the inscription and reliefs historically do not correctly reflect the events which obviously in some form or other took place, they are certainly an echo of events which happened between Year 8 of the reign of Ramesses III (around 1186 BCE)[29] and (before) Year 5 of the reign of Merneptah of the 19th Dynasty some decades earlier (before 1209 BCE; concerning similar turmoil during Merneptah's regime see Kitchen 1982: 2–12, 19–22). The period between these two events corresponds very well with our dating of the crisis years.

Even if indisputable evidence does not exist one should not rule out the possibility that groups of the attacking seaborne people originate from Cyprus ("their isles"), either coming from elsewhere and anchoring there on their way to Egypt, or that these people in fact consisted of Cypriot crews.

Another written source of importance for Cyprus is the tablet that was found at Boğazköy in 1961 in the area of the so-called House on the Slope (Otten 1963 and references). This tablet seems to represent a copy of an inscription which was originally written on a statue of Tudhaliya, the father of Suppiluliuma II (see refs. below) Although the top and the bottom of the tablet are missing a large portion out of the middle of this two-column tablet is preserved. It contains the Hittite text of an inscription of Suppiluliuma II, inter alia dealing with the conquest of Alashiya (Cyprus) and the tribute imposed on that country (KBo XII 38 = CTH[30] 121). The partial transliteration and translation by Otten (1963) has been disputed at length in recent decades (see discussions e.g. in Hoffner 1997; Bryce 2005). The text, mainly on the basis of Otten's study, has since then also been the topic of discussions on the fall of Ugarit and the Hittite Empire under the attacks of the "Peoples of the Sea" (cf. Güterbock 1967). In Akkadian documents from around 1200 BCE, which were exchanged between Alashiya and Ugarit (e.g. Tablet RS 20.238), attacks from seaborne people were described (cf. Astour 1965; Gilan 2013). Help was requested and obviously not received, and the destruction of Ugarit in the first half of the 12th century BCE followed this correspondence.

In any case, during a limited period before and around 1200 BCE, the Hittites seem to have had some influence in (parts of) Cyprus after their invasion – maybe mainly in the north of the island.[31] This influence may have lasted until the fall of the Hittite empire at the beginning of the 12th century (Singer 2000). However, it is impossible, on the evidence which is available today, to ascribe destruction layers along the Cypriot littoral to the Hittite invasion(s).

The final fate of the people of Hala Sultan Tekke

It should a priori be stated that parts of the following discussion are based on the material evidence from Strata 2 and 1 from Hala Sultan Tekke, but that there are other elements in the discussion which are hypothetical since no definite evidence from the archaeological record or written sources exists.

Both Strata 2 and 1 suffered catastrophic events as demonstrated by the archaeological evidence. There seems to be no occupational gap between the destruction of Stratum 2 and the rebuilding and reoccupation of Stratum 1. The question of whether groups of people who occupied the city of Stratum 2 left after the destruction cannot be answered since we do not know the total extent of the city of Stratum 2 in comparison with that of Stratum 1. In any case, the "survivors" of Stratum 2 rebuilt their city and dwelled there for some time. One of the most significant differences compared

[28] If we accept that they were "defeated" according to the narratives and reliefs from Medinet Habu they were certainly not totally extinct.

[29] 1177 BCE according to Kitchen 1987: 52. A few minor chronological adjustments which have been made in recent years are not considered here.

[30] CTH = Catalogue of Hittite Texts; see http://www.hethport.uni-wuerzburg.de/CTH/.

[31] In regard to the geographical and topographical situation of Hatti and Cyprus an invasion into the north of the island seems to be most logical. In addition, the Troodos mountains certainly represented a natural obstacle between the north, and the west and south of the island.

to the previous phase is that the most recent excavations at Hala Sultan Tekke in 2015 exposed for the first time walls which are much wider than walls of domestic structures. Although these walls are exposed only to a very limited extent, the preliminary interpretation is that they represent defensive structures. It has previously been suggested that these substantial structures might have been built with precautionary intentions to protect the city from future attackers.

On balance, we know that the defence system did not protect the population of Hala Sultan Tekke. The settlers of Stratum 1 shared the same fate as those from Stratum 2 – with one important difference: once again the city was destroyed but this time it was finally abandoned. In this paper, several possible reasons for the abandonment of the city have been listed but we are on very weak ground if we want to explain what happened to the population. Did they move to nearby Kition, at a distance of only 4–5 km as the crow flies, which continued to be an urban centre long after Hala Sultan Tekke ceased to exist? It seems to the present writer quite impossible that Kition could accept the entire population of Hala Sultan Tekke even if it would have been reduced in Stratum 1 in comparison with the previous phase, for which we do not have any proof. We should certainly assume a population of some thousands considering the size of Hala Sultan Tekke of around 25+ ha. Of course, one could propose other places than Kition, maybe located at more remote distances from the insecure littoral, to which the people of Hala Sultan Tekke could have moved. Another theory – assuming that the city still had its commercial fleet or at least parts of the fleet intact, or that its people were able to build new ships if the fleet was destroyed or confiscated during the attack – could be that they left the island on ships. This hypothesis associates with the theory that groups of the Sea Peoples who attacked Egypt originated from Cyprus. Another possibility is that, after Hala Sultan Tekke was destroyed, the remainder of the population was forced to join their attackers during their continued journey south-eastwards, or yet another possibility – that they followed them voluntarily when their city lay in ruins and they had no other place to go.[32]

Conclusions

The city of Hala Sultan Tekke has been destroyed twice: the first destructive event took place around 1200 BCE, at the start of the transitional LC IIC/IIIA, and the second in LC IIIA1/2 around the middle of the 12th century BCE. If these absolute dates are correct and if one applies the working hypothesis that waves of migration struck Cyprus and are mirrored not only in *both* strata but also in destructive events which hit some of the other sites discussed, one must come to the conclusion that these waves came in intervals separated maybe by some years or decades. Another possibility could be that the first destructive event (Stratum 2) coincides with the narratives and reliefs from Ramesses III's mortuary temple at the Medinet Habu which are (partly) connected to the invasion of the Sea Peoples and other peoples that might have taken place some years after the destruction of Stratum 2. The second destruction, i.e. that of Stratum 1, which resulted in the final abandonment of the once flourishing major city of Hala Sultan Tekke, might also have been caused by migrating people on their way to the Southern Levant. As a result, the population maybe left together with the invaders or followed in their wake to the Southern Levant.

The decision to abandon the city instead of rebuilding it after the last destruction might have been influenced by the ongoing silting up of the harbour. The efforts to rebuild the city in combination with the need to maintain the silting harbour, which was essential for the economy of the city, were too demanding because of insufficient manpower. Consequently, due to neglect in maintenance together with the ongoing tectonic uplift the harbour turned into a lagoon cut off from the open sea.

It has been proposed that rapid climate change around 1200 BCE with drought and damage to crops may not have been the sole factor behind the migration from the Aegean to the Levant, but together with a changed rule, altered social conditions, increased social mobility and economic motives at the end of the Mycenaean palatial period it could have been the event which set south-eastward migration in motion. Unfortunately, considering the absence of written sources from this period from Cyprus itself we are at present in no position to provide exact absolute dates based on radiocarbon because of the plateau in the calibration curve around 1200 BCE.

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[32] Stern (2013: 63 and passim) suggests that the material culture of Tel Dor in northern Israel during this period should be connected with the 'Northern Sea Peoples' with roots in Cyprus. His conclusions are not clear-cut because of the so far insufficient material evidence (see also Fischer 2015).

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Flourishing amidst a 'Crisis': The Regional History of the Paphos Polity at the Transition from the 13th to the 12th Centuries BCE

Artemis Georgiou

Abstract

The Mediterranean-wide 'crisis' of the 12th century BCE, which saw the deterioration and/or the dissolution of the land-based empires, did not have a uniform impact on Cyprus. Due to the absence of a strong central state, the horizon of the 'Crisis Years' on the island comprises divergent and regional settlement histories of abandonments, destructions, continuities or unprecedented flourishing. The present contribution aims to provide an updated view of Cyprus' response to the 12th-century 'Systems Collapse', focusing on the particular case of the Paphos region. During the critical passage to the 12th century BCE, the polity of Paphos was characterised by economic and political ascendancy, displayed primarily by its ability to monumentalise its urban cultic centre. The contribution further provides an updated discussion on the character of the short-lived settlement at Maa-Palaeokastro, which was founded from scratch some 25 km to the northwest of the urban centre of Paphos during the final decades of the 13th century BCE. The study additionally elucidates the transformations of Cyprus' material culture, especially as regards to the establishment of a wheel-made pottery type that largely follows Aegean prototypes, at the expense of the centuries-old Late Cypriot production of handmade fine wares. Finally, using a holistic, contextual and longue durée approach, the present paper discusses whether the extant archaeological remains of 12th-century BCE Cyprus allow the identification of migration phenomena.

The breakdown of the 'Age of Internationalism' and its impact on the Cypriot polities

The roughly synchronous destruction and/or abandonment episodes which befell the politically and economically powerful land-based polities during the opening of the 12th century BCE marked the finale of the political, economic and social construct that characterised the eastern half of the Mediterranean basin during the Late Bronze Age. In Cyprus, the Mediterranean-wide 'crisis' corresponds to the transition from the LC IIC to the Late Cypriot IIIA, that is roughly the 13th and 12th centuries BCE respectively (see Manning *et al.* 2001; Manning 2013: 513; see also Manning *et al*., this volume). The Late Cypriot polities were certainly not impervious to the great events taking place in the 'neighbourhood'. The deterioration of the political authority of the highly centralised states with which the Cypriot political authorities were economically and diplomatically involved, and the eventual breakdown of the Late Bronze Age economic order at the opening of the 12th century BCE impacted substantially on the island (Iacovou 2013a: 25–27). However, the effect of the 12th-century 'Systems Collapse' on Cyprus should not be unquestioningly presupposed to have been equivalent or analogous to that which befell the eastern Mediterranean land-based empires. As Liverani rightly indicates "While it is true that the crisis is rather extended and takes place at roughly the same time over a large area, it is all too evident that the specific features of the collapse in each region constitute a case of their own, dependent upon the specific socio-political, economic, demographic, and technological features of that area" (Liverani 1987: 69). In order to comprehend Cyprus' response to the breakdown of the 'Age of Internationalism' (Killebrew 2014: 595) it is necessary to take a macrohistoric view of "Cyprus from within" (Iacovou 2013a: 16), delineating the intricate nature of the island's political geography and economic structure. In Cyprus, the development of urban forms was instigated at the dawn of the Late Bronze Age (Peltenburg 1996: 29–31). This episode – which is considered much belated compared to the development of urbanism and state-formation at other areas of the Mediterranean (cf. Iacovou 2008a: 629; 2008b: 225–227) – was generated by the need to extract, process and export the island's metalliferous wealth, namely copper. Cupriferous formations, largely exposed on the Ophiolite Complex and the Arakapas Sequence, encircle the Troodos Mountains, the main geomorphologic feature of Cyprus situated in the centre of the island (Fig. 1) (Constantinou 2010: 23). The mining of copper ore and the extraction of copper metal using pyrometallurgy took place predominantly in the pillow lavas surrounding Troodos. The ancient exploitation of the ores is indicated by the residue of copper smelting in the form of massive slag heaps (Stos-Gale *et al.* 1998).

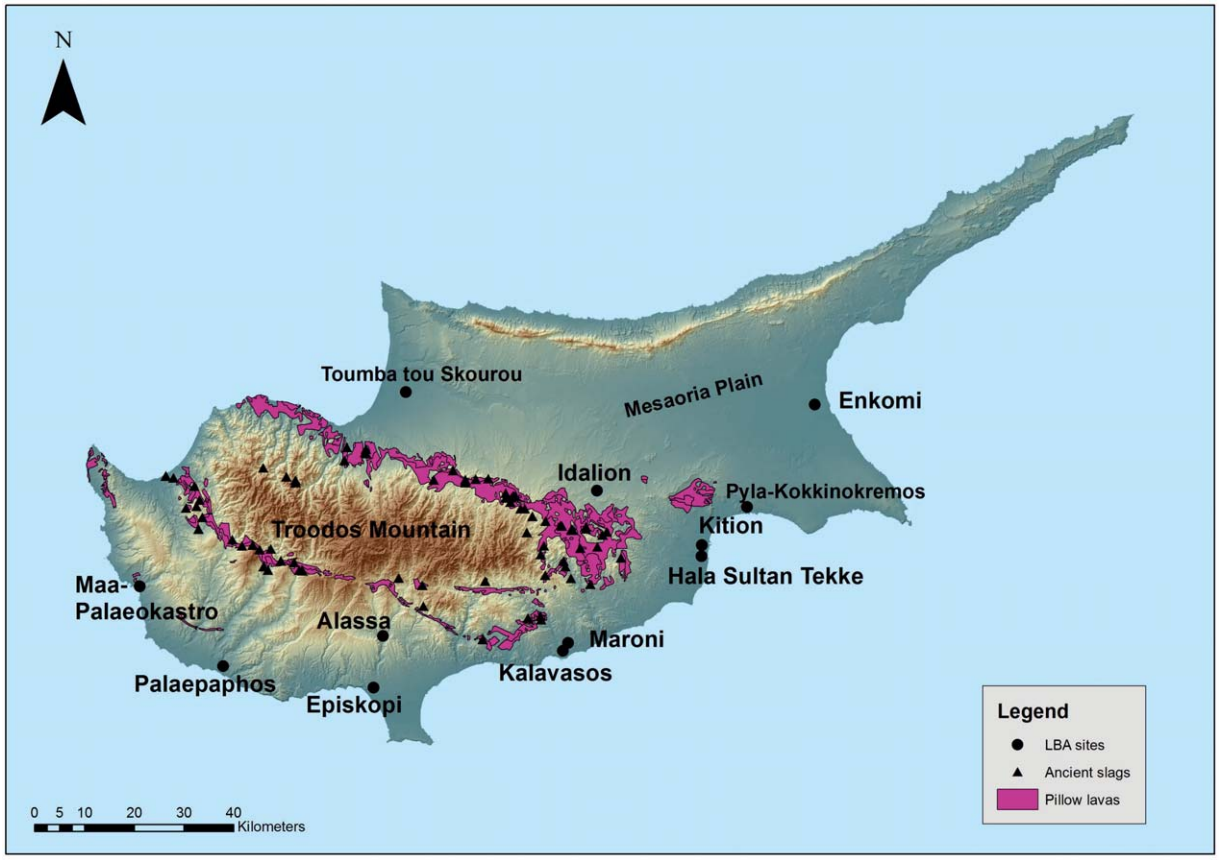

Fig. 1 Map of Cyprus with sites mentioned in the text, indicating the Upper and Lower Pillow Lavas, the Arakapas Formation and the distribution of ancient slag heaps. (Map drafted by the author, digital data courtesy of the Cyprus Department of Geological Survey)

The foundation of new settlements by or near the coast epitomises the transformed settlement pattern at the inception of the Late Bronze Age that had ensued from the emergence of an intricate economic system centred on the heavy industry of copper and the extra-insular export of the final product (Georgiou 2007: 457; Crewe 2007: 41–47). At the time of their earliest establishment, the newly founded coastal sites operated as gateway centres linking a chain of sites extending from the copper-procuring regions on the slopes of the Troodos and terminating at a coastal port-of-export (Iacovou 2012a: 58). During the course of the Late Bronze Age, these centres developed characteristics that can be described as urban and fostered a distinctive array of bureaucratic mechanisms to exert administrative control (see Knapp 2013a: 348–349; 2013b: 36). However, Cypriot polities comprised much more than the archaeologically visible remains of the urban administrative centres (Iacovou 2007: 17–18; Satraki 2012: 140–153). The prerequisite for the formation and endurance of a Cypriot polity was the consolidation of a wider periphery that incorporated copper-producing regions, agricultural support villages, a coastal port-of-export and a primary administrative centre. The latter two spatially coincide, with the sole exception of Alassa, which represents the – thus far – only instance of a primary urban centre with an inland setting (Hadjisavvas 1996). According to the models proposed (cf. Keswani 1996; Knapp 1997: 56–57; 2013b: 32) copper was procured by small mining villages established at the heart of the island around the Troodos foothills. By means of secondary settlements, the copper ores were subsequently mobilised to commercial ports of trade, where they were further processed and finally loaded on vessels for their maritime export. At all stages, agricultural support villages produced sufficient foodstuff to nourish the non-producing sectors, and thus sustain this complex economic scheme.

The distribution of the cupriferous formations all around the Troodos foothills did not necessitate the

establishment of a centralised, island-wide authority to administer Cyprus' metalliferous wealth (see Iacovou 2007; 2013a: 31–32). Indeed, the archaeological evidence discloses the development of autonomous polities, with regional elements in their material culture and highly distinct bureaucratic mechanisms (Keswani 1996: 239; 2004: 85). The segmented politico-economic landscape of the island during the Late Bronze Age, as seen by the extant archaeological remains, somewhat contradicts the external epigraphic evidence, which portrays Alashiya, the geographical term by which Cyprus was identified in the royal courts of Near Eastern states (Knapp 1996), as a single entity, ruled by a single king. Ongoing scholarly discussions on the matter consider the Alashiyan king "ideologically a *primus inter pares* rather than the leader of a tightly integrated political system" (Keswani 2004: 85), who was delegated to converse with the Near Eastern rulers on a 'fraternal' level as their diplomatic peer (see discussions in Peltenburg 2012; Knapp 2013a: 432–446).

The thorough investigation of the Late Cypriot centres during the close of the 13th and the opening of the 12th century BCE reveals a series of highly distinct settlement histories. At the metropolis of Enkomi, the excavations of the Cyprus Mission in Areas I and III, two separate segments of the Late Bronze Age settlement, indicated that the transition from the 13th to the 12th century BCE corresponds to a destruction episode. However, despite the fact that Enkomi is – to this day – the most extensively investigated Late Cypriot town and the only urban centre with ample stratigraphic depth that spans the town's foundation horizon in the MC III–LC IA transition (Dikaios 1969–71: 16–34; Crewe 2007: 158), it remains unclear whether the conflagrations reported by the Cypriot Mission (Dikaios 1969–71: 89–92, 170–172, 451–453) engulfed the entire town. The roughly synchronous destruction episode at the small areas investigated at Sinda (Furumark and Adelman 2003: 63) is not out of place, considering how this settlement, situated at the heart of the Mesaoria plain, is identified as Enkomi's satellite centre (Iacovou 2007: 10). The critical years c. 1200 BCE appear to have also affected the regional infra-structures of Enkomi's hinterland (Georgiou 2011: 113–115). The destruction and abandonment of Ugarit, just across Enkomi on the Syrian coast, at a distance of c. 160 km, signified a major loss for the town's trading activities, and is not unrelated to Enkomi's problems. However, following the initial predicaments, Enkomi succeeded in reinstating its authority and regaining control over the copper-procuring areas and the routes leading to the resources. The polity's revived economy is expressed in rebuilding activities taking place during the LC IIIA period. The restructured town was enhanced by additional fortification measures that follow the Cypriot version of the so-called 'Cyclopean' masonry (Dikaios 1969–71: 120–129). Enkomi's quarters accommodated refurbished lavish buildings, some of which were making extensive use of good-quality ashlar masonry (Courtois *et al.* 1986: 1–40; Webb 1999: 192–213). The proliferation of religious edifices in the reorganised town (i.e. the 'Horned God' and the 'Double Goddess' Sanctuary, the Sanctuary of the 'Ingot God' [Webb 1999: 192–213]) and the widespread distribution of metalworking installations and wealthy tombs indicate that Enkomi operated on a *heterarchical* system, which consisted of multiple high-status institutions and elite groups (Keswani 1996: 224–226; Peltenburg 2012: 13). Enkomi was gradually abandoned as a result of the silting of its port by alluvial deposits of the Pedhiaios River. The foundation of Salamis in the 11th century BCE represents the gradual population shift from Enkomi some 3 km to the northeast (Yon 1999: 17–18).

The 12th century BCE marked the last phase of occupation at the settlement of Hala Sultan Tekke, situated on the south-eastern coast of Cyprus. This cosmopolitan emporium lies by the Larnaca Salt Lake, which represents the remnants of a well-sheltered port associated with the Late Bronze Age settlement (Kaniewski *et al*. 2013). The town's final occupation horizon, which corresponds to the LC IIIA period, is the best-known phase (see Fischer and Bürge 2014: 80). Hala Sultan Tekke's grid system, large ashlar-built structures, industrial (metalworking and fabric-dyeing) activities accommodated at the site, and the plethora of imported exotica that were traded in this commercial hub (Åström 1986: 10–11; Åström 1996: 10; Fischer and Bürge 2013: 59; 2014: 72, 80) bespeak a well-organised and wealthy settlement with active maritime commercial links. According to the ongoing investigations by the New Swedish Cyprus Expedition at the site, the settlement was hurriedly abandoned following a destruction episode (cf. Fischer and Bürge 2014: 80; see also Fischer this volume).

The transition from the 13th to the 12th centuries BCE corresponds to the foundation of three new sites: Idalion-Ambelleri, established inland within the Mesaoria plain, Pyla-Kokkinokremos within the Larnaca bay, and Maa-Palaeokastro on the southwestern coast of the island, which is examined in detail below. In contrast to the exceptionally short-lived settlements at Pyla and Maa, the foundation horizon at Ambelleri inaugurated a long period of occupation on the hill where the palace of the Idalion polity was established during the course of the Iron Age (Hadjicosti 1997: 57–59). Making the most of its proximity to the rich copper

deposits of the Shia, Mathiatis and Lythrodontas orebodies (Kassianidou 2013: 53–54), Idalion flourished as an autonomous polity from the time of its establishment until its annexation by the dynasty of Kition in the 5th century BCE (Satraki 2012: 166–167, 289–290).

The impact of the 12th century 'crisis' on Cyprus is epitomised by the abandonment of the primary urban centres at Maroni-Vournes and Kalavasos-Ayios Dhimitrios[1] at the close of the 13th century, and of Alassa-Palaeotaverna during the course of the 12th. All three accommodated large public ashlar-built structures associated with administrative functions. The ashlar complexes at Maroni, Kalavasos and Alassa also housed industrial units, pertaining to metalworking and the processing of olive oil, and monumental supra-household storage facilities (Fisher 2014: 173). Based on the stratigraphic evidence, the abandonment horizons of all three south-central sites did not ensue from destruction episodes[2] (South 1989: 322; Hadjisavvas 1989: 41; Cadogan 1996). The final levels at Kalavasos-Ayios Dhimitrios, for instance, were swept clean, without much movable domestic or workshop equipment (South 1983: 24). Evidently, the peaceful desertion of these settlements relates to the breakdown of the eastern Mediterranean economic strategies which curtailed the external demand for Cypriot copper (Knapp 1997: 68). As a result, the regional economic systems administered by the urban centres at Kalavasos, Maroni and Alassa were put to the test and were eventually abandoned, together with their monumental, ashlar-built edifices. It was only in the course of the 11th century BCE, with the establishment of Amathous, that the void left by these abandonment episodes was reconciled (Iacovou 2013a: 26).

The shrinkage in the number of the Late Cypriot urban centres notwithstanding, Cyprus did not undergo a breakdown of urban forms, such as that which fell upon Mycenaean Greece or the Hittite Empire. Quite the contrary, the 12th century BCE corresponds to a phase of unprecedented flourishing for the polities of Palaepaphos on the southwest coast and Kition on the southeast, expressed by the monumental expansion of their respective sacred urban structures. Amidst the critical years of the 12th century, Kition refurbished Temple 1 on a monumental scale (Karageorghis and Demas 1985: 92–93) and Palaepaphos realised the construction of a megalithic Sanctuary (Maier and Karageorghis 1984: 81–102). As suggested by Maria Iacovou, the deprivation of an urban centre in the extensive south-central coastal territory enhanced the role and prominence of Kition and Palaepaphos (Iacovou 2008a: 637). The two centres, situated on either side of the depleted south-central coast, became the primary coastal polities of enlarged territories, empowered by internal and external migrant populations and dominating the resources (Iacovou 2012b: 217).

The above review of Cyprus' settlement histories during the 13th-to-12th-century transition demonstrates how the breakdown of the Late Bronze Age economy affected the regional economic systems variably. As a result of Cyprus' segmented political landscape and due to the absence of a strong central state, the events cumulatively referred to as the 'crisis years' did not have a uniform, and by extension not a devastating, impact on the island (Georgiou 2011; Iacovou 2013b: 617). This is why the 12th-century horizon corresponds to limited destruction and rebuilding, continuity and relocation, purposeful abandonments and also urban enhancement (Georgiou 2015: 131–135). The Cypriot coastal emporia that continued into this new era were in "the forefront of decentralised maritime trading activities" that ensued from the devolution of the state-level maritime trade (Sherratt 2003: 42–44; Bell 2006: 111–113). The newly arising commercial strategies resulted in the flourishing of the Cypriot polities' seaborne trading enterprises, and gave rise to the island's westward expansion of commercial activities, towards southern Italy, Sicily, Sardinia, and beyond (Sherratt 2003: 50–51). Continuity in the politico-economic arrangements within the Late Cypriot urban centres is epitomised by the uninterrupted use of the 'Cypro-Minoan' script, the written expression of the Late Cypriot administrative forms (Iacovou 2008a: 628). This syllabic scribal tool that was used to record an unknown language (or a number of unknown languages) remains undeciphered (Ferrara 2012: 221). Unlike the writing systems of contemporary Mediterranean states, 'Cypro-Minoan' was not attached to a centralised palace-based administrative bureaucracy, nor was it under the control of a guild of scribes. 'Cypro-Minoan' signs and short inscriptions were widely used for the marking of pottery and other media (Hirschfeld 2002), serving decentralised commercial activities

[1] While a limited amount of data suggest that Ayios Dhimitrios was occupied early in the LC IIIA period, this corresponds to a brief and sporadic occupation. The settlement's significance as an urban center was certainly undermined at the close of the LC IIC period (Todd 2013: 97).

[2] The excavators at Kalavasos-Ayios Dhimitrios indicated limited evidence for fire destructions in the NE area, but they specify that this was confined to a very small part of the settlement (Todd 2013: 94, 97).

(Iacovou 2008a: 632). Thus, contrasting the fate of Linear B – which died out together with the palatial administrative system it had served – 'Cypro-Minoan'endured into the Iron Age via its adapted version, known as the Cypriot Syllabary (Morpurgo-Davis and Olivier 2012; Iacovou 2013c: 136–138).

Examining the particular case of the Paphos region

The urban centre at Kouklia (Palaepaphos)

The urban administrative centre of the polity of Paphos lies within the limits of the modern-day village of Kouklia, close to the southwestern coast of Cyprus and near the mouth of the Dhiarizos River (Fig. 2). The town begun being referred to as 'Palaepaphos' after the foundation of 'Nea Paphos' at the close of the 4th century BCE and the transfer of all administrative functions to this new centre (Iacovou 2014: 41–42).

Archaeological investigations in the area of Palaepaphos were initiated in 1888 by the Cyprus Exploration Fund, who investigated a number of different localities of the Kouklia village (Hogarth *et al.* 1888: 158–224). A second British Mission, directed by T.B. Mitford (University of St. Andrews) and J.H. Iliffe (Liverpool Museums) resumed work at Palaepaphos between the years 1950–1955 (Iliffe 1952; Catling 1979). In 1966, a Swiss-German mission under the direction of Professor Franz Georg Maier continued the systematic excavation within the Paphian urban centre (Maier and von Wartburg 1985a). The area of Palaepaphos has been the focus of archaeological investigations by the University of Cyprus since 2002. Aiming to elicit field data that would permit the interpretation of the polity's urban forms, the "Palaepaphos Urban Landscape Project", initiated in 2006, has been undertaking fieldwork expeditions at targeted areas of Palaepaphos (Iacovou 2008c; 2012a: 60; 2014: 36–37).

Palaepaphos' foundation horizon is assigned to the MC III–LC IA period (c. 1750/1700 to 1600 BCE), when populations originating from a number of small-scale settlements within the wider Paphos catchment

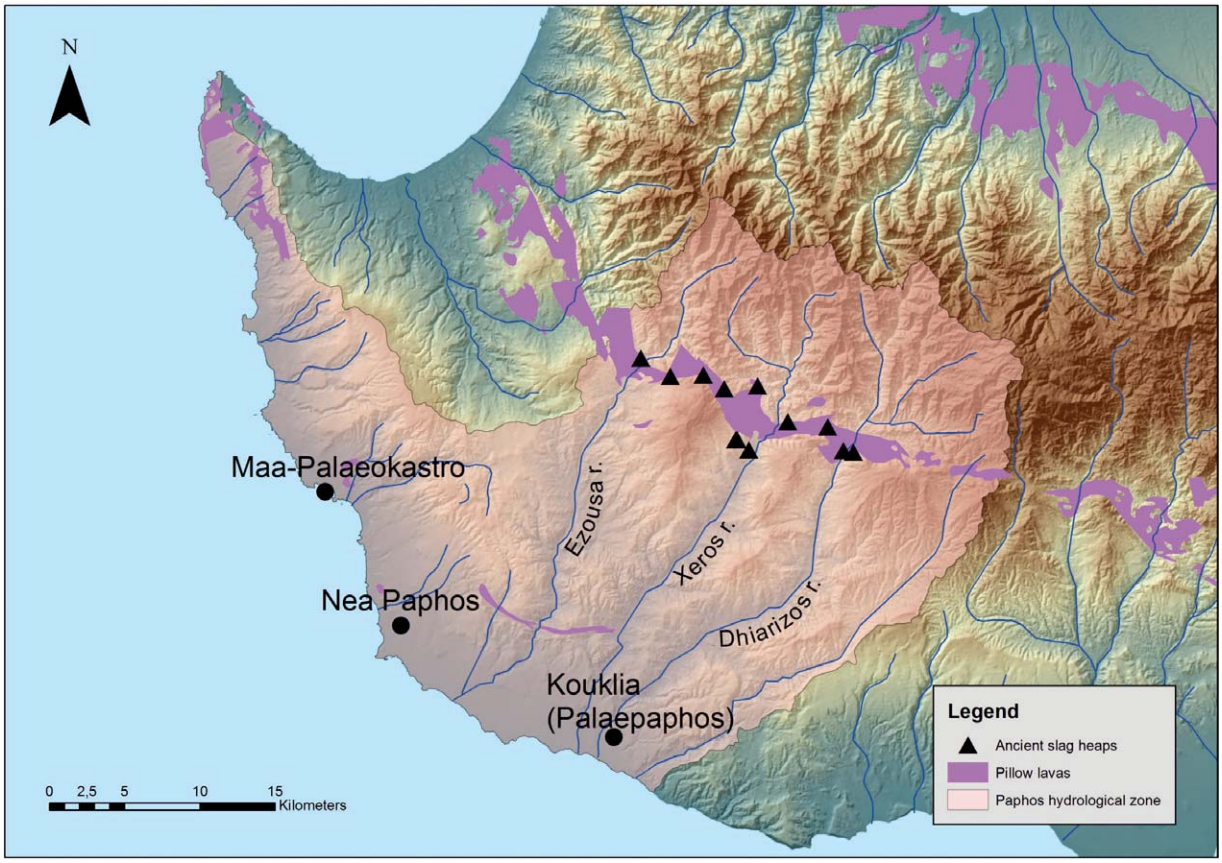

Fig. 2 Map of the Paphos hydrological zone, indicating the Upper and Lower Pillow Lavas, the distribution of slag heaps within the Paphos region and sites mentioned in the text. (Map drafted by the author, digital data courtesy of the Cyprus Department of Geological Survey)

Fig. 3 The remains of Sanctuary I at Palaepaphos. View of the southwestern corner of the *temenos* wall (Photo by the author. Permission granted by the Department of Antiquities, Cyprus)

area begun accumulating at this coastal centre. The shift of the Cypriot economy and society towards the procurement and maritime export of copper at the dawn of the Late Bronze Age, and the prospects of attaining wealth and status through the new economic order are not unrelated to population shifts and nucleation processes (Georgiou 2007: 429). Early Palaepaphos must have thus formed a 'gateway' centre, the terminal point for the hinterland's metalliferous wealth (Iacovou 2012a: 58). In point of fact, the foundation of Palaepaphos and its subsequent development into a prosperous autonomous polity can be justified only in connection with the administration of the routes extending from the cupriferous zones, situated within the Paphos Forest, to the coastal settlement (Iacovou 2014: 38–39; Georgiou forthcoming). The productivity of the Upper and Lower Pillow Lavas, situated within the Paphos hydrological zone, is confirmed by the distribution of massive slag heaps within the Forest of Paphos (Fig. 2) (Stos-Gale *et al.* 1998: 254; Iacovou 2014: 44–45).

The site presents an impressively long and continuous history, from the time of its earliest establishment at c. 1700–1600 BCE to the present day; as such, the stratified data of its early occupation is limited and fragmentary (Georgiou forthcoming). There is, however, ample evidence to suggest that, by at least the 13th century BCE, the settlement at Palaepaphos developed into the urban, administrative centre of a wider periphery that is considered to have largely coincided with the Paphos hydrological zone. The extant archaeological remains indicate how the polity reached a paramount level of prosperity during the LC IIIA period, amidst the critical years of the 12th century BCE. The most substantial evidence for the flourishing of the polity of Paphos amidst the critical 12th century BCE is provided by the megalithic sanctuary, known as Sanctuary I, established within the town's urban space at c. 1200 BCE (Fig. 3) (Maier and Karageorghis 1984: 91). This monumental sacred structure was founded on the Alonia plateau, a high-rising terrace that strategically overlooks the entire southwestern coast of the island. Sanctuary I was the focal point of adoration of a female deity, which became known as Aphrodite only during the course of the 1st millennium BCE (Karageorghis 2005: 43–45). The Paphos Sanctuary continued to function as a place of worship for the *Kypris* until Late Antiquity (Maier 1975: 80). The date of its earliest establishment was determined by very limited, yet crucial, undisturbed strata. A huge Late Bronze Age pithos, found *in situ* within a large pit (Maier 1976: 96), is assigned to Group III, the largest of the

Fig. 4 Stepped capital and fragmentary pair of horns of consecration from Sanctuary I at Palaepaphos (Photos by the author. Permission granted by the Department of Antiquities, Cyprus)

Late Cypriot storage vessels (Keswani 2009: 110). It is decorated with wavy bands in relief and its handles and shoulder were impressed with a cylinder-seal creating a frieze. The impression consists of two registers: the lower part depicts a lion attacking a bull and the upper shows a sphinx, a bird and two felines flanking a 'Tree-of-Life' motif (Maier and Karageorghis 1984: 96). The marking of storage vessels with elitist iconographic depictions using wooden rollers is a highly regional and idiosyncratic practice that has been linked to the administration of agricultural produce (cf. Webb and Frankel 1994: 19; Hadjisavvas 2001; Smith 2007: 356–367; Georgiou 2012a: 239). The pithos contained among others a Plain Wheelmade jug, two Base-ring II bowls, and a small Canaanite Jar (Maier 1976: 96). The lower part of a second Group III pithos was found *in situ* within the south wall of the Roman South Stoa (Maier 1977: 137, fig. 4). Another *in situ* find that dates the Sanctuary's foundation horizon to the years around 1200 BCE is a large clay bathtub excavated at the southwestern part of the Hall (Maier 1979: 95–96).

The Late Bronze Age structure was heavily remodelled in Roman times, and parts of it were destroyed by the construction of a sugar cane refinery in the area during the 15th century CE (Maier 1977: 133–137). Owing to its bad state of preservation, the ground plan and elevation of the Late Bronze Age sanctuary at Palaepaphos has been variously reconstructed (e.g. Maier and Karageorghis 1984: 97, figs. 81–82; Burdajewicz 1990: 33–34; Webb 1999: 62). The extant architectural remains indicate that the original Late Bronze Age sanctuary consisted of two units: an open-air area (*temenos*) to the south, and a colonnaded hall to the north (an *adyton* or holy-of-holies). The southern unit was enclosed by a substantial wall in the west, built of megalithic dressed limestone orthostats, reaching up to 5 m in length and 2.2 m in height, raised on a pediment of rectangular blocks. A very small segment of the *temenos'* southern wall is preserved, again built of well-drafted ashlar blocks (Fig. 3) (Maier 1977: 135–137; 1979: 170). The colonnaded hall, lying to the north of the *temenos*, is also fragmentarily preserved. Its north and south walls are built of fine ashlar blocks with drafted edges, while its east and west walls are entirely missing. The northern segment of Sanctuary I was probably roofed, judging by the two rows of stone bases that were possibly used as supports for drafted pillars.

Four stepped capitals, made of the same grey limestone as the Sanctuary's megalithic blocks, were found in the temple's vicinity (Fig. 4). In all proba-

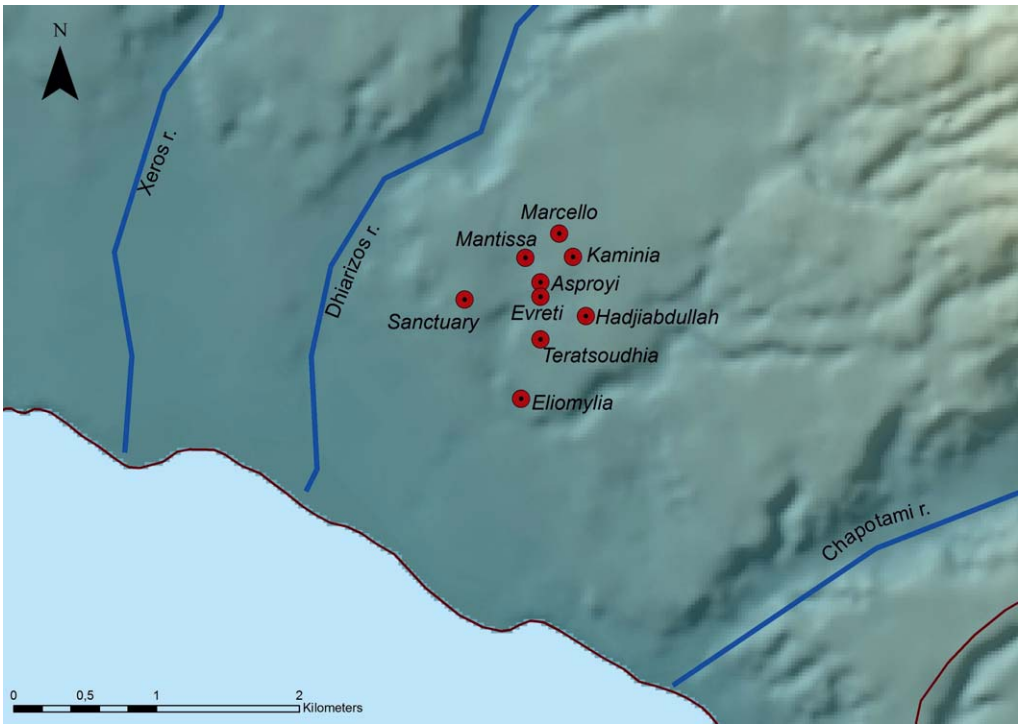

Fig. 5 Map of the Kouklia (Palaepaphos) Late Bronze Age localities mentioned in the text
(Map drafted by the author, digital data courtesy of the Cyprus Department of Geological Survey)

bility, these were architectural elements used for the crowning of the hall's pilasters (Webb 1999: 61). This practice is paralleled at Kition, where the roughly contemporary monumental Temple 1 also incorporated stepped capitals for the support of its elevation (Callot 1985: 189–191, figs. 37–38). Stepped capitals are an idiosyncratic architectural feature of the island, and were evidently associated with large-scale sacred structures (Webb 1999: 181–182; Georgiou 2012a: 203). Two large fragmentary pairs of 'horns of consecration', found in the vicinity of Sanctuary I, were probably also associated with the Late Bronze Age structure (Fig. 4). They follow the three-dimensional, stone carved, Cypriot version of this sacred symbol, known also from Myrtou-Pigadhes, Erimi-Pitharka and Kition (see Webb 1999: 176–179; Vassiliou and Stylianou 2004: 185, fig. 8).

The Sanctuary's poor preservation notwithstanding, the megalithic size of its ashlar blocks is indicative of the wealth attained by the Paphian polity during a time of a presumed 'crisis'. This colossal endeavour illustrates how the Paphian political authorities managed to accumulate the resources and manpower, in order to undertake the construction of the island's first truly monumental structure. This large-scale project was paralleled by the contemporary Temple 1 of Kition (Karageorghis and Demas 1985: 92–94), whose fine-drafted ashlar blocks indicate that the regional polity of Kition was similarly empowered amidst the 'crisis' (Iacovou 2013a: 26). The monumental construction of Palaepaphos' Sanctuary I and Kition's Temple 1 did not uproot the traditional Cypriot religious architecture, nor did it introduce any specifically salient Aegean or Near Eastern religious elements. Both edifices follow the centuries-old open-air cultic architecture which incorporated large open courtyards, framed or lined by a covered hall that typified sacred practices on the island (Webb 1999: 157–158).

The mortuary sphere provides additional insights to the prosperity attained by the Paphian urban centre during the transition from the 13th to the 12th centuries BCE. Distinct clusters of tombs were excavated at the localities of Evreti, Asproyi, Teratsoudhia, Eliomylia, Marcello and Kaminia (Fig. 5) (see Catling 1968; 1979; Maier and Karageorghis 1984: 50–52; Maier and von Wartburg 1985a: 146–148; Karageorghis 1990; Maier 2008: 196–224). Judging by the co-existence of mortuary and secular remains, Pa-

laepaphos followed the Late Cypriot mortuary custom of establishing tombs within residential areas (Maier and von Wartburg 1985a: 147). Mortuary contexts were found dispersed at a number of distinct localities within the Paphian urban core, and probably correspond to distinct secular *nuclei*. This segmented urban topography was the result of the particular landscape of the area, whose irregular layout did not allow the development of a unified system of habitation (cf. Iacovou 2007: 3–6; 2008c: 2; 2012a: 59–60); rather, the urban fabric at Palaepaphos consisted of several clusters that accommodated living, working and burial activities.

Excavations at the locality of Evreti revealed a group of wealthy family chamber tombs, with a small entrance pit and one or more chambers dug in the conglomerated bedrock (Maier and von Wartburg 1985a: 146; Catling 1979: 272–274). Evreti Tomb VIII was an exceptionally sumptuous burial, despite its modest ground plan. The tomb was first established in the 15th/14th century BCE, but the majority of its finds and its last period of use date to the 12th (Catling 1968: 165–166). The burial gifts included gold jewellery, such as finger rings with cloisonné bezels, earrings with bull-head's pendants, as well as ivory, bronze, silver and stone artefacts (Catling 1968: 168; Maier and Karageorghis 1984: figs. 50–58). An exceptional find from Evreti Tomb VIII is an intricately decorated ivory mirror handle, which depicts a man slaying a lion with a sword (Fig. 6) (Maier and Karageorghis 1984: 68, figs. 55, 58). Tomb VIII of Evreti was also rich in objects made of iron, including bimetallic iron knives with bronze rivets, and iron spatulae with ivory handles (Catling 1968: 168). The circulation of iron objects early in the 12th century *milieu* indicates how the Paphian metalworkers played a pivotal role in iron-working advancements (Muhly 2003: 145–146; Sherratt 1994: 69–70).

The excavations of the Department of Antiquities at Teratsoudhia revealed Tombs 104 and 105 with multiple chambers, with a proliferation of wealthy funerary gifts (Karageorghis 1990). A bronze figurine found inside Chamber K of Tomb 104 stands out amongst the finds from Teratsoudhia. The figurine, cast in solid bronze with the 'lost-wax' technique, depicts a nude female figure, with plaited hair, an accentuated pubic triangle and the hands touching the breasts. A long necklace with a circular pendant extends to the statuette's waist (Karageorghis 1990: 29, pl. XXI, LII: K5). The figurine's gesture and nudity convey the notion of female fertility, analogous to terracotta 'Base-ring' or 'Bird-shaped' figurines (cf. Karageorghis 1993: 3–13). The base on which it stands is, regrettably, fragmentary; it is, however, highly likely that the Teratsoudhia figurine is depicted stepping on a miniature oxhide-ingot, as is the case for the unprovenanced 'Bomford statuette' now at the Ashmolean Museum, Oxford (Catling 1971). A third fragmentary bronze figurine, found in the Bairaktar area of Nicosia, is an additional example of an identically depicted nude female figure, although its lower part is missing (Dikaios 1936). All three examples belong to the iconographic type known as 'Astarte-on-the-Ingot', and, in all probability, correspond to the representation of a goddess associated with metallurgy, who was responsible for ensuring the fertility of the mines and protecting the island's copper industry (Webb 1999: 232–236; see

Fig. 6 Ivory mirror handle from Evreti Tomb KTE VIII (Courtesy of the Department of Antiquities, Cyprus)

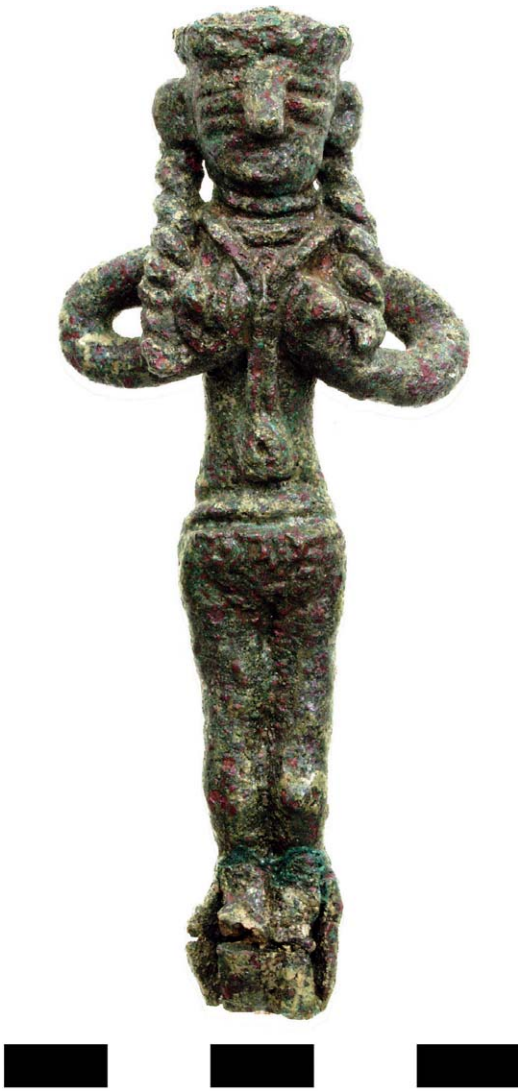

Fig. 7 Bronze figurine of the Astarte-on-the-Ingot type from Teratsoudhia, Tomb 104: Chamber K, No. 5 (Courtesy of the Department of Antiquities, Cyprus)

also discussion in Knapp 1986: 9–14; Budin 2002: 320). The Goddess depicted is identified as the consort of the 'Ingot God', a bronze figurine found at Enkomi that portrays an armed male figure, standing atop a miniature ingot and brandishing his spear (Catling 1971; Papasavvas 2011). The discovery of a statuette representing the female guardian of the copper industry at Palaepaphos underscores the significance of the exploitation of the copper resources for the economic prosperity of the Paphian polity.

At the locality of Kaminia the British Mission excavated twenty-one tombs that do not follow the traditional Late Cypriot mortuary facility of the chamber-tomb type. The Kaminia tombs, which remain unpublished apart from a short report (Catling 1979; see also Goring 1988: 70–72), are simple inhumation burials, known as 'shaft-graves'. This newly introduced burial custom is chronologically confined to the 12th and early-11th centuries BCE. It comprises an unimpressive rectangular cutting in the ground, occasionally lined with stones or mudbricks. The majority of the shaft graves were found at Enkomi; other examples are known from Episkopi, Hala Sultan Tekke and Kition (see Keswani 2004: 96–97; Niklasson-Sönnerby 1987). The apparent decrease in architectural expenditure notwithstanding, most of the shaft-graves were well-equipped, indicating that this new burial custom was not allocated for people of lesser wealth (Niklasson 1999: 98). The most substantial breakthrough associated with shaft graves is that this mortuary facility was intended for single burials. Considering that the traditional Late Cypriot chamber-tombs were used for the interment of several members of a kin, the shaft-grave phenomenon introduces a significant shift from millennium-old funerary practices. Individual tombs may disclose a possible fragmentation of traditional kin-groups (Keswani 2004: 97, 104) that had ensued from the shift in socio-political dynamics in this turbulent era within urban settlements. The shaft-grave phenomenon could alternatively represent the burials of dislocated individuals from other Late Cypriot settlements or migrant populations from further afield (Iacovou 2008a: 626; 2012b: 212–213). Shaft graves would provide an expedient burial facility for individuals that were newly established in the urban environment of Late Cypriot towns, and were not associated with a family chamber tomb.

As a result of Palaepaphos' continuous occupation, the living and working contexts of the town's early phases were largely razed off by posterior activity, and are thus poorly and fragmentarily preserved. Crucial residential and industrial data were unearthed at the locality of Evreti, where two well shafts (TE III and TE VIII) were filled with great numbers of storage and fine-ware vessels, animal bones, and other small artefacts (Maier and von Wartburg 1985b: 105–106; von Rüden *et al.* 2016). Around 600 pieces of ivory artefacts – both finished and half-finished – weighing c. 2 kg in total were deposited within the wells (von Rüden 2016). They evidently correspond to the waste of ivory workshops. Considering the large number of fine-ware drinking vessels discarded within these contexts (cf. Georgiou 2016a), the Evreti well deposits are interpreted as the residue of residential activities, that include feasting and workshop remains

Fig. 8 3-D view of the Maa-Palaeokastro peninsula (source: Google Earth)

(see von Rüden *et al.* 2016). Pit 48 from the locality of Asproyi has also presented significant evidence for the operation of ivory workshops in the area. In addition to a considerable number of ivory chippings and unfinished ivory artefacts, Asproyi Pit 48 yielded elaborately decorated ivory pyxides and circular ivory discs (Maier and von Wartburg 1985b: 105). Another well discovered at Teratsoudhia contained pottery, bronze, lead, faience and, again, ivory artefacts (Karageorghis 1990: 73), furnishing further proof of the flourishing ivory-working ateliers of Late Bronze Age Palaepaphos. The excavation of a potter's wheel, assigned to the Late Bronze Age from the site of Arkallon at Kouklia (von Wartburg and Maier 1991: 255–256) and ceramic wasters from Evreti (Maier and von Wartburg 1985b: 120) corroborate the presence of pottery workshops in these areas.

The recent excavations of the "Palaepaphos Urban Landscape Project" at the plateau of Hadjiabdullah exposed large numbers of Late Bronze Age storage and utilitarian vessels, that correspond to settlement contexts (Iacovou 2012a: 60). The site of Hadjiabdullah has also produced a handle fragment of a small pithos bearing the impressed frieze of a cylinder seal, depicting two fighting bulls and a human figure trying to separate them. This iconography is paralleled at other Late Cypriot sites (cf. Smith 2007: 363–364) and adds to this idiosyncratic and highly regional bureaucratic mechanism of southwestern Cyprus (Georgiou 2016b: 140–141).

Revisiting the short-lived settlement at Maa-Palaeokastro

The establishment of Maa-Palaeokastro within the Paphos hydrological zone, some 25 km to the northwest of the urban centre at Kouklia, corresponds to the transition from the 13th to the 12th century BCE (see Karageorghis and Demas 1988: 255–266; Georgiou 2012a: table 60). The settlement was founded from scratch along a narrow peninsula (Fig. 8), and persisted for merely a couple of generations before its eventual abandonment in the mid-12th century BCE. Maa presents "a most convenient position for sea communications and unique on the whole west coast of Cyprus" (Dikaios 1969–71: 907). The newly founded site held an advantageous location overlooking the inland plain and the sea lanes, and was flanked by two sheltered bays, suitable for the docking of small vessels (Karageorghis and Demas 1988: 1). The eastern bay in particular provided an ideal open port, protected from the western winds.

The peninsula was fortified from the time of its earliest establishment by two distinct ramparts. The northern rampart was built on the landward side of the settlement, along the narrow strip connecting the peninsula to the mainland (Fig. 9). The seaward section of the wall is not well preserved; its outline can be discerned following the promontory's ridges. Both segments of Maa's fortification system consisted of large blocks with rubble filling in between and a

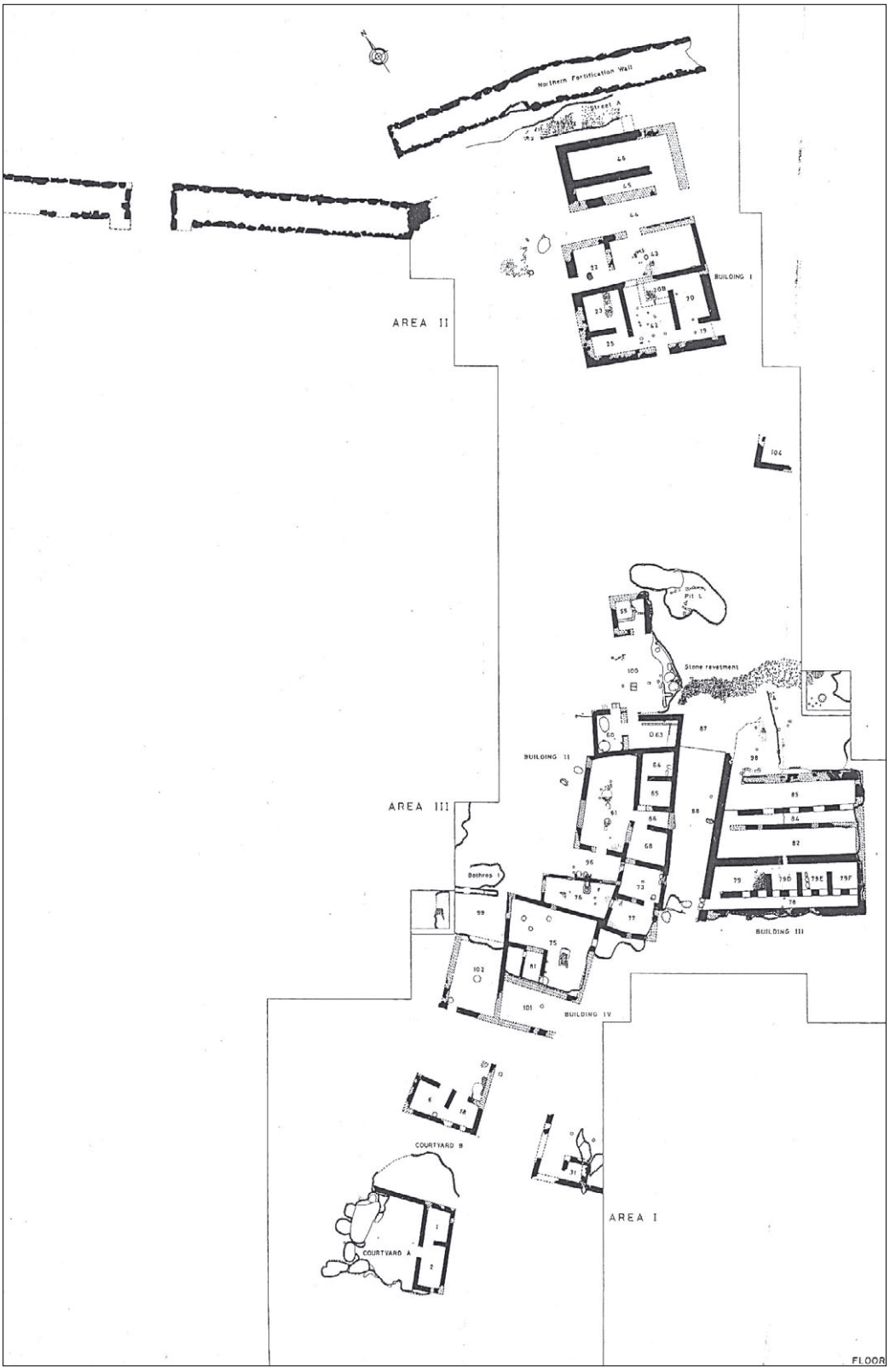

Fig. 9 Ground-plan of Floor II at Maa-Palaeokastro (from Karageorghis and Demas 1988: fig. 2)

mudbrick superstructure (Karageorghis and Demas 1988: 50–53). They follow the Cypriot version of 'Cyclopean' construction, paralleled by roughly contemporary fortifications at Enkomi (Dikaios 1969–71: 120–129), Sinda (Furumark and Adelman 2003: 26) and Kition (Karageorghis and Demas 1985: 33–36, 86–89; see also Wright 1992: 243; Georgiou 2012a: table 18).

The layout of Maa-Palaeokastro reflects an organised venture, with the structures set up alongside a road that runs through the settlement. Four main buildings were assigned to the earliest building phase (Floor II) (Fig. 9). Building I, a large structure established close to the fortification wall, probably functioned as an official residence (Karageorghis and Demas 1988: 9–14). It is the only structure from the settlement that utilises ashlar masonry. Ashlar blocks of relatively poor quality were embedded only on the southern façade and the edifice's entrance ways (Karageorghis and Demas 1988: 54–55). Building III, established on the settlement's central part, is interpreted as a storeroom, judging by its long and narrow corridor-like rooms and the preponderance of pithos fragments recovered within (Karageorghis and Demas 1988: 33–34). The central part of the excavated settlement also accommodated Buildings II and IV, which are identified as elite residences (Karageorghis and Demas 1988: 19–23, 40–42). Both structures incorporated elongated halls in their ground plan, featuring a built hearth as a prominent element (Building II: Room 61, Building IV: Rooms 75 and 76). Hearth halls – often associated with copious amounts of drinking and eating vessels – are interpreted as *loci* of communal, sacred or elite feasting activities (Fisher 2006–2007: 94–96). The excavation of three hearth rooms in such close proximity at Maa-Palaeokastro marks elitist competitive pursuits at the site (Georgiou 2012a: 200–203).

The settlement at Maa-Palaeokastro suffered destruction, which marked the end of Floor II. Rebuilding activities, represented by Floor I, were promptly initiated (Karageorghis and Demas 1988: 66). The apparent continuity in the material culture between the two building phases suggests that the occupants of Floor I were the same as in the earlier level (Karageorghis and Demas 1988: 266). The settlement was abandoned soon after, prior to the middle of the 12th century BCE.

Maa-Palaeokastro is often grouped with Pyla-Kokkinokremos, situated on the southwestern coast of the island (see Karageorghis and Demas 1984; Karageorghis and Kanta 2014). Both sites were founded from scratch during the turbulent years of c. 1200 BCE and were extremely short-lived. Their temporal similarities notwithstanding, the two sites present significant differences in their material culture (Georgiou 2012b). The original interpretation of the two sites as the enclaves of Mycenaean refugees fleeing the palatial collapse of the Greek mainland (Karageorghis and Demas 1988: 266; Karageorghis 1992: 83) cannot be explicitly sustained, in the absence of indicia that would enable us to trace dislodged foreign populations at the site (Iacovou 2013b: 612–616).

The contextual study of the excavated remains suggests that Maa's *raison d'être* extended well beyond the need for security. Copper and lead slag, as well as pot-bellows and tuyères found at Maa-Palaeokastro are representative of metal-working activities taking place within the settlement (for copper slag see Karageorghis and Demas 1988: no. 331, Room 61/2, Area 101A/1, Pit L/6; for lead slag: nos. 448A, 448B, 564, 652; for pot-bellows: nos. 256 and 328; for tuyères: no. 1954.10 and more unpublished examples; see also Zwicker 1988; Georgiou 2012a: 180–181). Industrial pursuits at Maa are further corroborated by the excavation of fragmentary copper oxhide ingots (see Karageorghis and Demas 1988: nos. 189, Rooms 1 and 2, no. 5, Area 87, no. 2), which, based on chemical analyses, consisted of almost pure copper (97.87%) (Muhly and Maddin 1988: 471). The concentration of copper-working implements as well as copper slag and copper ingot fragments at Room 64 of Building II suggests its use as a metallurgical workshop (Muhly and Maddin 1988: 471).

The establishment of Building III, a large structure that was explicitly used for the supra-household, communal storage of agricultural produce, is an eloquent indication for the operation of a centralised authority at Maa, in charge of administering agricultural surplus. The specialised functions of Building III can be paralleled by the 'Pithos Hall' (Building X) at Kalavasos-Ayios Dhimitrios (South 1988), the 'West Building' at Maroni-Vournes (Cadogan 1996: 17) and Building II at Alassa-Paliotaverna (Hadjisavvas 1996: 30–32). Maa's communal storeroom was the findspot of the majority of the cylinder-seal impressed pithos fragments at the site (Karageorghis and Demas 1988: 32–34; Georgiou 2016b: 128). Two different seals were used for the sealing of storage vessels at Maa: one depicts a chariot-hunting scene and the second a pair of goats feeding on olive trees (Porada 1988; Georgiou 2012a: 166–167; Georgiou 2016b: 128–135). On other occasions, large storage vessels from Maa-Palaeokastro were inscribed with 'Cypro-Minoan' inscriptions (Karageorghis and Demas 1988: nos. 140, 598). Inscribed, as well as cylinder-seal impressed, pithoi constitute idiosyncratic Late Cypriot mechanisms, associated with the management of agricultural surplus (Georgiou 2016b: 139–140).

The settlement's seaward orientation and the plethora of imported vessels elucidate Maa's extra-insular

Fig. 10 Four-handled ‚Canaanite Jar' from Maa-Palaeokastro (from Karageorghis and Demas 1988: Inv. No. 251. Photo by the author. Courtesy of the Department of Antiquities, Cyprus)

Fig. 11 'White Painted Wheelmade III' deep bowl from Evreti (No. TE III: 23. Photo by the author. Courtesy of C. von Rüden and the Department of Antiquities, Cyprus)

commercial links. Maa-Palaeokastro presented the second largest accumulation of the so-called 'Canaanite Jars' on the island (Fig. 10) (Hadjicosti 1988), outnumbered only by the cosmopolitan harbour town of Hala Sultan Tekke (Åström 1991). Petrographic and other analyses on the transport containers found at Maa indicated that, while the majority comprise imports from the Syro-Palestinian coast and Egypt, a few appear to have been locally made (Jones and Vaughan 1988: 393). There were also faience fragmentary vessels imported from Egypt, Levant and Anatolia (Peltenburg 1988: 314–315), Late Minoan stirrup jar fragments of 'oatmeal' fabric, and a proliferation of other exotica (see Georgiou 2012a: 184–185). The site's trading activities are additionally confirmed by the great number of weights unearthed, which largely follow the Syro-Egyptian metrological standards (Courtois 1988).

The fortification wall along the narrow end of the peninsula, the extensive bedrock cutting for the foundation of structures and the overall construction of the site in a single – yet substantial – scheme, insinuate that the foundation of Maa was a highly organized venture, whose main activities involved the storage of agricultural goods, processing of metals and maritime trade. The site lies within the 'domain' of the polity of Paphos, administered at the urban centre at Kouklia, and it is visible from the megalithic Sanctuary I, which was constructed roughly simultaneously to Maa's foundation. Judging by the extant ceramic remains of Maa-Palaeokastro, it is evident that the site formed part of the Paphian regional pottery tradition. Regional ceramic idiosyncrasies that are shared between Palaepaphos and Maa are apparent in terms of storage vessels (Keswani 2009: 122–123), cooking pots (Dikomitou-Eliadou *et al*. 2016) and fine-ware pottery (Georgiou 2016a: 99–100). The connections between Maa-Palaeokastro and Palaepaphos in terms of the material culture are undeniable; however, it is extremely challenging to outline the extent and nature of such connections and to determine whether the urban centre of the Paphian polity exerted administrative or political control over the newly founded site. It is plausible, that the seaward-orientated and commercially active settlement at Maa-Palaeokastro was associated with Palaepaphos as a special function site, ensuring the polity's continuing economic activities, pertaining to the processing of copper and seaborne trade during the critical years of c. 1200 BCE.

The transformed material culture

The transition from the 13th to the 12th century BCE in Cyprus is characterised by substantial transformations in the island's material culture, primarily involving the ceramic industry. During the final decades of the 13th and early in the 12th century BCE the production of the

Fig. 12 'White Painted Wheelmade III' hemispherical bowl with round impression below base from *Evreti* (outside view on the left, inside view on the right) (No. TE III: 474. Photo by the author. Courtesy of C. von Rüden and the Department of Antiquities, Cyprus)

centuries-old Late Cypriot Base-ring and White Slip wares of handmade manufacture dramatically deteriorated in both quantitative and qualitative terms. Simultaneously, a wheelmade pottery type that largely – though not exclusively – follows Aegean prototypes became the island's fine ware pottery *par excellence* (Fig. 11). This class is known in scholarship by a profusion of nomenclatures that includes 'Mycenaean IIIC:1b' and the umbrella term 'White Painted Wheelmade III' (for a discussion on terminology and the problems behind terms see Kling 1989; 1991; Fischer 2012: 78–79; Jung 2012; Georgiou 2012a: 296–299).

That the establishment of an Aegean-inspired wheelmade ceramic fine ware does not automatically equate to the physical presence of Aegean populations on the island has been thoroughly discussed by many scholars (cf. Sherratt 1991: 191–193; 1992; Iacovou 2013b: 607–610). The ability of the Cypriot potters to reproduce selected shapes from the Mycenaean pottery tradition is evidenced from as early as the 14th century, if not earlier, with the production of the so-called 'Pastoral style' amphoroid and bell-kraters, and other vessels imitating Aegean prototypes (see Vermeule and Karageorghis 1982: 59–68). During the second half of the 13th century BCE the corpus of locally made wheelmade vessels of Aegean inspiration augments by the addition of bowls of the shallow type (Steel 2010: 112–113). The production of Aegean-style fine wares increased exponentially at the opening of the 12th century BCE, but it did not oust the traditional production of handmade wares overnight (Sherratt 1991: 194–195; Georgiou 2015: 136–137). Cypriot wheelmade fine wares of this transitional phase are characterised by the integration and amalgamation of shapes, decorative patterns and techniques from the Aegean and other stimuli (Sherratt 1991: 186–187). For a brief period at the opening of the 12th century, we observe Base-ring- and White-Slip-style vessels thrown on the wheel, indicating a time of experimentation. Such experimental pieces from the area of Paphos proliferate, standing as testimony to the active and vanguard Paphian ceramic industry. Bowl TE III 28 from Evreti is an eloquent paradigm of the technological osmosis and the dynamic nature of the Cypriot ceramic industry during the 13th-to-12th-century BCE transition. The vessel follows the fabric and wheelmade technique of the Aegean-style vessels, but is shaped and decorated as a typical White Slip II-late example (Georgiou 2016a: 90).

The earliest attempt to 'industrialise' the island's ceramic industry is characterised by the profusion of regional variations. The production of Aegean-style fine-ware ceramics in the region of Paphos, for instance, presents highly regional idiosyncrasies. The popularity of solid dark paint on the interior of deep bowls is considered a regional feature of southwestern Cyprus, with plentiful examples from Kouklia (Marcello: Maier 2008: fig. 273.115–122; Evreti and Asproyi: Maier and von Wartburg 1985b: fig. 8; Georgiou 2016a: 85–86) and also Maa-Palaeokastro (Kling 1988: 334; Georgiou 2012a: 154–155). One-handled bowls are also popular in the Paphos region (see Mantissa [Karageorghis 1965: nos. 9–10, 19, fig. 159], Marcello [Maier 2008: 208, fig. 256: 26, 210, fig. 258:36A], Evreti [Georgiou 2016a: TE III 1, 3, 8, 61, 65, 72, 215, 217] and Maa-Palaeokastro [Karageorghis and Demas 1988: nos. 573, 414, 574]). Other regional characteristics of the Paphos production include the 'notched' rim on hemispherical bowls (Mantissa [Karageorghis 1965: Form A1, nos. 35, 37. fig. 38], Evreti [Georgiou 2016a: TE III 280A, 283 and 590]), and the characteristic hemispherical bowl with a

rounded base and a circular impression below (Fig. 12) (Mantissa (Karageorghis 1965: nos. 15, 26, 66, fig. 38), Marcello (Tomb KA T. I [Maier 2008: 200, fig. 252:7, fig. 256: 20, 30A]; Tomb KA T. II [Maier 2008: fig. 265:2]), Evreti [Georgiou 2016a: TE III 464, 474, 630, 631, 641), and Eliomylia (Karageorghis 1990: pl. 87, nos. 29, 42, 53).

In addition to the transformations in the island's ceramic industry, a number of other archaeological remains have been considered intrusive and were taken as indications of the presence of Aegean populations on Cyprus (Karageorghis 1992: 80–81; 2000; 2001). These include 'Cyclopean' walls, ashlar masonry, hearths, clay bathtubs, Handmade Burnished ware vessels, shaft graves and others. These are all varied and diversified phenomena that should be contextualised in order to comprehend the forceful transformations taking place on the island (cf. Georgiou 2015: 137). If we consider that Cypriot elite groups were incorporating Mycenaean paraphernalia from as early as the 15th century BCE to enhance their status (Steel 1998: 292), then the tracing of a foreign Aegean community on the island by means of an 'ethnically distinct' material culture is challenging, to say the least. More importantly, material described as 'innovative' does not occur homogeneously, or consistently as a 'cultural baggage' at any site (Iacovou 2008a: 631–632; 2013b: 610–612), thus prohibiting the identification of migrating populations or individuals from the LC IIIA archaeological remains.

The migration of Greek-speaking populations in Cyprus during the close of the Late Bronze Age becomes visible only through a macrohistoric view of the island's language. The language recorded in the undeciphered 'Cypro-Minoan' script did not continue into the Iron Age, with the possible exception of an as yet unknown language, conventionally referred to as 'Eteocypriot' (Steele 2013: 69–172). From the 7th century BCE onwards epigraphic data indicate that the official language for the majority of the Cypriot polities is the 'Arcado-Cypriot', an idiomatic form of the Greek language. According to linguists, the Arcado-Cypriot dialect preserves kinship with the language recorded in the Linear B tablets of the Mycenaean palaces (Morpurgo-Davies 1992: 422). Arcado-Cypriot was expressed in the Cypriot Syllabary, which constitutes the adaptation of the Late Bronze Age 'Cypro-Minoan' syllabic system (Morpurgo Davis and Olivier 2012: 113–114). The latest expression of the 'Cypro-Minoan' script is rendered on a copper-based obelos found inside Tomb 49 from Palaepaphos-Skales that dates from the early 10th century BCE (Karageorghis 1983). Applying the values of the Cypriot Syllabary, it can be read as O-pe-le-ta-u (Opheltes), a man's name in the genitive that already depicts the characteristic linguistic features of the Arcado-Cypriot dialect (Morpurgo-Davis and Olivier 2012: 112). The dynamic process of integrating a Mycenaean-related dialectal form of Greek with the syllabic script of Cyprus corroborates the establishment of Greek-speaking populations on the island during the close of the Late Bronze Age (Iacovou 2008a: 632–633).

Conclusions

The sacred, mortuary and limited secular evidence from the urban centre at Palaepaphos unequivocally conveys the unprecedented prosperity attained by the Paphian polity amidst the 12th century BCE 'Crisis". The abandonment of the urban centres to the east of Paphos, at Alassa-Paliotaverna, Kalavasos-Ayios Dhimitrios and Maroni-Vournes, together with the regional economic systems of the Kouris, Vasilikos and Maroni river valleys respectively, had a beneficial effect for the Paphian centre, which, at the dawn of the 12th century BCE, remained the only territorial polity on the western half of the island's southern coast (Iacovou 2008a: 637). Following the eradication of the regional economic systems to the east of Paphos, the polity was empowered by internal population movements and monopolised the resources over an enlarged territory. The abandonment of the neighbouring urban centre at Alassa and the depletion of the regional system of the Kouris river valley may have resulted in the inclusion of this territory in the polity of Paphos (cf. Iacovou 2013a: 28). The high concentration of cylinder-seal impressions on storage vessels, an idiomatic bureaucratic mechanism for the control of surpluses, in southwestern Cyprus, particularly in the area of the Kouris river (from Alassa-Paliotaverna and Episkopi-Bamboula) and the region of Paphos (from the urban centre at Kouklia and the coastal settlement at Maa-Palaeokastro) (see Keswani 2009: 119–122) exemplifies the bonds shared between the two neighbouring regions (Georgiou 2016b: 140–141).

Together with Kition and Enkomi, the polity of Paphos assumed a prominent role in the new commercial strategies that ensued from the collapse of the Late Bronze Age state-level economy. The Paphian polity, more than any other Cypriot centre, makes a strong case for the impressive degree of continuity bridging the Late Bronze Age-Iron Age eras in Cyprus. The longevity of the politico-economic organisation, cultic traditions, secular establishment and the persistence of the indigenous syllabic script at Paphos from the Late Bronze Age to the end of the 4th century BCE is striking.

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The Late Bronze – Iron Age Transition and the Problem of the Sea Peoples Phenomenon in Cilicia

Gunnar Lehmann

Abstract

The paper discusses the end of the Late Bronze Age and the beginning of the Early Iron Age in Cilicia focusing on the recently completed excavations at Kinet Höyük.[1] In coordination with previous studies by Marie-Henriette Gates, an attempt is made to define the latest Late Bronze Age phase in the 12th century as (Cilician) Late Bronze Age III. The paper evaluates the archaeological and historical evidence of a possible appearance of Sea Peoples in Cilicia and argues against a substantial presence of Sea Peoples during the 12th and 11th century BCE. The archaeological evidence does, however, attest phases of close interaction between Cilicia and Cyprus during this period.

Introduction

Ancient Cilicia, or Kizzuwatna during the Late Bronze Age, was one of the most important provinces of the Hittite empire. The region went through profound cultural and political changes in the transition from the Late Bronze to the Iron Age, approximately during the 12th century BCE. The archaeological evidence includes continuing, yet declining elements of the material culture of the Late Bronze Age along with new influences from the Mediterranean in general and the Aegean in particular. The Late Bronze – Iron Age Transition and aspects of the Sea Peoples Phenomenon in Cilicia have been repeatedly discussed in recent years (for a summary see French 2013). This paper intends to give an update about the latest research, summarizing the major developments.

Cilicia is defined here as the alluvial plains and the hill country between approximately Mersin in the west, Iskenderun in the east and the Taurus Mountains in the north. Although Cilicia is one of the largest Mediterranean plains, strategically located between Anatolia, Syria and Cyprus, the region is less intensively explored by archaeologists than the areas surrounding it. There are only a few modern archaeological surveys, most of which were not appropriately published. The surveys of Gjerstad (1934) and Seton-Williams (1954) are still the most important explorations, providing an important, yet somewhat outdated corpus of archaeological sites in Cilicia.

Likewise, there are only a few excavations in the Cilician plain that are relevant for an investigation of the Late Bronze – Iron Age transition (Fig. 1). The most important ones are still the excavations of Tarsus by Hetty Goldman between 1934 and 1939, and again from 1947 to 1948 (Goldman 1956, 1963). Since 2001 new excavations have taken place under the direction of Aslı Özyar (2005). The second thoroughly investigated site is Kinet Höyük, which was excavated by Marie-Henriette Gates between 1992 and 2012. Other excavations relevant to the discussion here include Soli Höyük, Sirkeli Höyük, Kazanlı, Mersin-Yumuktepe, Domuztepe (near Karatepe), Tatarlı Höyük, Porsuk, Kilise Tepe and the explorations at Misis (Mopsuhestia).[2] Detailed accounts of archaeological research were published by Elizabeth French, Marie-Henriette Gates and Serdar Girginer (French 2013; Gates 2011, 2013a; Girginer 2008 with special reference to recent archaeological surveys).

[1] The research for this study was funded by the Israel Science Foundation, Research Grant Application no. 237/14.

[2] Domuztepe (near Karatepe): Alkım 1952: 134–136; Winter 1979: 125. Kazanlı: Garstang 1938: 12–23. Kilise Tepe: Hansen and Postgate 1999: 111–121; Postgate and Thomas 2007; Bouthillier *et al*. 2014: 95–161. Mersin-Yumuktepe: Caneva and Sevin 2004; Garstang 1953. Misis (Mopsuhestia): Salmeri and D'Agata 2003: 207–211; 2011. Porsuk: Abadie-Reynal 1992: 349–377; Beyer 2012: 47–65; Crespin 1999: 61–71; Dupré 1983; Pelon 1992: 305–347. Sirkeli Höyük: Garstang 1938: 12–23; Ahrens 2014: 47–60 with reference to the literature, for a full bibliography see the website http://sirkeli.unibe.ch/.
Soli Höyük: Yağcı 2001: 159–166; 2003: 93–106; 2007a: 797–814; 2010: 971–986. Tatarlı Höyük: Girginer 2012: 110–114; 2013; Girginer *et al*. 2011: 128–135. For the latest reports of these excavations see the annual volumes of Kazı Sonuçları Toplantısı.

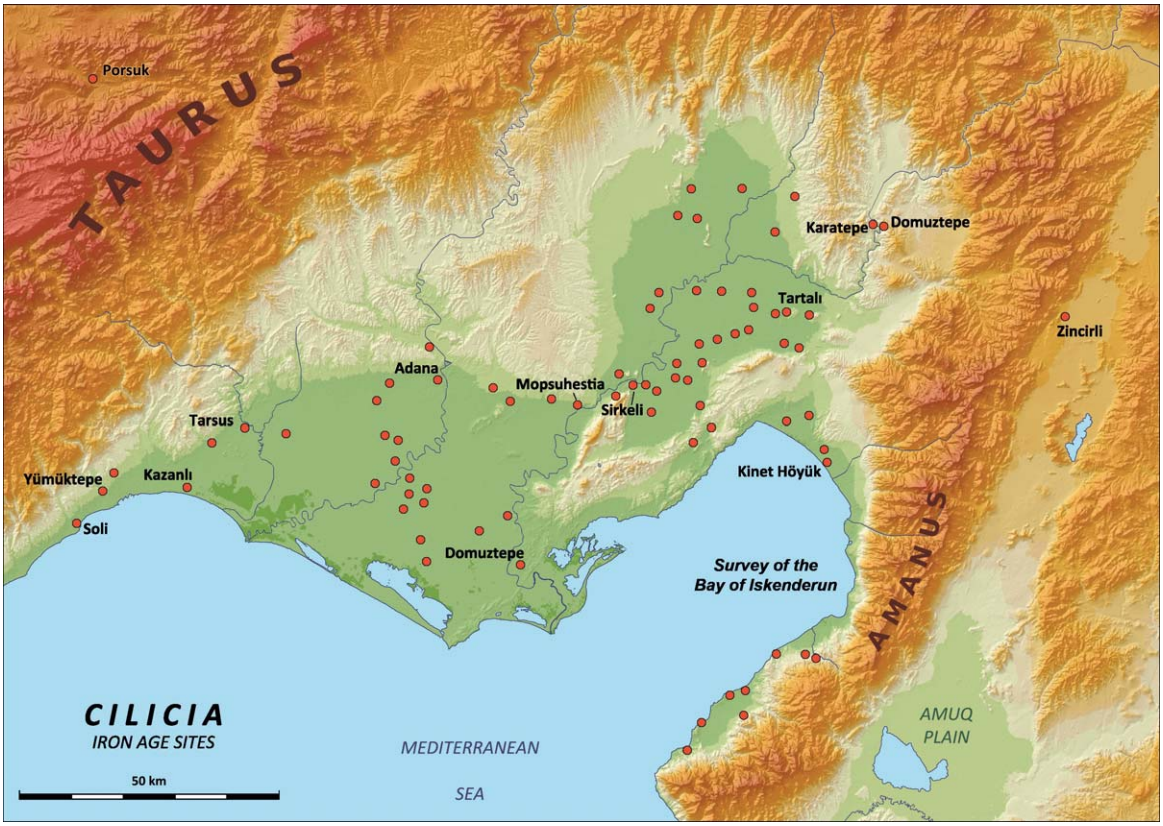

Fig. 1 Map of Cilicia during the Iron Age

Late Bronze Age III in Cilicia

In a series of articles, Marie-Henriette Gates has distinguished between major phases in the transition from the Late Bronze to the Iron Age in Cilicia (Gates 2010, 2013a, 2013b). Her outline of the developments will serve as a framework in this paper. The first relevant phase in this context still belongs to the Late Bronze Age and was characterized by Gates as "sub-Hittite decline". In this paper the author, in consultation with Marie-Henriette Gates, proposes to label this phase Late Bronze Age III.

The introduction of such a new notion that was not yet used in Anatolian archaeology demands some explanation. The new notion of a Late Bronze Age III phase in Cilicia emphasizes the end of the Hittite empire and yet the continuation of Late Bronze Age traditions in the 12th century BCE. We will use the term '(Cilician) Late Bronze III' to distinguish the Late Bronze Age material culture of the post-Hittite period explicitly from the preceding imperial Hittite period. The notion complements Gates' recent outline of the Late Bronze Age in southern and southeastern Anatolia (Gates 2011).

Historically, the (Cilician) LB III is the period following the political collapse of the Hittite empire. Epigraphical evidence indicates that during the 12th century BCE the kingdom of Tarhuntassa (Tarḫuntašša) dominated roughly Cilicia and southern parts of central Anatolia (Hawkins 2002). The inscriptions of Hartapus of Tarhuntassa, especially, demonstrate that the king considered himself "Great King" and "Hero", titles reserved previously for the supreme king of the Hittite empire (Klengel 1998: 315–316; Hawkins 1992; Crespin 2001: 130–131). Whether the kings of Tarhuntassa extended their kingdom over the Cilician plains is unclear, but as the only other major polities during the 12th century BCE appear to be the kingdoms of Karkemish and Malatya,[3] there was hardly any polit-

[3] For Karkemish see: Klengel 1992: 227–228; 1998: 318–319; for Malatya: Bryce 2012: 98–104; Hawkins 1982: 372–441, 948–955.

ical power that could have prevented Tarhuntassa from ruling over Cilicia.[4]

Archaeologically, the LB III material culture displays distinct differences from the preceding LB II period. In Cilicia, monumental architecture and well-built domestic quarters at Tarsus and Kinet Höyük were replaced at both sites by more flimsily constructed domestic structures. The pottery assemblages continue Late Bronze Age traditions, but these are now clearly distinguishable from previous Hittite standards. Cypriot imports that characterized the pottery assemblage until the end of the 13th century BCE disappear and new locally produced ceramics associated with Aegeanizing pottery traditions of the LH IIIC horizon commence. (The pottery developments will be discussed in more detail below.)

These developments seem to justify the distinction of a LB III phase, indicating a significant break with the previous LB II traditions. We feel that the term LB IIb, currently used at Tarsus for the post-Hittite period (Goldman 1956; Slane 1987, who calls the relevant strata A.X–B.X; Yalçın 2013: 197–213), does not make this cultural change sufficiently clear.

The notion LB III refers furthermore to the terminology used in Cyprus and the southern Levant. It emphasizes the LB character of the post-Hittite 12th century BCE in Cilicia that is clearly distinct from the later Iron Age traditions.

The relative chronology of Cilicia during the LB III relies exclusively on the excavations at Tarsus and Kinet Höyük. The publication of current excavations in the region, especially at Soli Höyük, Sirkeli Höyük and Tatarlı Höyük, will doubtless add crucial data, but as of today, Tarsus and Kinet Höyük are the only sites that provide – almost – complete stratigraphies from the Late Bronze Age through the Iron Age.

The relevant strata at Tarsus are labelled 'Late Bronze Age IIa and IIb' notions which correspond to the general archaeological periods in Anatolia and not to a site-specific terminology. Stratum (or rather 'period') LB IIa ended in a conflagration that was dated with historical criteria to the end of the 13th century BCE (Gates 2011: 395). This stratum featured public architecture and well-built domestic quarters in Hittite imperial style. The architectural remains of Stratum LB IIb were built upon the destruction debris of the burnt LB IIa architecture in areas Section A and B (Goldman 1956: 50–59). This stratum was dated to the 12th century BCE and belongs to the LB III.

Modest domestic structures are characteristic of Tarsus Stratum LB IIb. In the area of Section A, the occupation of Stratum LB IIb did not continue after its demise and the area was abandoned until the Hellenistic and Roman periods, while the LB IIb settlement in Section B was replaced by a later Iron Age occupation.

In the final report on the excavations, Goldman distinguished only between Strata LB IIa and IIb. However, the architecture of Stratum LB IIb as published in Goldman's report consisted in fact of a number of subphases. The LB IIb sub-phases and their finds were restudied in more detail by Dorothy Slane, Elif Ünlü and Serdar Yalçın (Slane 1987, 2006; Ünlü 2003, 2005; Yalçın 2005; 2013).

Yalçın (2005) was able to demonstrate that the stratigraphy of the LB IIb level was rather differentiated. He distinguished three phases which he labelled LB IIb Early, Middle and Late. He further distinguished four Early Iron phases, called Early Iron Age I–IV. In Early Iron Age I the last monochrome vessels in the Hittite tradition disappear, together with the few examples of LH IIIC styles found at the site. Early Cilician Painted pottery commenced with Early Iron Age II.

Kinet Höyük was settled during the LB I–II until the 13th century BCE, the last level being Period 13.1. The following stratum, Period 13.2, differed essentially from the preceding stratum Period 13.1. The settlement was smaller and the architecture did not extend over all the areas in which buildings of Period 13.1 were excavated. The exposure of Period 13.2 over an area of 160 m² is, however, sufficient to define the phase, which illustrates a sharp decline in the quality of building construction. The architecture was built in a different orientation from the preceding level and the observed carelessness in the construction of Period 13.2 is in sharp contrast to the neat masonry of trimmed facing stones with an inner fill of smaller ones that characterized the structures of Period 13.1.

Stratum Period 13.2 was destroyed in an earthquake or in a violent attack on the site. The following stratum, Period 12, is radically different from Period 13.2 and in the first phase of the Early Iron Age there are no traces of any built structures in the areas excavated.

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[4] Critical about a 12th century BCE date of Hartapus are Mora and d'Alfonso 2012: 385–398 and d'Alfonso 2014: 216–235. They consider an earlier, 13th century BCE date.

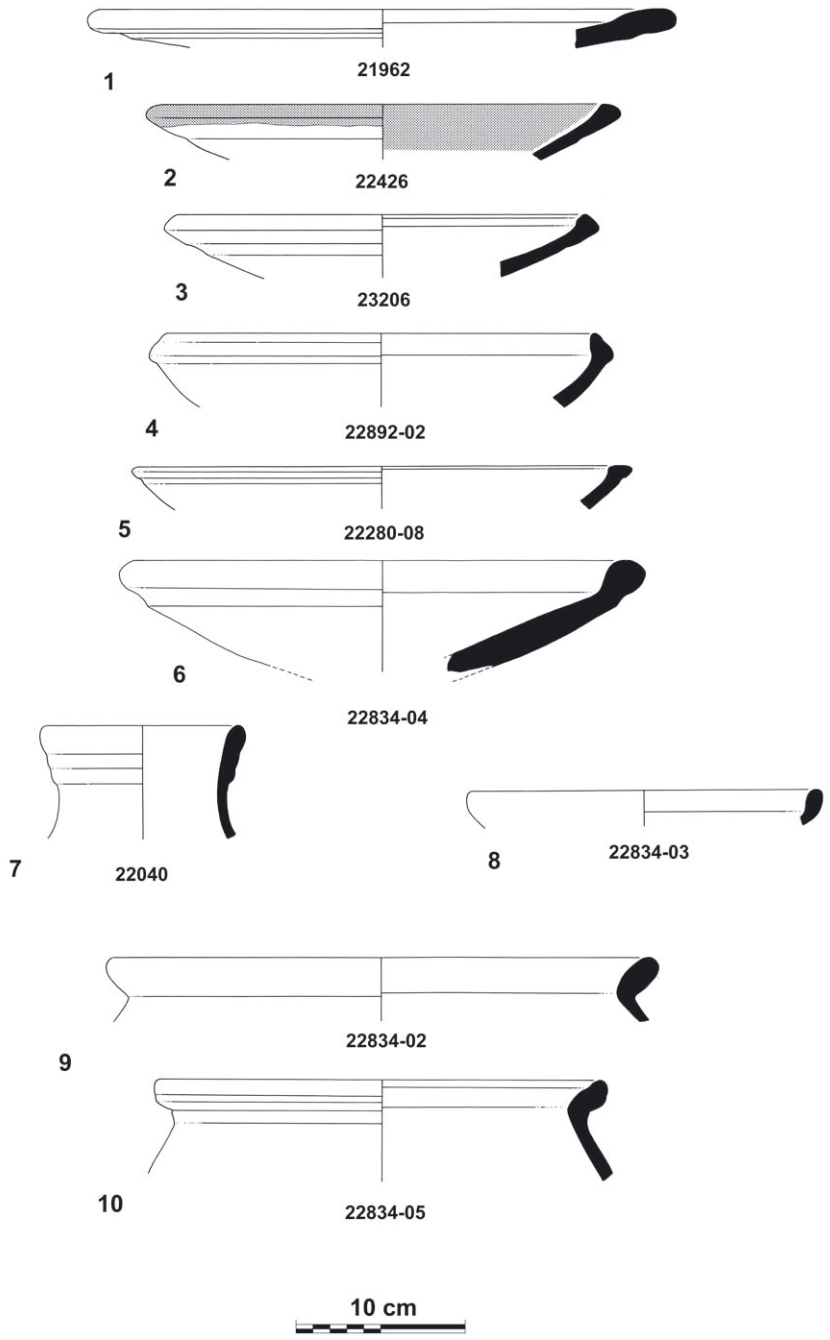

Fig. 2 Pottery from Kinet Höyük Period 13.2

Late Bronze Age III pottery: Local Cilician ceramics

Tarsus and Kinet Höyük, are currently the only excavations in Cilicia that provide sufficient data to study the pottery of the Late Bronze – Iron Age transition. The ceramics of both sites display strong local characteristics after the end of the LB II and are, thus, often difficult to compare.

Pottery recovered from Kinet Höyük Period 13.2 was produced by an industry working to relaxed standards if compared with LB II ceramics (Gates 2013b).

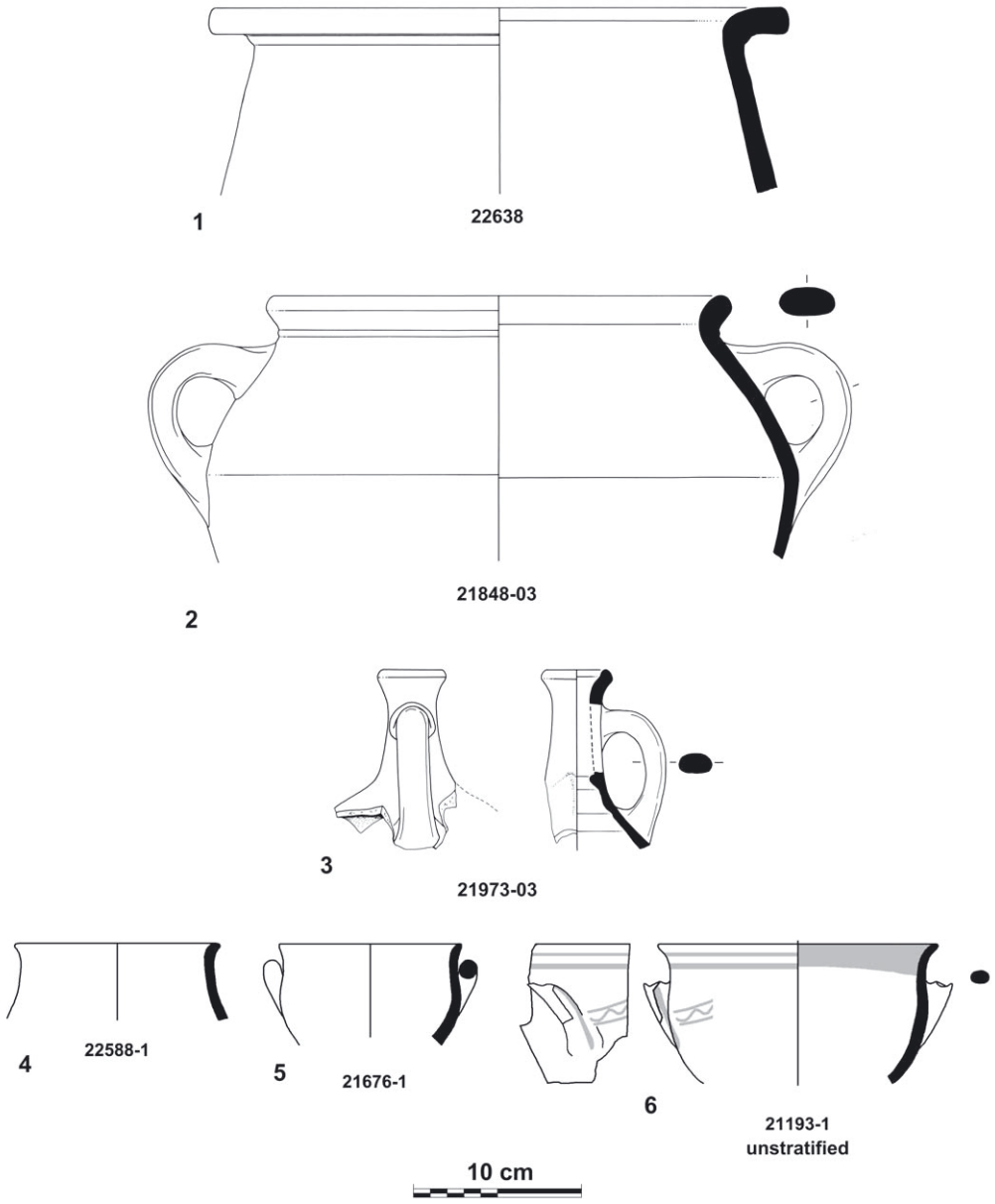

Fig. 3 Pottery from Kinet Höyük Period 13.2

Shapes and fabrics all derived from the Hittite types of the previous Period 13.1, but they appear in Period 13.2 recombined into new formulas. Traditional coarse ware shapes, such as the diagnostic baking platter, were now produced in fabrics previously reserved for fine wares. The plates typical of LB II decreased in frequency to be replaced by somewhat deeper bowls, and their rims and bases were finished with less precision. In the same trend, fabrics were coarser, vessel walls thicker and vegetal tempers were added in visible quantities. Also significant is the disappearance of potter's marks, a distinctive feature of Periods 15–13.1 and Hittite practice in general.

The potters of Period 13.2 thus used a Hittite ceramic vocabulary but applied it in a "different dialect" (Gates 2013b: 105), lacking now the controls exacted by a centralized production system that disappeared with the Hittite empire. The LB III assemblage can be characterized as 'sub-Hittite' and independent of directives coming from central Anatolia, where a similar

pattern of decline is noted as well. The pottery from Kinet Höyük Period 13.2 published here, illustrates this phenomenon of continuation and change (Figs. 2–3). The bowl in Figure 4:4 resembles grooved-rim bowls characteristic of Level II at Kilise Tepe (Bouthillier *et al*. 2014: 152, fig. 52h), while bowls with thickened and slanted rims as on Figure 4:5 have parallels at Tarsus Stratum LB IIb (Yalçın 2013: fig. 6a).

Similar developments in pottery production are reported from Tarsus. Although the vessel shapes of Stratum LB IIb resemble those of LB IIa, the fabric and surface colors in LB IIb appear to be different from the preceding Stratum LB IIa.[5] The new surface colors of the Stratum LB IIb vessels are apparently related to new firing techniques in this period.

Similarly, it was noted at Kilise Tepe that the earlier Level II material, here dated to LB III, is still akin to the material of Level III dating to LB II. Despite this continuity, there is an "increased variation in manufacturing techniques, shapes and decorative styles" in the Kilise Level II pottery (Bouthillier *et al*. 2014: 148).

Late Bronze Age III pottery: Late Bronze Age Cypriot imports

The ubiquitous imports from Cyprus to Cilicia during LB II, White-Slip, Base-Ring Ware or Monochrome, cease to appear in Cilicia with the beginning of LB III. This negative evidence seems to characterize Tarsus Stratum LB IIb, Kinet Höyük Period 13.2 and the Terminal Late Bronze Age levels at Kilise Tepe (Yalçın 2013; Slane 1987; Bouthillier *et al*. 2014; for Soli see Jean 2010: 206). At Cyprus these styles disappear gradually in the transition from LC IIC to IIIA (Karageorghis 2001: 10) with elements of the LC IIC vessel forms and decoration occurring on wheel-made ceramics of LC III (Sherratt 1991: 187; Mountjoy 2007: 589; see also Jung 2011: 177).

Late Bronze Age III pottery: Late Helladic IIIC in Cilicia

The appearance of LH IIIC in Cilicia has raised considerable attention among specialists. The notion LH IIIC may, however, be misleading. It implies that there was one style and one coherent typological group of pottery. In fact, LH IIIC production in the Aegean and the Levant are characterized by a pronounced local and chronological variability. The locally produced ceramics in various areas of Cyprus, Cilicia, Syria and the southern Levant resemble each other often only in a very general way. At the same time, some true imports were exchanged between the various regions and reached other local assemblages. Sue Sherratt has illustrated the underlying multidirectional, non-centralized network that characterized the exchange pattern and the contact of the various local groups involved (Sherratt 1994). To her map in the publication from 1994 (p. 41, fig. 1), one would have to add the new data available today from Cilicia, Syria and the southern Levant.

This complex network also raises the question of mutual stylistic influences. Did the LH IIIC styles develop predominantly in the Aegean as an original and reach the east only later or was there a stylistic variability that developed contemporaneously in the various areas in which LH IIIC was locally produced? Was the Aegean, thus, influenced in return by such stylistic developments in the Levant? The often confusing variety of terminologies used by archaeologists in the Aegean, Cyprus and the Levant are not sufficiently coordinated with one another and can cause severe misunderstandings (Jung 2011: 174–175). Reinhard Jung holds that "it is essential for both chronological and culture-historical analyses to differentiate between the ceramic classes that follow the Aegean style closely and others that exhibit the influence of other, non-Mycenaean traditions of pottery manufacture. Those local products that follow the Aegean developments closely, should be termed 'local Mycenaean pottery' – even if found far from Greece (e.g. in Syria or in Italy)" (Jung 2012: 105).

In this paper, the notion LH IIIC addresses the many variations of locally produced ceramics that developed out of the LH IIIB pottery and that follows 'closely' – in all the ambiguity that this approach entails – 'Mycenaean pottery.' To make things even more complicated, there are also vague notions such as 'Submycenaean' or 'Hellado-Cilician' pottery for local ceramic productions in Cilicia that follow 'less closely' Mycenaean traditions.

While LH IIIB is rather rare in Cilicia (Mee 1978: 150; French 2013), locally produced and imported LH IIIC is somewhat more frequent although this style was never as widespread and numerous as in the Aegean or Cyprus. The most important excavation that yielded LH IIIC ceramics is Tarsus[6] with almost 450 vessels and

[5] The studies by Karacic on the Hittite pottery of Stratum LB IIA were unavailable to me (Karacic 2014).

[6] Tarsus: Goldman 1956: 49–50, 349–351; French 1975: 53–75; Sherratt and Crouwel 1987: 325–352, fig. 5:8; Stubbings 1951: 88.

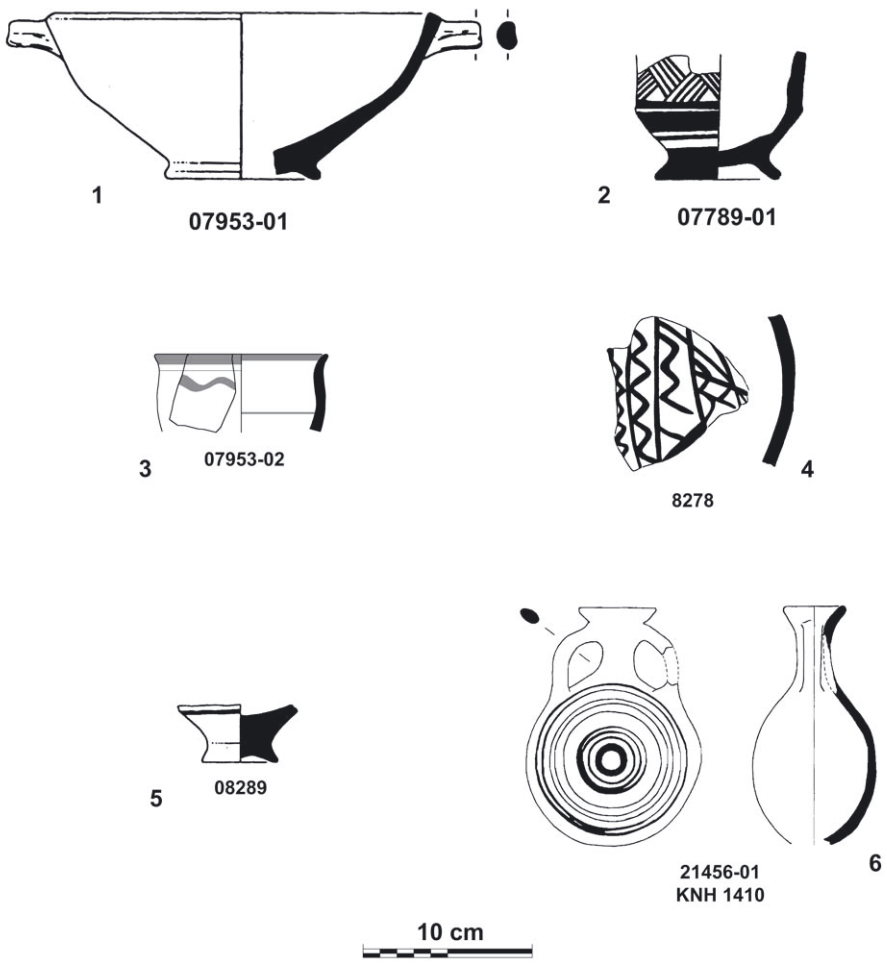

Fig. 4 Pottery from Kinet Höyük Period 12.1 and 12.1/13.2

sherds. Limited amounts of LH IIIC were also found at Kazanlı,[7] Soli Höyük and Mersin.[8] In a personal communication, Aslı Özyar and Elif Ünlü of the renewed Tarsus expedition emphasized that even at Tarsus LH IIIC pottery represents only a small percentage of the ceramics and is by no means a dominant style.

The LH IIIC pottery from Tarsus that was tested for its provenance was locally produced or imported from Cyprus and the eastern Aegean (Mommsen *et al*. 2011; see also Gjerstad 1934; Sherratt and Crouwel 1987: 332 n. 14 with references).

In Cilicia, the LH IIIC material from Tarsus is the best studied corpus and the site yielded the largest quantities of examples (French 1975; Mountjoy 2005b). According to Slane, who used the diaries of Goldman's Tarsus expedition, LH IIIC pottery did not occur immediately with the first post-Hittite level, but appeared only with the later levels of Stratum LB IIb

[7] Kazanli: Garstang 1938: 12–23, pl. 7:3–4 and 10:6 (excavations 1937 and survey 1948); Gjerstad 1934: 176–177, fig. 6; Mee 1978: 131 "most of the sherds are LH IIIC, none need to be earlier, cf. French 1975: 74; Sherratt and Crouwel 1987: 325–352 identify LH IIIA, IIIB and IIIC (photographs and a few drawings fig. 3 and fig. 5:2, 5, 7; cf. Stubbings 1951: 88 and App. C; Özgünel 1996: 7 n. 53 with references.

[8] Soli Höyük: Yağcı 2001: 159–166; 2003: 93–106; Mersin: Garstang 1939–40: 100, 131, pl. 81:2 and 5; Garstang 1953: 243, 256, fig. 160:1–2; Stubbings 1951: 89; Mee 1978: 133.

(Slane 1987: 83–84, 470). The pottery seems to be entirely LH IIIC, "but a knowledge of LH IIIB, especially of the motifs, is implicit" (Mee 1978: 145). Although there are only very few sherds dating to LH IIIC Late (French 1975: 72), all phases of LH IIIC seem to be present at Tarsus (Mountjoy 2005b). According to French, the pottery at Tarsus has stylistically much in common with Cypriot sites such as Paphos and Enkomi (French 1975: 73). This observation was confirmed by Mountjoy (2005b) and the NAA analysis (Mommsen *et al.* 2011). The LH IIIC material at Tarsus links the LB IIb level, here dated to our Cilician LB III, with LC IIIA and at least partly with IIIB.

More LH IIIC pottery was reported from archaeological surveys. In 1930 Einar Gjerstad visited several sites in Cilicia and recorded a number of Late Helladic ceramics (Gjerstad 1934). He was followed by John Garstang, who conducted surveys in 1937 (Garstang 1937: 55) and 1948 (Sherratt and Crouwel 1987: 327; Mee 1978: 131). A detailed survey was conducted in Cilicia in 1951 by M.V. Seton-Williams (1954, who also listed a number of further limited surface explorations; Seton-Williams 1954: 124). The sites recorded in these surveys on which Late Helladic (Mycenaean) or Late Bronze Aegean-style pottery was found are listed in an appendix here.

According to the survey and excavation reports, there was a rather extensive distribution of LH IIIC ceramics in Cilicia. In 2001, Salmeri and D'Agata reexamined the survey material collected by Gjerstad, kept in the Museum of Mediterranean and Near Eastern Antiquities in Stockholm, and pottery from Seton Williams' survey, kept in the Adana Museum and the collection of the British Institute of Archaeology at Ankara (Salmeri and D'Agata 2003: 208).

Salmeri and D'Agata distinguished between LH IIIA and IIIB, LH IIIC and pottery of Aegean derivation, but whose chronology cannot be fixed with certainty. They conclude that "during the 14th and 13th centuries BCE some Aegean pottery was imported from the north-east Peloponnese, and probably also from Cyprus. The sites affected by this circulation … were in fact few, comprising also Yenice and Tanaverdi south of Adana, but Tarsus, together with the satellite centre of Kazanlı, seems to have played a prevalent role" (Salmeri and D'Agata 2003: 209). Unfortunately, Salmeri and D'Agata have not published their research except for the short report quoted here (Salmeri and D'Agata 2003).

Late Bronze Age III pottery: The problem of Submycenaean and Hellado-Cilician

In their short report, Salmeri and D'Agata did not refer to any restudy of the 'Submycenaean' (Seton-Williams 1954: 134–135) or 'Hellado-Cilician' pottery (Gjerstad 1934: 171–172, 174–175, 195) reported in the surveys. Gjerstad described his 'Hellado-Cilician' pottery as a coarse, locally made fabric. The shapes imitate LH IIIC forms and are apparently a regional development in Cilicia. According to Gjerstad the technique and the fabric are different from the LH III ceramics. The paint is "… either entirely mat or very slightly lustrous". The shapes include bell-shaped bowls with loop-handles from the rim, stirrup-jars, stemmed goblets, pyriform amphorae, deep bowls and craters. The painted decoration consists of bands and lines, vertical parallel lines, wavy lines, spirals, fish-bone pattern, chequers, conventionalized shell ornaments, and a scale pattern.

Seton-Williams (1954: 134–135) distinguished between 'Mycenaean IIIC' and 'Submycenaean'. She identified her 'Submycenaean' with Gjerstad's 'Hellado-Cilician'. Unfortunately, it is not clear by what criteria she separated her 'Mycenaean III C' from what she called 'Sub-Mycenaean'. Furthermore, the term 'Submycenaean' is now widely and specifically used on the Greek mainland for something quite different (French 2013: 481). Seton-Williams' use of it appears now to be quite misleading and should be abandoned.

Sherratt and Crouwel assume that Seton-Williams' distinction arose from an attempt to distinguish Gjerstad's 'Hellado-Cilician', regarded as locally made, from the LH IIIC at Tarsus which the excavators considered to have been imported from the Greek mainland. As already stated above, the pottery is in fact local, Cypriot or from the eastern Aegean (Mommsen *et al*. 2011). In reality, both groups were apparently locally produced and it is difficult to distinguish the finer examples of Gjerstad's 'Hellado-Cilician' from the LH IIIC pottery at Tarsus.

The problem originates in Gjerstad's vague terminology of his 'Hellado-Cilician' that includes both fine and less refined fabrics, on which both surface finish and paint can vary (Sherratt and Crouwel 1987: 331 n. 13).[9] Sherratt and Crouwel suggest that it might

[9] Gjerstad compared the fabric of 'Hellado-Cilician' with that of his Plain White Ware, which is "sometimes rough and sometimes well silted, the colour varies between red-brown and buff-white; the colour of the surfaces varies between white, green, and buff" (Gjerstad 1934: 170, 171–172).

be more useful to call 'Submycenaean' the sort of local pottery characteristic of the transition from LB IIB to Iron Age at Tarsus (cf. a number of vessels in Tarsus: Goldman 1956 [Tarsus II]: fig. 331: nos. 1259?, 1262,[10] 1264–65; figs. 336–337; French 1975: 69, fig. 13:5–7, cf. fig. 19). However, that does not seem to be a good solution since this pottery bears no relation to the Submycenaean pottery of the Greek mainland (Reinhard Jung, personal communication).

Sherratt and Crouwel identified some of the 'Hellado-Cilician' pottery as being in fact LH IIIC (Sherratt and Crouwel 1987: 325–327, 331). Thus, Gjerstad's definition of 'Hellado-Cilician' seems to include a variety of styles with parallels on Cyprus in LC IIIA and IIIB contexts (i.e. wavy line style). Apparently, the 'Submycenaean' or 'Hellado-Cilician' pottery is not a homogenous group and the vessels assigned to it are contemporary with LH IIIC; some may date even later. Note that, according to Seton-Williams, none of the six surveyed sites with Submycenaean pottery has Mycenaean IIIC (Seton-Williams 1954: 135; Özgünel 1996: 7, n. 56).

Two bell-shaped bowls found at Kinet Höyük Period 13.2 seem to belong to such local Cilician productions that do not follow closely LH IIIC forms; both of them are undecorated (Fig. 3:4–5). Another bell-shaped bowl with a typical Late Bronze Age motif, a framed wavy line, is unstratified and was found in an erosion gully, but may have originated from Period 13.2 (Fig. 3:6). At Kinet Höyük Period 13.2, such imitations of LH IIIC traditions are rare and exceptional.

Early Iron Age

Abandonment of Late Bronze Age sites was widespread in Cilicia, some settlements ended with LB II, but more ceased by – or after – the end of LB III. Among these settlements are excavated sites such as Soli Höyük, Mersin-Yumuktepe Level V, Yenice, and most probably Kazanlı and Tanaverdi; as well as Sirkeli, Porsuk V and Domuztepe Level C.[11] The destruction of border posts at the three inland gateways into Cilicia (Kilise Tepe, Porsuk and Domuztepe) at some point at the end of the Late Bronze Age must have involved historical events rather than accidental occurrences (Gates 2013b: 99).

In the earliest phase of the Early Iron Age the three key sites for Cilicia are Tarsus and Kinet Höyük as well as Kilise Tepe, which is located outside the Cilician plains. The nature of settlement at all three sites was somewhat impoverished and surely rural, in contrast to the urban features that characterized them in the LB II period. In addition to these three excavated small villages, the available settlement data so far lacks any indication of an urban centre elsewhere in Cilicia during the Early Iron Age. Although such cities or towns may be buried and still unexcavated, all aspects of the recorded material culture point to a modestly developed infrastructure in Cilicia. What we know today suggests a decentralized rural society during the Early Iron Age with a population considerably smaller than during the LB II.

After the destruction of the LB III level of Kinet Höyük Period 13.2, a new stratum, Period 12, developed above the ruins. It is not clear whether Period 12 followed the destruction of Period 13.2 soon or whether a longer period of time separates both strata. The character of Period 12 and its finds indicate a substantial break with the preceding LB traditions. The levels of this stratum consisted of occupational debris, pits and fireplaces but no architectural remains before Period phase 12.3. Recent stratigraphical analysis of the excavations at Kinet Höyük by Marie-Henriette Gates and the author changed some of the previously published conclusions regarding Period 12. The present outline differs significantly from the previous ones and has led us to abandon the previous stratigraphic terms Period 12a through 12c. Here, we will introduce a new system labelled Period 12.1 through 12.3 to distinguish the new analysis from the previous interpretations.

Period 12 was excavated only in areas of the western edge of the mound. In Phases Period 12.1 and 12.2 the settlement of the site may have been considerably smaller than in the previous periods. Since the excavation was confined to the western edge of the mound, it is possible that the settlement shrank to a small core at the centre of the site, which was not excavated to the depth of Period 12. This would have left the periphery open as dumping and refuse areas. Only in period 12.3 were settlement activities resumed at the western edge of the mound.

The destruction of Period 13.2 left an uneven surface on top of the ruins at about 17.54–17.80 m that was gradually filled with debris. These sediments and the pits cutting into the destruction debris of Period 13.2

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[10] French 1975: 70 "a rough deep bowl" with vertical wavy line.

[11] Soli: Yağcı 2007c: 177–178; Yıldırım and Gates 2007: 307–308; Yumuktepe: Garstang 1953: 241–243; Jean 2006: 323, 326–327; Caneva *et al*. 2007: 671–673; Yenice, Kazanlı, Tanaverdi: Seton-Williams 1954: 138; Sirkeli: Hrouda 1997: 91–150; Porsuk: Beyer *et al*. 2006: 236–244, contra Pelon 1994: 157–159; Dupré 1983 but see p. 70; Domuztepe: Alkım 1952: 135–136.

are now assigned to Period 12.1. Due to the uneven destruction debris, it is often difficult to distinguish clearly between the debris of Period 13.2 and the sediments of Period 12.1.

More debris was dumped above the earliest walking surfaces of Period 12.1, until an elevation was reached at about 18.10–18.30 m. At this level, another walking surface developed, labelled Period 12.2. The level consisted only of pyrotechnic features: ovoid or sub-rectangular open hearths made of flat stones held in place with clay to form shallow platforms. Their surfaces and the soil around them were burnt and greasy, and littered with animal bones.

In the final phase of Period 12, Period 12.3, walking surfaces were at about 18.30–18.47m. Domestic architecture returned during Period 12.3 to the western edge of the mound and a number of walls, floors, pits and a tannur were recorded. In some areas, Period 12.3 was only a few centimetres above Period 12.2 and in these contexts, it was not possible to separate the finds from both phases.

The walking surfaces of the following stratum, Period 11, were recorded at 18.50–18.66 m. Substantial architecture with wide walls was exposed with some walls displaying a width of 0.70 to even 1.40 m. At least some of the architecture appears to be of more than only domestic character. A special feature of this stratum is a number of furnaces.

At Tarsus, Yalçın distinguished four Early Iron Age phases, I–IV, with modest domestic architecture including an apsidal structure (Yalçın 2005, 2013). The structures demonstrate a definite decline in the economic structure of the settlement. "Although the buildings seem to have been built in the same alignment with that of the previous settlement, they were smaller in size and less well built" (Yalçın 2005: 77).

After the post-Hittite 'Stela Building' of Level IId at Kilise Tepe burned down and trapped LH IIIC pottery on its floor, the excavation area was reoccupied in a modest Early Iron Age phase, Stratum IIe. In the Central Strip area at the site, Surfaces 2–5 of Level 2 represent the Early Iron Age (Bouthillier *et al*. 2014). The Early Iron Age settlement at Kilise Tepe was of modest and rural character and may have also included an apsidal structure in Phase 6c (Bouthillier *et al*. 2014: 125).

Early Iron Age pottery

At Kinet Höyük the separation of loci from period 13.2 and 12.1 was not always easy and some mixture of the pottery assemblages is to be expected. A wheel-made undecorated bowl with a strap handle belongs probably to Period 13.2 or 12.1 (Fig. 4:1). It is of medium to fine reddish-brown fabric with mica specs as well as ground shell and lime inclusions. It is hard fired and has a scraped surface that is partly wet-smoothed and burnished in horizontal strokes. The form resembles LH IIIB bowls as found in Kition Tomb 9 Upper (Karageorghis 1974: pl. 156: 11 and 39), but there are also parallels in Enkomi Stratum IIIB–C (Dikaios 1969: pl. 118:4 3922/5).

The lower part of a wheel-made small pyxis from Period 13.2 or 12.1 resembles Proto-White Painted pyxides (Fig. 4:2). The fabric of this vessel is not yet analysed and it is unclear whether this an import from Cyprus or a local imitation. The vessel fabric is medium to coarse and dark buff with a grey core. The fabric includes small to larger sand particles and ground shell, fine mica specks and vegetal temper. The pyxis is well fired, the exterior surface is burnished and dark buff, the decoration is painted in red-brown. Parallels in Cyprus come from Alaas (Karageorghis 1975: pl. 76 H1 with a similar form, but a different decoration) and from an unknown location (Iacovou 1988: figs. 34–36, no. 15 and figs. 37–38, no. 16 with a very similar painted decoration).

Figure 4:3 is a bell-shaped bowl from Period 13.2 or 12.1 with a single wavy line and horizontal lines inside and outside; the rim is painted. Although most bowls in Enkomi Stratum IIIB have double or triple wavy lines, a single wavy line does also appear in this stratum (Dikaios 1969: pl. 124:4).

Figure 4:4 is a fragment of a closed vessel from Period 12.1 with framed wavy-line decoration in light to dark brown paint. The fabric is medium to coarse and dark buff with sand and lime inclusions. A similar decoration is on one of the vessels from Hama Cemetery Period I (Riis 1948: 93, fig. 129).

The base of a closed vessel from Period 12.1 (Fig. 4:5) is of a medium to coarse orange fabric with fine to larger dark inclusions and some mica specks. The exterior surface is smooth with a cream slip. Parts of a black slip are still visible. The base may have belonged to a Black Slip wheel-made jug as in Kaloriziki Tomb 25 (Benson 1973: 98, pls. 33 and 49 T.25:53 K543). This tomb is dated by Iacovou and Steel to Cypro-Geometric I (Iacovou 1988: 186; Steel 1996: 295). Other vessel types are also possible as in Paleopaphos Tomb 49 (Karageorghis 1983: pl. 85 T.49:186 White-Painted I).

The pilgrim bottle from Period 12.1 (Fig. 4:6) is a medium-coarse red-brown fabric, somewhat brittle and with white lime specks. The surface is smoothed and slightly polished, except for the neck and the rim. The painted central circles are in dark purple colour. Parallels were found at Tell Keisan Stratum 9c

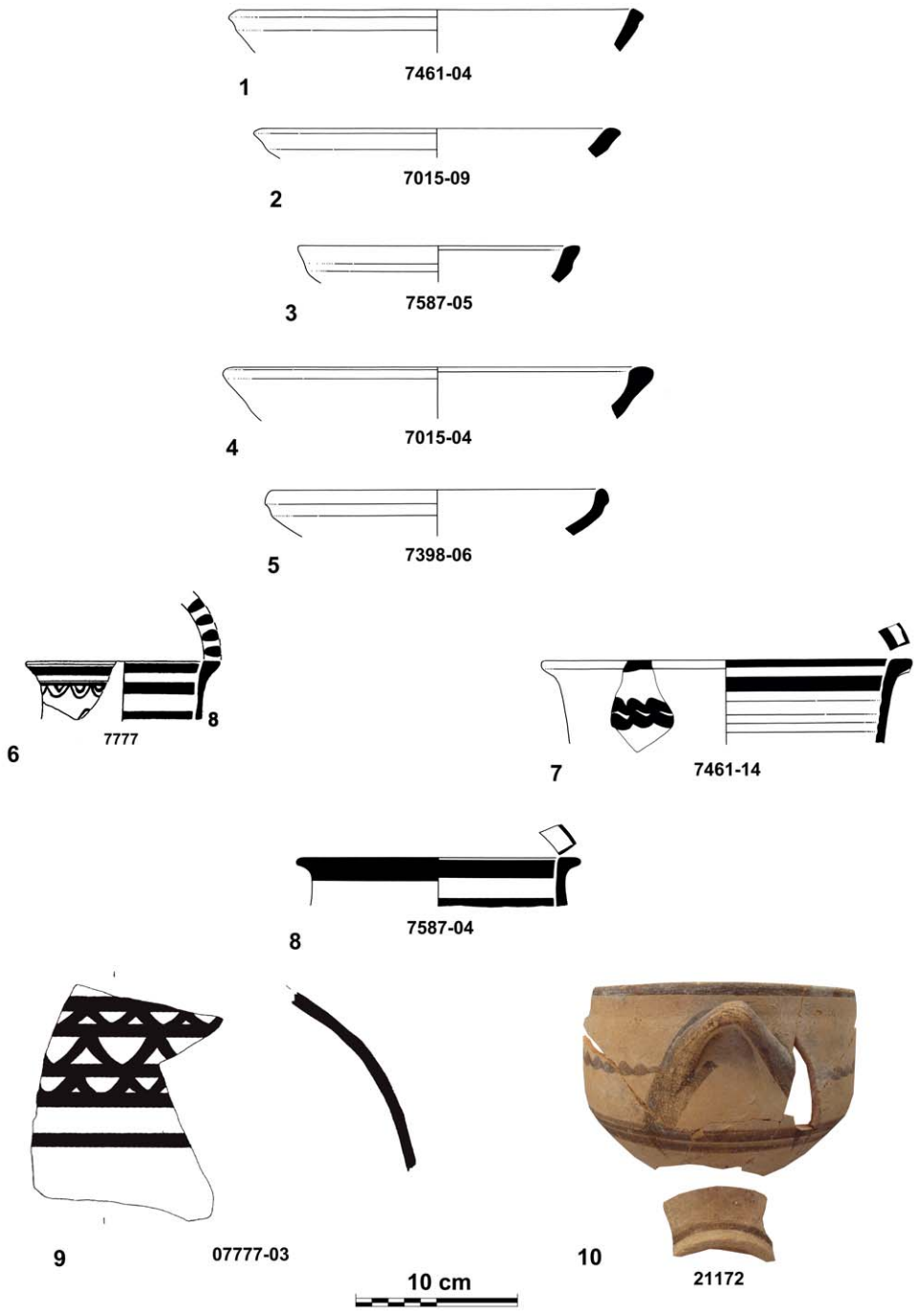

Fig. 5 Pottery from Kinet Höyük Period 12.2

(Briend and Humbert 1980: pl. 76:2–4) and Dor Area B1 Phase 12 (Gilboa 2001: pl. 5.17:3), Area D2 Phases 10/9 (Gilboa 2001: pl. 5.48:3), and at Tell Abu Hawam associated with Stratum IV3/IV4 (Hamilton 1935: no. 166).

The bowl on Figure 5:5 with a thickened rim resembles vessels in the Early Iron Age levels at Tarsus (Yalçın 2013: fig. 6h). Figures 5:6-8 are rims of small krater or amphoriskoi. They somewhat resemble Cypriot Proto-White Painted amphoriskoi and LH IIIC

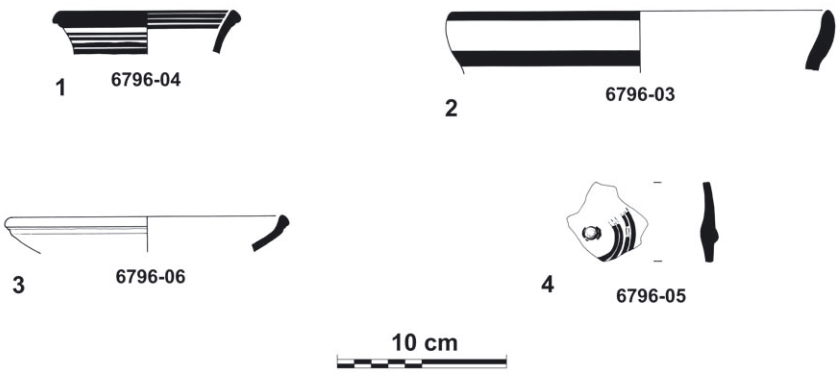

Fig. 6 Pottery from Kinet Höyük Period 12.3

Late amphoroid kraters of Late Cypriot IIIB (Mountjoy 2005a: fig. 26:55 and 57 from Enkomi Sol II–I and fig. 26:56 from Kition Floors II–I). The vessels at Kinet Höyük may not be Cypriot and could be local productions like some similar kraters in the 'Amuq Valley Phase N, at Tell Taʿyinat Field Phase 5 (Janeway 2013: pls. 9:4, 10:4) or Field Phase 3 (Janeway 2013: pl. 12:10). The double festoons of Figure 5:6 go back to a Late Helladic motif, while the double wavy line on Figure 5:7 is characteristic for LC IIIB–C.

The parallel bands of framed wavy lines on Figure 5:9 is similar to the decoration on an urn from Hama Cemetery I (Riis 1948: 54, fig. 43). The bowl Figure 5:10 is Cypriot in appearance and resembles White-Painted I deep bowls such as in Palaepaphos-Skales Tomb 44 (Karageorghis 1983: pl. 55:3). However, the compressed thin wavy line on the exterior of the monochrome painted bowl is rare among the published pottery from Cyprus (Karageorghis 1983: Tomb 79, pl. 151:40 WP I and Tomb 82, pl. 161:3 WP I–II). Compressed thin wavy lines do appear in 'Amuq Phase O Early at Çatal Höyük (Pucci personal communication).

Figure 6:1 appears to be a Cypriot import of a White Painted I amphora similar to amphorae such as an example from Palaepaphos-Skales Tomb 43 (Karageorghis 1983: pl. 39:139). Bowls with thickened rims as in Figure 6:3 do continue in Kinet Höyük Period 12.3, but disappear at the end of the period. Figure 6:4 is a small fragment of a Cypriot Barrel-Jug, dating possibly from Cypro-Geometric I–II (Karageorghis 1983: 358–359).

In Kinet Höyük Period 11, Cypriot imports and imitations of Cypriot pottery become more frequent. In addition, there are first contacts with the Phoenician world. Globular jugs with a neck ridge, a single handle and bichrome painted concentric circles are common in the Levant. There are Phoenician and Cypriot productions and the vessel on Figure 7:1 is not yet tested for its provenance (cf. Gilboa and Goren 2015). It clearly resembles Cypro-Geometric I–II jugs, for example at Palaepaphos-Skales (Karageorghis 1983: 358). Figure 7:2 is a deep conical bowl in bichrome painted decoration with strong affiliations to Cypro-Geometric I–II bowls, the compressed thin wavy line on the exterior, however, could point to a local production of this vessel (for compressed wavy lines see Fig. 5:10 here). The red slipped goblet (Fig. 7:3) is similar in form and decoration to Cypriot Red Slipped II–III deep conical bowls with a conical splaying foot (Karageorghis and Demas 1985: 226:162; see also Karageorghis 1983: fig. 100: T.5514-15). The Cypriot examples usually have horizontal handles, a feature missing on the bowl from Kinet Höyük. Figure 7:4 is a Cypriot Black Slip I (Bucchero) jug with a ring base and vertical cannelures that end on the shoulder in horizontal grooves. Figure 7:5 is a small jug with a tubular spout on the shoulder and a basket handle, which is broken off, similar to Cypro-Geometric I–II examples (Benson 1973: K403, pl. 48; Gjerstad 1948: fig. 13:27).

At Tarsus, the Early Iron Age pottery was analysed by Elif Ünlü and Serdar Yalçın (Ünlü 2003, 2005, 2015; Yalçın 2005, 2013). The painted pottery of this period was called Transitional Period Local Painted Pottery by Ünlü. Although a few examples of painted pottery may be associated with Cilician LB III levels, it seems that painted ceramics are most characteristic of the Early Iron Age levels at Tarsus, Kilise Tepe and Kinet Höyük (for Kilise Tepe see Hansen and Postgate 2007: 344; Symington 2001: 171). The painted pottery at Tarsus is usually wheel-made and decorated with red or brown paint on a buff surface. The pottery is not of high quality as far as the clay, the surface treatments and the decoration is concerned. Ünlü distinguished several decoration groups, among them banded, wavy-line and cross hatched decorated ves-

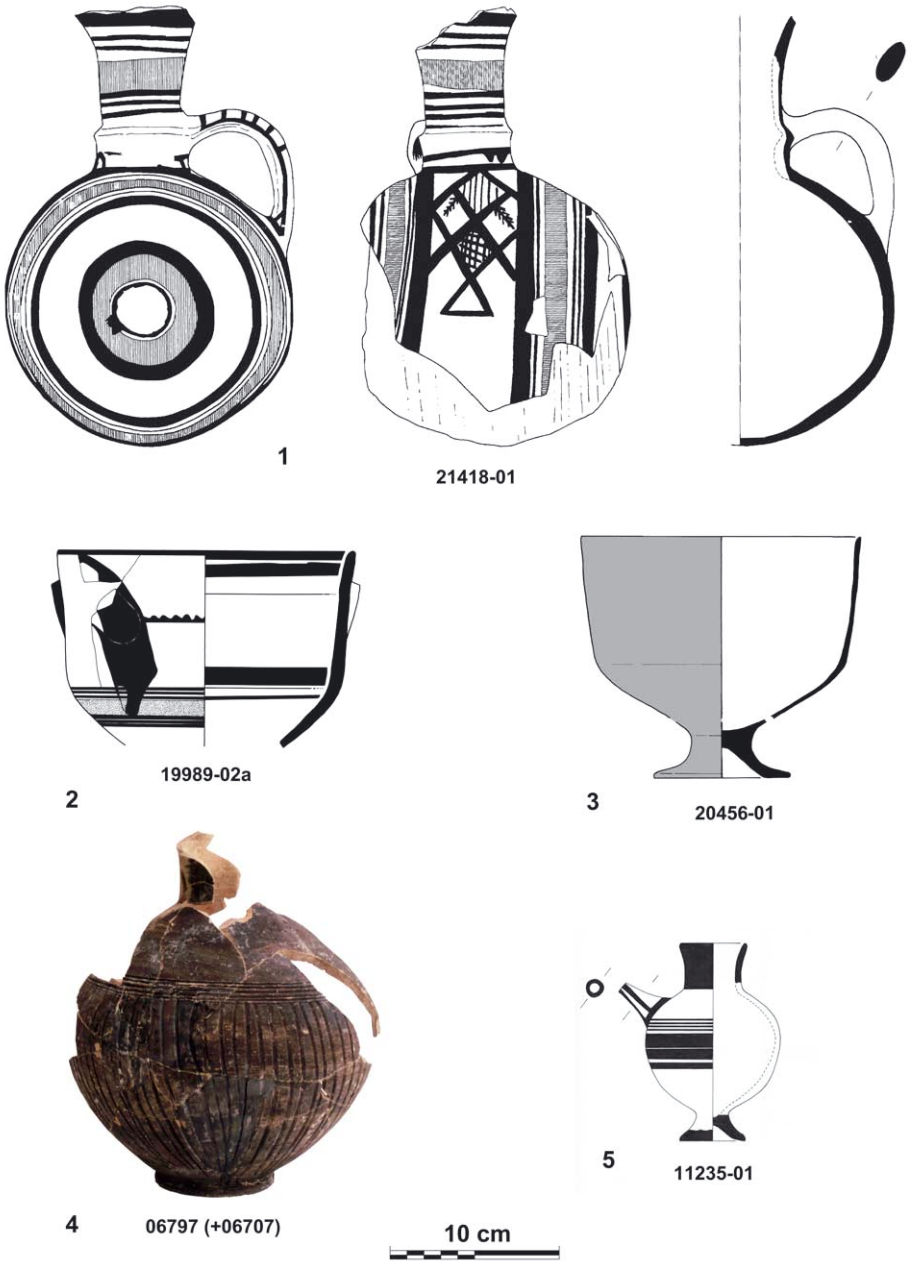

Fig. 7 Pottery from Kinet Höyük Period 11

sels (Ünlü 2005). The most common motifs of Early Iron Age painted pottery in Kinet Höyük and Tarsus are hatched triangles, festoons or radial rim lines, pendant semi-circles, wavy lines, circles and dots and random lines. In various local variations painted pottery with similar styles and motifs is attested at Kilise Tepe (Hansen and Postgate 2007), central Anatolia (Genz 2004, 2011; Kealhofer and Grave 2011; Kealhofer *et al*. 2011) and as far east as Tille Höyük (Blaylock 1999). Similar motifs also occur in northern Syria at Hama (Riis 1948; Fugmann 1958: fig. 165), Tell Kazel (Capet 2003: fig. 44a), Tell Taʿyinat (Janeway 2013), Tell Tweini (Bretschneider *et al*. 2008: fig. 4:3-4), Tell Afis (Venturi 2007) and other sites in Syria that are beyond the scope of this paper (Ünlü 2005: 9–10; du Piêd 2006–2007).

A specific and popular motif of the Early Iron Age pottery was studied in detail by Ayelet Gilboa and labelled "Overlapping Multiple Diagonal Strokes" (Gilboa 2006–2007). Cross hatched motifs have also been treated in some detail (Hansen and Postgate 2007; Yağci 2010).

Most of the Early Iron Age pottery at Tarsus that displays Cypriot stylistic elements is not from Cyprus, but is locally made (Hanfmann 1963: *passim*). Among the very few examples resembling Proto-White Painted models are catalogue numbers 11 and 12 (Hanfmann 1963: 161). But even these examples may in fact reflect Cypro-Geometric I–II models. The publication of the old excavations is not sufficient regarding this pottery and the stylistic character of the loosely copied models does not permit a more explicit identification. Hanfmann's publication of the Early Iron Age Tarsus ceramics does suggest that, as in Kinet Höyük, Cypriot style pottery appeared in larger, but still modest, numbers starting with the Cypro-Geometric I–II period.

Absolute chronology and radiocarbon dates

The research on the chronology of the Late Bronze and Iron Age in the southern Levant is of crucial importance for the chronology of the northern Levant. Absolute dates are available as radiocarbon dates and through historical records, especially regarding the interaction between the southern Levant and Egypt. The unprecedented dense archaeological research in the southern Levant provides hundreds of well stratified radiocarbon dates. Imported artefacts from the Levant and the surrounding countries connect the chronology of the southern Levant with Cyprus, Phoenicia, Syria, Cilicia and the Aegean (Fantalkin *et al*. 2015). Although there is a considerable debate on how to interpret the available data (Levy and Higham 2005), there is also an increasing consensus on the basic assumptions and research results (Finkelstein and Piasetzky 2011; Mazar 2011).

One of the cornerstones of the present chronology of the Levant is the pottery studies of Ayelet Gilboa (Gilboa 1999, 2001, 2006–2007; Gilboa and Sharon 2003). Gilboa based her approach on the excavations of the harbour city of Dor in Israel. The site provides abundant imports from various regions in the Mediterranean and a well stratified chronological connection to key excavations in Israel. In her early work, Gilboa established a comprehensive relative chronology for the late 2nd and the early 1st millennium BCE focusing on northern Israel, Phoenicia and Cyprus.

This comprehensive framework was soon followed by thorough radiocarbon study, the so-called *Early Iron Age Dating Project* carried out by Gilboa, Ilan Sharon and Elisabetta Boaretto. This project involved several hundred radiocarbon measurements from 21 key sites in Israel dating from the early Iron Age, the 11th–9th centuries BCE (Sharon *et al*. 2005, 2007). The project provided for the first time a solid radiocarbon chronology for periods that were previously dated exclusively with historical data. Not surprisingly, the results suggested a substantial revision and re-dating of the Iron Age as previously already suggested by I. Finkelstein (1996, 2005).

A significant contribution to the present form of the chronology of the southern Levant came from Amihai Mazar, who initially opposed changes of the Iron Age chronology (Mazar 1997). Mazar's eventual suggestion of a modified chronology contributed significantly to the debate (Mazar 2005, 2008).

Today there are only minor differences in individual approaches to the Iron Age chronology of the southern Levant, these are, however, sometimes jealously guarded (Finkelstein and Piasetzky 2011; Mazar 2011). Doubtless, the results of the *Early Iron Age Dating Project* of Gilboa, Sharon and Boaretto provide the main foundations for any further research.

Recently, the Megiddo expedition published a comprehensive radiocarbon dating based on 78 samples from 10 strata at this key site for the archaeology of the southern Levant (Toffolo *et al.* 2014). The achievements of the radiocarbon-based chronology in the southern Levant were applied by Fantalkin, in collaboration with other scholars, in a number of studies investigating the chronological links between the Aegean and the Levant (Fantalkin 2001, 2008; Fantalkin *et al*. 2011, 2015).

To this corpus of research one has to add the radiocarbon dates concerning the Late Bronze – Iron Age transition at Tell Tweini, Tell es-Safi (ancient Gath) and Qubur el-Walaydah as well as Manning's study of the absolute range of the LC IIC period in Cyprus (Bretschneider *et al*. 2008; Asscher *et al*. 2015; Boaretto 2015; Manning *et al*. 2001; Kaniewski *et al*. 2011).

Table 1 summarizes the relative and absolute dates of Kinet Höyük in relation to the chronology and stratigraphy of relevant sites and regions. The absolute radiocarbon dates of Table 1 were extracted and interpreted from the radiocarbon studies discussed here.

Sea Peoples in Cilicia?

The Sea Peoples phenomenon is usually assigned to the end of the Late Bronze Age and the 12th century BCE, often conceptualized as a migration from the Mediterranean/Aegean to the Levant. Migration as an archaeological concept was once considered "a lazy person's explanation for culture change," used by archaeologists

Cilicia	LB III	Early Iron			Middle Iron
Kinet Höyük	13.2	12.1 12.2	12.3	11	10
Kilise Tepe	NW IIb IIc IId	IIe →			
Tarsus	LB IIB Early Middle Late	EIA I	EIA II EIA III	EIA IV	Middle Iron Age
Absolute Dates	1190 – 1130	1130 – 1050	1050 – 975/40	975/40 - 880	880 – 780?
Radiocarbon Phases	2 3 4	5	6 7	8	9 10 11 12
Southern Levant	LB III	Iron I Early/Middle	Iron I Late	Iron IIA Early	Iron IIA Late
Syria	Iron IA	Iron IB		Iron IC	Iron IIA
Cyprus	Late Cypriot IIIA	Late Cypriot IIIB	Cypro-Geometric IA – IB/II	Cypro-Geometric II	Cypro-Geometric III Early
Greece	LH IIIC Early Middle	LH IIIC Late	Proto-Geometric	Euboean PG Late	Attic Early Geometric I-II
Pottery Styles	• LH IIIC Early-Middle • Philistine 1	• LH IIIC Late • last Philistine 1 • Philistine 2 (Bichrome) • Proto-White Painted	• Euboean Middle/Late PG • Philistine 3 • first Red-Slip in S. Levant	• Philistine 4 • Red-Slip in S. Levant	• Euboean Sub-PG • Black-on-Red I (III)
Kition	floors IV IIIA III	II	I		
Megiddo	VIIA	VIB	VIA	VB	VA-IVB
Dor	B-14? G-late 11?	B-13 – 10? D2-12 G-10 – 8	B-10? – 9b D2-11 – 9 G-7	B-9a D2-8c G-6b	B-8 D2-8b G-6a
Tell Keisan	13	12 11 10 9c	9b 9a	8c	8b 8a 7
Tyre	XIV		XIII	XII XI X	X? IX
Hama	← G1	F2 Cimetières I		F1 Cimetières II	E2 Cimetières III

Kilise Tepe: Bouthillier *et al*. 2014; Tarsus: Yalçın 2005, 2013; Ünlü 2003, 2005; Slane 1987; Radiocarbon phases: Fantalkin *et al*. 2015; Syria: Mazzoni 2000 and personal communication; Venturi 2000; Tell Keisan and Tyre: Gilboa 2001.

Table 1 Late Bronze III and Early Iron Age Chronology

who could not or chose not to deploy more sophisticated approaches (Anthony 2000: 554). Approaches that applied migrations as an explanation of the cultural changes at the end of the Late Bronze Age dominated the field until the 1980s. Such 'explanations' often failed to realize that migrations cannot provide a sufficient explanation, unless the complex social processes of migration are addressed in full depth (Anthony 1990: 895–914; 1997; 2000: 554–555; Burmeister 2000: 539–568; Chapman and Hamerow 1997; Lucassen and Lucassen 1997).

Currently, however, there is a renewed interest in migration studies in archaeology. Archaeologists are now increasingly aware that an understanding of the complex nature of the Sea Peoples phenomenon requires a thorough theoretical approach. In migration theory, scholars distinguish the number of people involved, the duration of the interaction, the cultural distance between the cultures involved in the interaction, the segment of population involved, the balance of power between the cultures involved in the interaction and the level of pluralism and tolerance within the interacting societies (Berry 1997). Change can occur in a variability of locations, e.g. in the public sphere or in domestic contexts (Burmeister 2000).

Over the last decades, a number of more scientific archaeological approaches have addressed migration in general and the Sea Peoples phenomenon in particular (Yasur-Landau 2010: 9–33). These studies have discussed the Sea Peoples phenomenon as a complex process of interactions. The various interactions include migrations, trade, raids and conquests (Yasur-Landau 2010: 11; Sherratt 1998; Barako 2000). Interaction and migrations took varying forms in different regions of the Levant during the various stages of the process. It was demonstrated that the Sea Peoples phenomenon was an enduring long-term process, not a single event or military campaign (Lehmann 2013: 316–328).

In the context of the Sea Peoples phenomenon at the end of the Late Bronze Age in the southern Levant, a variety of items of the material culture have been considered to signify cultural change and Mediterranean interaction. Among these are behavioural patterns of food preparation with specific forms of hearths and ovens as well as specific types of cooking vessels. In food consumption, the local pottery production includes new types of bowls, jugs and kraters decorated in LH IIIC styles. The textile production used cylindrical loom weights that were not perforated like the previous local loom weights. With the assumed migration of populations from the Mediterranean, there may have been also new forms of architecture (Yasur-Landau 2010: 270–281), but these still remain somewhat elusive in the southern Levant. Such artefacts occurred also in the northern Levant and in Cilicia.

Decorated vessels in LH IIIC styles are the most prominent features in most discussions of the Sea Peoples phenomenon in the Levant and in Cilicia in particular. The evidence has been extensively discussed (French 1975, 2013; Sherratt and Crouwel 1987; Mountjoy 2005a, 2005b, 2007). The material in the Levant is characterized by a multitude of local styles that occurred at various sites in the Levant during the 12th and 11th centuries BCE. Not all of these styles follow the stylistic development in the Aegean closely, some are characteristic of Cyprus, others resemble more the pottery in the Aegean (Jung 2006, 2011, 2012). It is extremely difficult to discuss the various influences and developments of the relevant material (Lehmann 2013). The exchange pattern and mutual influences seem to have been part of a multidirectional, non-centralized network in the eastern Mediterranean with various local groups involved (Sherratt 1994).

Although the catalogue of LH IIIC ceramics at Tarsus found by Goldman comprises almost 450 vessels and sherds, the excavator of the renewed excavations at Tarsus, Aslı Özyar, stresses that LH IIIC pottery constitutes only a small percentage of the ceramics in the relevant levels (personal communication). Similar proportions characterize the assemblages with LH IIIC pottery at Soli (Yağcı 2003, 2007b), Kazanlı (Sherratt and Crouwel 1987; Garstang 1937, 1938) or Mersin-Yumuktepe (Garstang 1953). The analysed ceramics were locally produced or originate in Cyprus and the eastern Aegean (Mommsen *et al*. 2011). A re-study of survey material from Cilicia confined the region with LH IIIC ceramics to the area around Tarsus and Kazanlı (Salmeri and D'Agata 2003). All the evidence demonstrates that decorated vessels in LH IIIC styles are rare in Cilicia, even in those areas, where they occurred in relatively larger concentrations.

Another indicator for cultural change and an increasing impact of Aegean traditions in the Levant are Aegean-style cooking jugs which appear in Philistine levels of the 12th and 11th century BCE in the southern Levant (Yasur-Landau 2010: 228–234; Killebrew 2005: 222–223; Ben-Shlomo *et al*. 2008). Such cooking jugs were also found in the northern Levant (Killebrew 2000: 242; Yasur-Landau 2010: 143; Jung 2011). Similar cooking vessels occurred at Tarsus (Goldman 1963: pl. 324: 1220–1221), but it is difficult to assess their quantity and their role at the site. The current state of research seems to indicate that cooking jugs were rather rare in Cilicia during the 12th and 11th centuries BCE.

During the late 13th and the 12th century BCE, unperforated clay cylinders appeared in many regions of the

eastern Mediterranean. These objects have been interpreted as loom weights (Yasur-Landau 2010: 146–147, 267–268; Rahmstorf 2011 with a summary of previous research). Their distribution reached from Italy to the southern Levant and they appear frequently from the 12th century BCE onwards in the Aegean, western Anatolia, Cyprus and the Levant. In Cilicia, these cylinders have so far been found only at Tarsus. The report mentions "few small spools of standard shape" that were not well stratified and may belong to the Iron Age. They were not entered in the catalogue (Goldman 1956: 321, fig. 444:53). Cylindrical, spool-shaped loom weights at Kinet Höyük belong to later phases of the Iron Age.

Another Aegean feature connecting the Levant with the Aegean and Cyprus during the 12th century BCE is fibulae. Among the earliest fibulae are violin-bow shaped ones with a horizontal bow, rectangular in section that are coiled at either end. This is Pedde's type A1.1 equivalent to Giesen type I-1, I-3, I-10 and I-13 (Pedde 2000: no. 13; Giesen 2001). In Cilicia, the only fibula of this earliest type was found at Tarsus, at 19.00 m in Section B (Goldman 1956: 286, 297, fig. 432:245). This type has a wide distribution in the Mediterranean with most examples in the Levant found at Enkomi. The Cypriot and Syrian parallels date this type to the end of the 13th and the early 11th century BCE (Pedde 2000: 99–104; Giesen 2001: 40–55).

The only other early fibula type found in Cilicia comes again from Tarsus (Goldman 1956: 286, 297, fig. 432:246). This fibula has a stilted arch and is Pedde's type A.2.2, which is Giesen's type VI (Pedde 2000: no. 38; Giesen 2001). Unfortunately, this type has a rather long range of use from the 11th through the 8th century BCE. The Tarsus example was found in an "intrusion containing Monochrome Hittite Ware". The excavators dated it to the "Late Bronze II." None of the many Cypriot parallels, however, date earlier than LC IIIB with a number of examples from Cypro-Geometric I–II (Giesen 2001: 92–144). Notably, this fibula type does not occur at Enkomi. The earliest parallels in Syria and the southern Levant date likewise to the end of the 11th and the 10th century BCE (Pedde 2000: 106–110). All other fibulae found at Tarsus date from later Iron Age periods not relevant to the discussion here.

Hearth buildings that are associated in the southern Levant with the Sea Peoples phenomenon (Yasur-Landau 2010: 234–238), do not appear in Cilicia. The building at Tarsus mentioned by Barako belongs to Stratum LB IIa and dates from the 13th century BCE (Barako 2001: table 2). The Early Iron Age apsis building at Tarsus connects well with the apsidal longhouse traditions in the Aegean (Yalçın 2005: 77–79). Such plans are common in the Aegean since the Early Bronze Age and continue until the Iron Age (Mazarakis Ainian 1997: chapter 1; Dickinson 2006: 96, 107). While they may reflect a migration from the west coast of Turkey to Cilicia, it is also possible that apsidal plans represent a local building tradition along the southern coast of Turkey. With currently available evidence, it is difficult to argue that apsidal plans were introduced by Aegean migrations to Cilicia.

The collapse of the Hittite empire and the widespread destructions in the northern Levant are often explained with the intrusions of the Sea Peoples as a main factor. These attempts failed, however, to explain the continuing dominance of Late Bronze Age material culture during the 12th century BCE and the continuation of late Hittite polities in the region such as the kingdoms of Tarhuntassa and Karkemish. Leading historians consider it unlikely that the Sea Peoples were the decisive factor for the end of the Hittite empire and see internal conflicts in Anatolia as a more convincing scenario (Klengel 1998: 309–313; Bryce 2005: 339; Bittel 1976: 36–56; Otten 1976: 22–35; 1983: 13–20, see also Mora and d'Alfonso 2012: 385–398).

The archaeological data presently available indicate a fragmentation of the political systems and territories in the 12th century BCE following the collapse of the Hittite empire. While the Sea People groups can hardly be the main reason for the comprehensive transformation of the societies in the Levant, they were probably opportunistically exploiting the lack of imperial power and may have participated in the further fragmentation of the socio-economic systems of the Late Bronze Age during the 12th century BCE.

Diverse groups with maritime mobility may have been able to hold limited territories along the Levantine coast and in Cyprus, while at the same time there were states inhabited by local populations in continuous settlements from the Late Bronze Age. This continuity is best emphasized by the late Hittite regional polities in Anatolia and northern Syria. Parallel to Sea Peoples, other new population groups made their appearance in a continental context of the Levant such as the Aramaeans.

Some of the main factors that led to the end of the Late Bronze Age are not invasions and military campaigns. Such events only sealed the prolonged decline of the political and socio-economic systems of the Late Bronze Age. Equally, climatic changes contributed only partially to the changes. It would be regrettable to return to an environmental determinism and to underestimate the possible complex social and economic responses to climatic variations. The more important factors may have been continuous political and economic challenges to the local societies. The primary factors that I see leading to the end of the Late Bronze Age are

prolonged crises during the whole period starting with the end of the Middle Bronze Age. This would include the implementation of imperial power and exploitation, the insufficient responses of the local city states and the uprooting of significant parts of the rural population in the Levant during this period. Eventually weakened by such challenges, the Late Bronze Age societies of the Levant were unable to cope with additional pressures that may have included climate change and migrations.

More profound socio-economic changes took place in the transition from the 12th to the 11th century BCE. The Sea Peoples phenomenon along the Levantine coast can be described as an increasing incorporation of the Levant into the developments throughout the Mediterranean. Other, similar, phases of increasing interaction between the Levant and the Mediterranean are known before the Sea Peoples and certainly much later in developments of interactions that led eventually to the establishment of Hellenism in the Levant. The Sea Peoples are not the only driving force in this scenario and there were also local groups involved, such as the Phoenicians and even Aramaeans (Boardman 2001).

Having de-emphasized the role of the Sea Peoples, there is some historical evidence that may yet hint at Aegean migrations to Cilicia. The Hypachaioi, or 'sub-Achaeans' of Cilicia, mentioned by Herodotus as a former name for the Cilicians (Hist. 7, 91), appear to be at first glance a strong argument in favour of a Greek or Aegean migration to Cilicia.[12] The evidence, however, is difficult to interpret and its historicity is debated (Casabonne 1999: 69–71). An earlier linguistic controversy in the 1930s over the "Ahhiyawa-question" (Kretschmer 1933: 213–257; Sommer 1934; Fischer 2010: 8, 10, 32, 42–43; Oberheid 2008: 126–127) was followed by an intensive historical and archaeological discussion, when epigraphic evidence was found in Cilicia mentioning the Hiyawa.

The inscriptions found at Karatepe (Hawkins 2000; Çambel 1999), Çineköy (Tekoglu and Lemaire 2000) and Arsuz (classical Rhosus; Dinçol *et al*. 2015) leave little doubt that the Danuna of ancient Adana and their kings trace their ancestry back to a ruler called Mopsos (Hawkins 2009). These perceived or actual genealogical traditions strengthen the suggestion that Ahhiyawa (or Hiyawa), which is usually understood to refer to a Late Bronze Age entity on mainland Greece (the Achaeans), could refer in this context to a state on the Anatolian coast (Finkelberg 2005: 140–159; Jasink and Marino 2007; Fischer 2010).

Additional evidence for the latter interpretation is provided by the identification of Hiyawa with ancient Que in Assyrian sources for Cilicia (Tekoglu and Lemaire 2000: 982). The relationship between the Achaeans and Cilicia, and how and when they reached Cilicia remains unclear. In any case, the Arsuz texts provide the earliest evidence of the Hiyawa in Cilicia during the Iron Age and date to the late 10th and the early 9th century BCE (Dinçol *et al*. 2015).

Another vivid debate is concerned with the question, whether there is even earlier evidence of the Hiyawa going back to the Bronze Age. In an ambitious interpretation, Yakubovich proposed that the Phoenician language was emblematic of the Hiyawa rulers of Cilicia (Que). These rulers would have claimed Greek descent and attempted to distance themselves from the traditional elites of the neighbouring Neo-Hittite states. The use of the Luwian language would have been a concession to the indigenous population of Cilicia. Yakubovich further proposed that Phoenician language and writing was adopted by the Greek colonists in Cilicia at the point when the Linear B script had been forgotten. Phoenician writing would have reached Greece through a Cilician connection (Yakubovich 2015).

In contrast to this view, Gander argues that the name Hiyawa goes back to a place name which is already attested in Hittite texts such as the Arnuwanda annals (Gander 2012; Hajnal 2011: 250). This interpretation renders any connection between the toponym Hiyawa and ancient Achaeans unlikely. Oreshko countered this interpretation in re-evaluating the Anatolian Hieroglyph *429. His attempt to prove the transfer of the term Ahhiyawa to Hiyawa at some point following the fall of the Hittite Empire at the beginning of 12th century BCE (Oreshko 2013) was, however, firmly rejected by Hawkins (2015).

The Karatepe and Çineköy inscriptions associate the Hiyawa with the dynastic house of Mopsos in Phoenician or Muksas in Luwian (Singer 2009). There is an extensive debate about the possible connections with this Mopsos and the literary figure in Greek mythology.[13] Historians such as Tanja Scheer (1993) and

[12] For more associations of Achaeans with Cilicia in the ancient literature see Anonymi Stadiasmus Maris Magni (or Periplus Maris Magni) 186, 1–2 in the edition of Müller (1855: 484) and in Strabo, Geography XIV 5.8, 1–3.

[13] For a detailed discussion see Scheer 1993: 154–174, 241–271, see also Burkert 1992: 52; Finkelberg 2005: 151–152; Lane Fox 2008: Chapter 13; Barnett 1953: 140–143; Lemaire 2006: 99–107; López-Ruiz 2009: 487–501; Oettinger 2008: 63–66; Vanschoonwinkel 1990: 185–211.

Robin Lane Fox (2008) point out that any quick and simple equations of the historical Mopsos with the mythological one are problematic. In their preserved form, Greek foundation legends concerning Cilicia date from the Hellenistic period.

Particularly problematic is the multi-directional nature of the links: "Mopsos is presented as a Greek in origin establishing himself in Cilicia, where such a figure is independently attested in local sources. In turn, later Greek sources reflect local Cilician traditions about the figure's activities in the region (so his presence there made its way back to Greek texts)" (López-Ruiz 2009: 491). Others maintain that the evidence does support the identification of early Greek and Aegean contacts with Cilicia (e.g. López-Ruiz 2009; Oettinger 2008). Moreover, it has been claimed that Greek names appear in the Karatepe inscriptions (Schmitz 2008).

The new Arsuz inscriptions have demonstrated that already in the 10th century BCE, the land of Hiyawa was associated with the city of Adana (Dinçol *et al*. 2015). As early as in the 8th century BCE, the land of Hiyawa and a population called Danuna appeared in connection with Mopsos, who was the founder of the royal dynasty ruling in Adana. Recent epigraphic finds have consistently confirmed these connections and have pushed their date back into the early Iron Age.

This does not yet provide any firm link between the Hiyawa and the Greek Achaeans. There is also no conclusive evidence that Mopsos was associated with Greek migrations to Cilicia. Early Aegean and Cilician contacts may have wanted to establish such a connection for political reasons and such identifications may have taken hold in a multi-directional exchange that went back and forth. With the available evidence, however, the possibility of migrations from the Aegean into Cilicia cannot be entirely excluded.

Conclusions

The recently completed excavations at Kinet Höyük have significantly contributed to a more detailed understanding of the transition from the Late Bronze to the Iron Age. A post-Hittite phase following the end of the collapse of the empire is now evident, dating from the 12th century BCE. This phase was largely contemporary with LC IIIA and was labelled in this paper (Cilician) LB III.

The phase is followed by the Cilician Early Iron Age commencing at the end of the 12th century and lasting until the beginning of the Middle Iron Age in Cilicia. In Cyprus, this phase is roughly contemporary with LC IIIB and Cypro-Geometric I–II.

During the (Cilician) LB III and the Early Iron Age, archaeological finds appeared in Cilicia that originate in the Aegean. These items, in particular decorated ceramics in LH IIIC styles, cooking jugs, loom weights and fibulae, do not occur in large numbers and are concentrated around Tarsus and Kazanlı. Some of the objects were produced locally in Cilicia, others were imported either from the Aegean or from Cyprus, where such finds were an integral part of the material culture during the LC III.

The presence of such finds does not necessarily point to migrations from the Aegean or Cyprus. They can be explained as part of an economic exchange operating with a multidirectional, non-centralized network in the eastern Mediterranean. The character of the material culture in Cilicia during the 12th and 11th century BCE is overwhelmingly local. Exchange with Cyprus intensified at the end of the 11th century BCE with the appearance of Cypro-Geometric I. Imports and contact seemed to have increased over time until Cypro-Geometric III styles become a dominating influence in the 9th century BCE.

To conclude, there is barely any archaeological evidence of Aegean migrations to Cilicia during the 12th and 11th centuries BCE. Although the historical evidence may indicate a connection of the rulers at Adana with the Ahhiyawa/Hiyawa and Danuna, it is still unclear whether these groups are in fact Aegean populations. In any case, there is so far no evidence of the Mopsos dynasty at Adana before the 10th century BCE. With the evidence discussed here, one may speculate that the house of Mopsos may have originated in Pamphylia[14] and extended its influence over Cilicia only with the decline of the Neo-Hittite states, especially Tarhuntassa. Sea Peoples and their culture, however, apparently never played a dominant role in Cilicia.

Appendix: Mycenaean or Aegean style pottery in Cilicia

The sites with Mycenaean pottery or Aegeanizing styles found during surveys in Cilicia are listed below in an appendix (Seton-Williams 1954: 134–135; Gjerstad 1934: 155–203, 195, fig. 19; see also Desborough 1964: 205 n. 4 and 6; Özgünel 1996: 7 n. 56; Mee

[14] For a possible connection of Hiyawa with "Lukka" see Singer 2006: 242–262.

1978). While Seton-Williams mentioned eight sites with 'Mycenaean IIIC' (1954: 134), her site list recorded only five sites. In another list, she states that 'Mycenaean' pottery was found at 11 sites (Seton-Williams 1954: 135).

Alapinar, Seton-Williams 1954:135 and 148 'Submycenaean'; Mee 1978: 124.

Boz Höyük, Seton-Williams 1954: 135 and 150 'Mycenaean'; Mee 1978: 124.

Çitnogla Çiftlik Höyük, Seton-Williams 1954: 135 and 152 'Mycenaean bowl'; Mee 1978: 125.

Dervişli, Seton-Williams 1954: 135 and 153 'Submycenaean'; Mee 1978: 126.

Domuztepe, Seton-Williams 1954: 154 'Mycenaean IIIC'; Lloyd and Mellaart 1955: 82; Mee 1978: 126.

Firaktin (or Fraktin), "Feeding bottle" identified as LH IIIC: Özgüç, T. 1948: 264; Hanfman 1948: 139, n. 18; Özgüç, N. 1955: 297, 303; Buchholz 1974: 368; Hope Simpson and Lazenby 1973: 178–179; Mee 1978: 128; (cf. Özgünel 1996: 8).

Gavurköy, Seton-Williams 1954: 135 and 155 'Mycenaean'; Mee 1978: 128.

Geçemey Höyük, Seton-Williams 1954: 135 and 155 'Submycenaean'; Mee 1978: 128.

Hesigin Tepe, Seton-Williams 1954: 135 and 156 'Mycenaean'; Mee 1978: 129.

Hüdüde Höyük, 2.4 km west of Olukbaşi, Gjerstad 1934: 157 and 176–177 'Hellado-Cilician'; Mee 1978: 129.

Islamkadi Çiftlik, Seton-Williams 1954: 135 and 158 'Mycenaean IIIC'; Mee 1978: 130.

Manarli (= Minareli Höyük), Seton-Williams 1954: 135 and 164 'Mycenaean'.

Mersin (Yümüktepe) is located in the Demirtaş district within the boundaries of the municipality of Mersin. Excavations were undertaken by J. Garstang between 1936–1947 continued with intervals and delays. Since 1993 the mound is excavated by Veli Sevin. The Neolithic, Chalcolithic, Bronze, Age, Hittite, Greek, Byzantine and Islamic finds from Yümüktepe excavations are now on display in the Archaeological Museum in Mersin. Garstang 1939–40: 100–102, 131, pl. 81:1–7; Garstang 1953: 243, 256, fig. 160:1–2, seven Mycenaean sherds: one "LH IIIA2" (cf. French 1965: 176 and 1966: 219), one "LH IIIA2 or IIIB, seven perhaps 'Hellado-Cilician', none of which "is obviously Mycenaean inspired" (Mee 1978: 133; cf. Özgünel 1996: 7 n. 54 with references).

Misis, Gjerstad 1934: 161 and 176–177 'Hellado-Cilician'; Mee 1978: 137.

Pascu Höyük, Seton-Williams 1954: 135 and 166 'Submycenaean'; Mee 1978: 143.

Sirkeli, Seton-Williams 1954: 135 and 168 'Submycenaean'; Mee 1978: 144.

Soli, Gjerstad 1934: 158 and 176–177 'Hellado-Cilician'; Mee 1978: 144; LH IIIC according to Yağci (2003, 2007b).

Soyali Höyük (today called Boyali Höyük), Seton-Williams 1954: 135 and 169 'Mycenaean IIIC'; Mee 1978: 144.

Sultan Tepe, Seton-Williams 1954: 135 and 169 'Mycenaean'; Mee 1978: 144.

Tanriverdi, Gjerstad 1934: 161 and 176–177 'Hellado-Cilician'; Seton-Williams 1954: 135 and 170 'Submycenaean'; Mee 1978: 144.

Tarsus (see text above).

Tilan Höyük, Seton-Williams 1954: 135 and 171 'Mycenaean storage jar'; Mee 1978: 145.

Tömük Höyük, Gjerstad 1934: 158 and 176–177 'Hellado-Cilician'; Mee 1978: 145. Located only four km east of the Hellenistic and Roman ruins of Lamos. Tömük Höyük is a large mound with archaeological evidence from the LB (Gjerstad 1934: 158). The site is most probably to be identified with the LB site of Lamiya.

Vesli Höyük, Seton-Williams 1954: 135 and 172 'Mycenaean'; Mee 1978: 147. This could be ancient Pitura near the LB site of Lamiya (ancient Lamos), today Tömük Höyük (see above).

Zeytinli (Zeitün Höyük), Seton-Williams 1954: 135 and 174 'Mycenaean'; Mee 1978: 147.

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The Archaeological Ramifications of 'Philistines' in Aleppo

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Abstract

This contribution attempts to clarify an archaeologist's position regarding the historical consequences of J.D. Hawkins' reading of recently discovered inscriptions in the temple of the Storm-God in Aleppo in Syria. The discussion involves archaeological principles, aspects of ethnicity and the treatment of find categories.

After his initial note during the Rome ICAANE in 2008 and his comprehensive publication in 2011, there has been some excitement about David Hawkins' reading of the Aleppo texts (Hawkins 2011). One of the most recent articles is by Weeden (2013: 3).[1] Yet I think the historical and archaeological implications still warrant further discussion, and this contribution is a step in that direction.

The important finds by Kay Kohlmeyer in the Storm-God temple in the Aleppo citadel (Kohlmeyer 2009) led to an interesting theory by David Hawkins. Hawkins reconstructs two rulers, both called Taita, with the ethnicons *Palistin* and *Walistin*. They might have ruled areas from the present-day Hatay (the Amuq, the valley of Antakya/Antioch) down to the region of Hama. In 2009 Hawkins writes that a Taita ruled in Tell Taʿyinat, phase Amuq O, perhaps in buildings XIII and XIV, sometime between the 11th and 10th centuries BCE (Hawkins 2009: 170–171). In 2011 he writes that there probably was a three-generation dynasty in the Amuq during the 11th and early 10th century, with Taita I's rule extending to Aleppo and possibly also Karkemish, and Taita II's rule extending even further, to include the region around Hama (Hawkins 2011: 52).

Obviously, the name *Palistin* is close to that of the *Philistines*, the *prst* in Egyptian, better known as the *plšt*, and since these are named among the Sea Peoples who roamed the eastern Mediterranean littoral, we are faced with interesting historical and archaeological options. Although it concerns the period just after the documented activities of the so-called Sea Peoples, I would like to review here what kind of material we have as archaeologists to comment on Hawkins' idea. It must be said at the outset that the whole link of *palasatini/ waDAsatini* with the Philistines is strictly speaking still unproven, as Hawkins himself mentions (Hawkins 2009: 171–172, and cf. 2011: 52).

There are some preliminary caveats. First, as archaeologists we no longer *a priori* correlate pottery fashions with specific ethnic groups. We all know that this goes for other find categories as well. Yet, everyday archaeological parlance still speaks of *Philistine* pottery and coffins, *Mitanni* seals, *Mycenaean IIIC* pottery etc. And, if we know from textual data that a certain ethnic group is present in a specific location, it is still our instinct to search for correlates in the material culture, however objectionable this may be in terms of strict archaeological theory. We go by correlations, and for the time being, use them as a form of theoretical supposition – but of course we cannot immediately turn them into causal relations.

Talking about Philistines entails an ethnic connotation. I would here like to avoid discussions about the concept of ethnicity, but it must be said that we are faced with the same kind of problem as for instance with the Amorites: to them not only a specific language, but also a specific way of life – pastoralism and even nomadism – has been attributed – mainly falsely (Meijer 2014). Also, if the various textual sources about such groups differ considerably in date, as do the Merneptah and Ramesses III records versus the biblical sources in the case of the Philistines, the way these groups were constituted *and* perceived may have changed considerably over time, even to the extent of unrecognizability: in a recent article I used the example of the Italians and Japanese after the Second World War, whose industrial products

[1] See now also Weeden 2015.

and general appreciation evolved from shabby to tasteful and high-class within some thirty years! (Meijer 2014: 165). How uniform are the Philistines that we are talking about?[2] The question of ethnic markers in the material record for this group has for instance been addressed by Gadot *et al*. (2014), who reject looking at architecture or cooking techniques, dietary habits or pottery traditions in favour of ritual – in their case: ritual as manifested in chalices. A more comprehensive approach was recently advocated by Maeir *et al*. (2013: 1), who "…argue for a more complex understanding of the Philistines who came to the region [i.e. the Southern Levant – DM] with an identity that drew on, and continued to engage with, a broad range of foreign artefact styles and cultural practices with non-Levantine connections." It is a bewildering situation, because the discussions on the 'character' of the Philistines have recently become rife with conflicting theories, from unitary tribes invading and ransacking territories, to diffuse entry over longer periods; from pottery-bringers to pottery-makers to pottery-borrowers; from pig-eaters to partakers in Canaanite feasting; from Mycenaeans to Cypriots to, etc. In fact, the Philistines seem to become less and less graspable as more data become available, both textual and archaeological.[3] Quite apart from this, the phenomenon of a Philistine king expressing himself in Luwian is remarkable: either the Philistines spoke that language to begin with, or Taita adopted the local usage, but this matter deserves more discussion than can be meted out here.

Second, not knowing any serious research to the contrary, I hold that the geographical designations such as *Sardinia*, *Sicily*, *Tyrrhenian*, *Palestine* and others only became applied later to these areas as we know them now, and do not represent the place of origin of those groups of Sea Peoples as mentioned by the Egyptian Pharaohs Merneptah and Ramesses III. Among these, the *Ekweš* form an exception to this rule, since *Ahhiyawa* as a geographical, ethnic and political name was already in use before the Sea Peoples arrived on the scene, and these two names are usually thought to designate the same people. Here I shall of course not go into the question of where all those people *did* come from, but I am obviously dealing with the aftermath of their activities.

A third preamble is called for: It is quite possible for a strong leader to quickly harness an army, vanquish an enemy and establish his rule for longer periods in an area where he did not belong before: historical examples abound, such as Mehmet Fatih (the Conqueror) in Byzantium, the Kassites in Babylonia, or the Hittites in Karkemish. Therefore, we cannot assume that the above-mentioned kings with the name Taita were necessarily preceded by a long period of 'Philistine' presence in the Amuq or in Aleppo. Hence, looking for any material remains usually associated with the Philistines, such as figurines, coffins or pottery that we know from the so-called Pentapolis (usually seen as the most solid Philistine area) is futile – all the more so since excavations in the Aleppo area, even from the recent ones in the citadel, have been extremely unproductive in terms of stratified objects or of data in general.[4] And if the Philistines (or any other group of the Sea Peoples) had already lived in the Aleppo and the Amuq areas at earlier times, certainly the Hittite Empire records would have mentioned them, which they have not.

On the other hand, any extrusive material in Aleppo and the Amuq, from whatever region, that would *also* be found to persist in the 'Philistine' region could constitute a material support for Hawkins' ideas. In Tell Taʿyinat, which probably hides the capital of Unqi (the Amuq) with the name Kunulua,[5] excavations have since 2004 been re-instigated by Timothy Harrison, who thus followed in the footsteps of the Braidwood expedition of the 1930's. It is therefore to the Amuq that we first now direct our attention in the search for non-indigenous material that could possibly be associated with roaming elements in the Eastern Mediterranean in the period between 1200 and 900 BCE. After that, Aleppo will concern us.

Taʿyinat / Kunulua (-Pattina)

The Braidwoods' expedition to the Amuq in the 1930's included soundings at Tell Taʿyinat, but the pertaining report (Haines 1971) only published the architecture and

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[2] Cf. now also Maeir *et al*. 2013: 2–3; cf. Dickinson 2006: 118–119.

[3] Cf. Georgiades 2013; Barako 2003.

[4] Upon my query Kohlmeyer wrote to me "Zu Deiner Frage: nein – der Tempel war ja komplett ausgeräumt und mit hellenistischem Schutt verfüllt (wie meines Wissens nach auch der Temple von Ain Dara). Die ganz wenige altorientalische Keramik, die wir fanden, stammt aus der Magerung der Lehmziegel– leider keine Importe".

[5] It would perhaps be possible to equate another suggested name for Taʿyinat (*Pattina*) with *PaDasatini (cf. Yamada 2000), but that would clash with a reading *Palistin – unless such readings represent different names in different periods. Since the dating of the strata and the monuments is not quite fixed yet, this has to be decided later.

no other finds. For the latter, the new excavations by Harrison and Batiuk are our guide. It is obvious that, first and foremost, Mycenaean pottery would fit the bill of 'extraneous' material found in the eastern Mediterranean basin and adjacent regions. Harrison writes that 'large quantities' of Mycenaean IIIC1 pottery have been found at Taʿyinat, with "a wide spectrum of forms, motifs and fabrics" (Harrison 2009: 181). Moreover, LH IIIC loom weights were also numerous, which are often found in the Levant in association with Mycenaean IIIC1 pottery. A study by Osborne (2011) which apparently also dealt with the pottery was not available to me, but Janeway writes that most of the Taʿyinat 'Mycenaean-inspired' pottery is locally made, and sees this reflected in much of the Amuq and neighbouring regions as well as in the Pentapolis itself (Janeway 2006–2007: 136). This is further specified (Janeway 2011: 177): "The Myc IIIC bowl assemblage at Tell Tayinat, while displaying unmistakable signs of independent development, would seem to have its closest stylistic affinities with sites in Cyprus during LC IIIB Late and IIIC [i.e. 1050–950 BCE? – DM]." Of course, the dating of the Early Iron remains at Taʿyinat still forms a bit of a problem, certainly if set against Hawkins' suggestions; Harrison's table suggests that Building Period I only starts around 900 BCE (Harrison 2009: 177), whereas Hawkins would like to see for instance its building XIV as the palatial residence of Taita, whom he dates starting in the eleventh century. However, Hawkins' date for the Taita inscription from Aleppo in the 11th century has been doubted, for instance by Bryce (2014: 129) and Sass (2010), who provide some counter-arguments. Summarizing, if Janeway is right in his dating of the locally made Mycenaean-inspired pottery, Taʿyinat's Building Phase I must be dated slightly earlier than Harrison did in 2009, producing a slightly less awkward fit between texts and archaeology. In summary, here one may say that the very fact that LH IIIC, 'Mycenaean IIIC' or LC IIIB pottery and other material remains are so widely distributed, makes their specific association with the Sea Peoples, let alone with the Philistines, quite impossible – harking back to my initial caveat in the introduction. No amount of examples of such material would vitiate the falsity of such an association, which would be a typical piece of inductive reasoning of antiquated archaeology.

Aleppo

The Aleppo temple context in which a Taita is first encountered is a rebuilding or refurbishing after the Late Bronze Age destruction and a subsequent period of non-use. This Taita had some architectural changes made which cannot concern us here, our main focus being on this king's "ego-trip". He set up an image of himself facing the Storm-God (the age-old storm-god of Aleppo) as well as an inscription. The king's figure is larger than that of the God, as well as better proportioned and it might therefore be dated later in style – but it is unfinished (Kohlmeyer 2013: 518–519 and fig. 281). Taita's slab facing the Storm-God protrudes slightly from the line of the neighbouring blocks, another sign that it was put in later than those, and Kohlmeyer suggests that this move changed the focus of the liturgy from Teshub to Taita's activity as temple-renovator (Kohlmeyer 2009: 199). It would seem, by the way, that the inscription block (engraved instead of in relief) was finished before the king's figure. After Taʿyinat and Aleppo, what other sources are there?

Old Testament

There is no explicit mention of the Philistines in the Old Testament which connects them to areas north of the region of, for instance, Hama. There are, however, mentions of Kittim, which would mean inhabitants of Cyprus, as in Gen. 10:4, Num. 24:24, Ez. 27:6, etc., where they seem to stand for sea-faring people. Kittim might perhaps have to do something with the place name Kition. However, Kittim is also dangerously close to Chittim, meaning Hittites, that is, in the context of the First Millennium Old Testament, the area to the north of Israel in general. Were these biblical authors so much in the dark about what went on in the north that they confused the Cypriots with the inhabitants of the Neo-Hittite city-states in the north? They anyway did not call them Palestinians in any form.

Cyprus

Archaeologically speaking it has been stressed by Iacovou that there is no evidence of massive influxes of, for instance, uprooted Mycenaeans in the island of Cyprus; this, because religious and burial practices remain constant. However, she does see an expanding contact as witnessed by Mycenaean-inspired motifs on pottery after c. 1200 BCE (Iacovou 2008: 629). "Cyprus had become an integral part and major destination of the Mycenaean trading system in the eastern Mediterranean, and apparently—to judge from the Cypro-Minoan marks on Mycenaean vases—Cypriots moved at least some of the cargoes." (*ibid.*).

Historically speaking, not much is known about Cyprus in the period between c. 1200 and 900 BCE. There is general agreement that Alašiya in the Late Bronze Age texts means Cyprus, but the question is: what part of Cyprus? Is it Enkomi? When the Alašiyan ruler and the ruler of Ugarit exchange messages (RS.L 1; RS 20.238; RS 20.18) they speak of their overlord as the king of the Hittite Empire, who at that time could be no

one else than Suppilulijama II; yet this king also fights people from Alašiya. I refer to the strange text that suggests that this Hittite king battled with the Alašiyans three times at sea (KBo XII 38 = CTH 121):

1' *and my father []*
2' *I mobiliz[ed]*
3' *and the sea directly [?]*
4' *I Suppilulijama, Great King, cr[osse]d*
5' *and the fleet of Alašiya*
6' *marshalled itself against me three times in the middle of the sea*
7'/8'/9' *and I defeated them by taking the ships and setting fire to them in the middle of the sea*
10'/11' *[W]hen I reached the mainland*
12'/13' *the enemy from Alašiya countered me massively*
14' *and him i[n battle (?)] ...*
15' *[a]nd me... [ ]*
16' *[ ]*

To me this suggests that Alašiya represents not the entire isle of Cyprus, but only a political unit as part of it. If, for instance, the northern coastal region was distinct from this 'political' unit Alašiya, Suppilulijama II's fight with them could make sense and he would just be using a general name for the islanders. Either that, or within the space of some thirty years the political configuration within Cyprus had changed considerably. One keeps guessing. Are these Sea Peoples perhaps to be associated with Philistines? Cyprus did produce a great number of Aegean-style pottery vessels, which found their way all over the eastern Mediterranean littoral and even inland, such as at Tarsus. The Taʿyinat pottery included Cypriot material as well, as was also the case in Tarsus, and many people have already commented on the Cypriot activities in the Near East. Yet this Suppilulijama text would seem to bring the Sea Peoples close to Cyprus, and the correlation with their pottery and the 'Philistine' pottery does exist – again, however, there is no causal link.

Discussion

Summarizing, we read in textual sources that there are people called Philistines at some time, coming into the Southern Levant. Already Ramesses II mentions Philistines (*plšt*), albeit as mercenaries. Then there is half a century of silence about them. The archaeological correlates of this influx have been extensively discussed, but the conclusions remain equivocal. We are confronted by an amalgam of mixed influences from the Canaanite hinterland with Mycenaean ones, Cypriot ones and others. Names, both of places and of peoples, are sometimes subject to change without a concurrent change of the essence they describe or cover, be that materially or ethnically; therefore, what 'Philistines' are we talking about?

As the Storm-God temple in Aleppo did not produce relevant small finds we are reduced to speculating about any 'foreign' cultural connections. The Storm-God character is clear enough. What could perhaps associate it with the "Philistines" is the fact that the latter seem to have worshipped, among others, Dagan or Dogan. Also this deity had Storm-God characteristics, at least in Syria (Mari, Terqa, Ugarit), e.g. as Dagan-Ba'al. There is, however, nothing resembling a southern stylistic character in the figure of Taita as sculpted on the block that Kohlmeyer (2009) describes so well as unfinished and slightly protruding from the line of the neighboring blocks – indeed, his figure corresponds well to the post-Hittite styles described by Orthmann (1971, 2002) and others.

If the Aleppo 7 inscription[6] means that Taita just *visited* the Kubaba temple in Karkemish as a visitor rather than as its overlord, the same might hold for the inscriptions in Aleppo, whichever of the two Taitas we are talking about. In fact, Hawkins writes: "Though not king of Aleppo, he controlled the city as shown by his dedication of that particular phase of its ancient and famous cult center" (Hawkins 2009: 169). It reminds one of Sargon of Akkad venerating Dagan in Terqa, where he was thus just showing how devoted he was. Such visits by political leaders to internationally known cult places are as old as the world – it helps them to gain the favour of local populations, and does not necessarily mean a definite lordship over the locality. This kind of interpretation would reduce the Taitas' actual realm to the Amuq, with Taʿyinat as capital. In this way, the 'problem' of Aleppo being part of a nation called Palestin or Walestin would go away. It would not, however, explain the Mharde and Sheizar inscriptions, unless we suppose that these stelae were later transported to their find spots – perhaps as spoils of war?[7] One thinks of the parallel with the so-called Babylon 1,

[6] On the historical aspects of the Aleppo 6,7 and the Mharde and Sheizar inscriptions, see Hawkins 2011: 51–52.

[7] The Sheizar stela, a funerary monument for Taita's wife, might have been placed there, for instance, if his wife came from that area. I find it difficult to accept that a Taita might have ruled over so vast an area as the Amuq and Northern Syria including the region around Hama, without there being any resonance of such an entity in Assyrian records, or in any others, for that matter – still disregarding the purported identification of Taita with biblical Toi (Steitler 2010).

2 and 3 inscriptions mentioned by Hawkins (2011: 36), which were war spoils of Nebuchadnezar of Babylon. I find it dangerous to include that whole Syrian area in the realm of the Taitas because of these two stelae; one may perhaps compare this with the Nahr al Kalb inscriptions of various kings; these did not mean they ruled that area, although they might have wanted to.

Since the name of a *country* or perhaps *city-state* Palestin or Walestin is not mentioned in records before c. 1100 BCE, either by the Hittites, or by the Assyrians or the Egyptians; and since later First Millennium records of, for instance, the Assyrians, local petty kings of the Neo-Hittite and Aramean city-states also do not mention such a state (nor do they mention the name Taita, if we disregard Steitler's ingenious but as yet unsupported identification with the Biblical Toi (Steitler 2010) – and we have seen earlier that the Old Testament does not mention Philistines in the North), the conclusion forces itself on us that this state must, historically speaking, have been rather ephemeral. Consequently, on the one hand we have a political unit that is difficult to pinpoint, on the other hand we have the material culture of the whole eastern Mediterranean littoral. Those material remains provide solid evidence of continuing processes of lively adaptation and communication around the Eastern Mediterranean from the late Bronze Age into Iron I and II, as in pottery traditions, ivories, the styles of sculpture, as well as the use of Hieroglyphic Luwian, – and place names and personal names (e.g., Suppilulijama). Hawkins himself has, since 1988, almost single-handedly provided us with much more light to shine over the history of that transitional period, formerly known as the Dark Ages, and thus he substantiated the ongoing developments that had already been suggested by the archaeology (Hawkins 1988, 2002).

Should we then, as a conclusion, see Taita's claim to be the ruler of an entity called Palestin as entirely empty, keeping in mind our initial caveat about the association *palasatini/waDAsatini* and *Philistines*? No, because he probably did not invent the name, but just maybe, as a newcomer on the political scene, took it fortuitously, harking back to distant memories of an age gone by.

Archaeology has its own domain, and it may illustrate historical problems, but it rarely solves them. Saying that there does not seem to be any archaeological support for Hawkins' reconstructions might perhaps be seen as a foregone conclusion, given our initial remarks about ethnicity and material culture. Yet it does serve a purpose to check whether there could be a correlation between these entities. In our case I think there is none in the specific sense: "Palestinians / Philistines" in the north are archaeologically invisible. If we nevertheless want to see them in the north in the Iron Age, we might be talking about people who were mainly associated with Cyprus.

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The Impact of the Sea Peoples in the Central and Northern Levant in Perspective

Francisco J. Núñez

Abstract

The aim of this article is to offer a critical analysis of the information sources relative to the presence and impact of the so-called Sea Peoples in the northern and central coastal strip of the Levant. Despite the influence exercised by research that focuses on other regions, the first conclusions from this analysis indicate that what happened in the northern and central Levant are two interrelated and successive episodes of a complex phenomenon that involves the entire Eastern Mediterranean. The events were also different in each zone. In the north the collapse of the Palace System allowed the arrival of new peoples from the west. Evidence of the presence of these peoples is visible in the material culture and also in some if not all the destruction layers identified in many sites.

If we attend the contemporary texts, Ramesses III stopped these peoples somewhere between Amurru in the north and Canaan in the south, a victory that kept the cities of the central Levant safe from the expansion of the Sea Peoples. This fact, together with the gradual retreat of the Egyptian hegemony during the 12th century BCE, allowed some of those cities, first, to experience a gradual evolution towards the Iron Age and, second, to take over the economic role previously exercised by northern centres such as Ugarit.

One way or another, there are certain questions that remain unanswered: what happened to those Sea Peoples in the north? Were they absorbed by the local populations? The presence of Aegean or Aegeanizing pottery represents the actual existence of foreign populations? Or is it rather evidence of a local demand for those wares? Are probably both possibilities correct?

The aim of the following pages is to offer some ideas concerning the impact of the Sea Peoples on the central and northern Levant. In our opinion, this issue represents two sides of a complex and biased subject, which is strongly influenced by three interrelated factors: an unbalanced geographical distribution of the available information, a preeminent attention to the foreign element in the discourses and a series of assumptions that have conditioned the reading and ulterior interpretation of the available data.

In these circumstances, this analysis will focus on three elements: first, the available information on the subject; second, the nature of the transformations experienced by the northern and central Levant at the end of the Late Bronze Age; and, third, the probable role of the Sea Peoples in these transformations in particular and their impact in the Levant in general.

It is evident that such an analysis goes far beyond the scope of this paper. Therefore, it should be considered rather as a first approach to the subject, a stage in which the questions outnumber the answers. What the reader should not expect to find here is a bookish résumé of the works and opinions offered by other scholars. Instead, the arguments will go directly to the data from critical standpoint.

Several previous points to consider

In my opinion, the issue can be approached from three different sides: from the perspective of the local societies, that of the Sea Peoples and, thirdly, from a less common holistic approach that takes into consideration all the factors in play from a more or less neutral standpoint. However, one way or another, and without getting involved in theoretical issues, there would be an aspect that quickly becomes evident. The effects of the contacts between the local societies and the Sea Peoples can be understood only against the nature of the former as well as the circumstances that frame it. In other words, what was the situation of the local societies at the end of the Late Bronze Age, which elements of their society and material culture experienced changes afterwards and how did they happen. Besides, it would be equally relevant to analyse how these foreign groups changed due to the contacts with the local society, how long the traces of these foreign elements remained in the material culture of these regions as well as how and under which circumstances (for the Amuq Plain, see Janeway 2006–2007: 136–137, 140–141).

To achieve that goal, we count with the rather meagre, fragmented and unbalanced information offered by the written sources and, to a relatively larger extent, the material culture. Following a normal procedure, the analysis of this data should lead us to trace the succession of events and to identify elements that attest to the presence or influence of foreign cultural elements in the local material culture. Later, a second step should be left to the scholar's interpretation to consider whether those elements are the result of the presence of foreign

peoples among the local population or the consequence of other processes.

Notwithstanding the theoretical approaches existing today (see an interesting reference in Jung 2012), it is obvious that simple concepts such as 'presence' and 'influence' do not mean the same on cultural terms. The presence of foreign groups leaves consistent material traces in the archaeological evidence, which comprehend elements of diverse nature and are evidently alien to the local material culture, especially items not common as object of trade, and whose proportion is relevant regarding the local materials. On the other hand, influence consists of foreign elements which have undergone a variable transformation through the filters of the local society, their habits and traditions. There would be a third possibility, placed between the two previous ones. It refers to the elements adopted and adapted by the local society from foreign population groups residing among them. The question, then, would be to identify which elements may unequivocally point towards each one of these three possibilities.

An obvious consequence of dealing only with material culture, without the support of other sources that may help to explain their nature, is the existence of as many interpretations as there are attempts to analyse it. Regarding the issue that concerns us here, it is possible to recognize a precarious balance between the attention paid to the local and the foreign element, especially those of Aegean origin or Aegeanizing nature. In point of fact, and notwithstanding its proportion, the general attention favours the latter, especially since the presence in the Levant of peoples of Aegean origin has traditionally been seen as one of the main factors that mark the end of the political and socio-economic situation of the Levant in the Late Bronze Age.

At the same time, it is also dangerous to extend to all the Levant the conclusions reached for other regions following any given model, especially those that take one or more areas as a reference for events that affected bigger geographical areas.[1] One example of this problem could be the influence exercised by the long-established investigations of the matter conducted in the southern Levant (Janeway 2006–2007: 123; Núñez 2015a: 111). In such a situation, not only can the perspective be lost, but so also can the relevance of previous cultural frameworks against which those foreign cultural manifestations took place, a local framework that could have conditioned the entire phenomenon from its genesis to its posterior evolution.

In the light of these aspects, the issue happens to be conditioned, first, by the role given to certain elements of the material culture, especially the ceramics and the metallurgy, as well as the presence of certain functional premises in domestic contexts, especially the hearths (see, for example, Yasur-Landau 2010: 122–149). Second, it is also affected by the diverse standpoints in play, especially those that emphasize the Mycenaean, Cypriot or even the southern Levantine element, which condition how the available written sources should be approached and, hence, interpreted. In the third place, the issue is finally stagnated in the muddy waters of the succession of interpretations and counter-interpretations (a summary of those approaches can be seen in Yasur-Landau 2010: 2–7).

One way or another, and given the fact that it is difficult to identify the real impact of those foreign groups on non-material aspects of the local societies, attention should be focused on two areas. The first one would be the stratigraphic remains that can be linked to the actions of the Sea Peoples. In this sense, more than the destruction levels recognizable in certain settlements, the focus should be put on the nature of the remains related to these archaeological facts and what changes, if any, can be isolated in the superimposed layers (different layout, buildings that follow foreign traditions, etc.). The second element is closely related to the previous one, and refers particularly to the material culture. In my opinion, three further factors should be carefully considered: on the one hand, the actual proportion of foreign elements regarding the total repertoire; second, which elements are represented, giving special consideration to any possible local alternative existing before and at that time; third, and connected to the previous point, which foreign elements, whether typological, morphological, decorative or even technical, were adopted and which ones were adapted to local standards.

Unfortunately, many times the nature of the published evidence does not allow an accurate consideration of the points previously mentioned. To these problems it is necessary to add also the role played in their reading and interpretation by the existing approaches. The logical consequence is the achievement of partial, not conclusive and, therefore, conditioned results.

[1] The bibliography is too numerous to be mentioned here (see Dothan and Dothan 1992; Yasur-Landau 2010 and, recently, Cline 2014; another example of this diversity could be seen in the different papers presented to this conference).

The evidence to consider

The seemingly fragmentary and blurred nature of the evidence has caused this issue to remain open to interpretation. Besides, and regarding the sources of information and the data provided by them, it may turn out as dangerous to give much relevance to one particular factor as to disregard it. Briefly and without going into details at this time, the basic sources of information we count with are the written sources and the archaeological evidence.

Starting with the written sources, the pieces of evidence that have arrived with us are of diverse nature and deserve different degrees of confidence depending on the particular case. In my opinion, those sources can be chronologically ordered, for they refer apparently to diverse territories and different episodes of the phenomenon.

The diplomatic correspondence between the royal palaces of Hatti, Ugarit, Alashiya and Amurru may stand in the first place. This source explicitly mentions, first, the threat by those foreign peoples in their territories and, later, their actions against them, including the destruction of settlements in the kingdom of Ugarit (see, for example, Singer 1999).

The second source is represented by certain texts that refer to the Egyptian reaction against the Sea Peoples. This is the case of the royal inscriptions on the walls of Medinet Habu or the Papyrus Harris I, both referring to the battles held by Ramesses III against the Sea Peoples and their aftermath (Pritchard 1969: 262–263). Even if these texts can be considered official propaganda – the exaggeration and distortion of the events reported in them is usually more than evident (O'Connor 2000: 100) –, a reading between the lines may provide clues on what actually happened and how.

In essence, these sources refer to a series of clashes between the Pharaoh forces and those Sea Peoples (Philistines, Tjeker, Shekelesh, Denyen and Weshesh) on land and in the sea, the victory of the Egyptians over those invaders, who were taken prisoner and later settled in Pharaoh's strongholds. Those texts also clearly mention that these encounters took place in Djahi, namely, the Levant. However, unfortunately, they do not mention certain relevant aspects. One of them would be the exact place where those encounters took place. Another relevant question would also be which royal strongholds received these prisoners.[2] In any instance, we learn from the Papyrus Louvre N.3136 that at a later moment Ramesses III employed Shardana and Philistine troops against the Libyans in the 11th year of his reign (Lipiński 1999: 45), a fact that does not necessarily mean that all the Sea Peoples captured after the big battle were stationed on the west banks of the Delta or, being stationed in Palestine, were not deployed wherever their presence was necessary.

In the third place stand certain literary texts, which are devoid of any perceptible propagandistic intention: for example, the Amenemope's Onomasticon and the Tale of Wenamun (Pritchard 1969: 25–29; Winand 2011). The first of those texts, composed not earlier than the reign of Ramesses IX (c. 1126–1108 BCE; Liszka 2010: 316), tell us that the Shardana were settled in the Akko Plain. This information seems to be confirmed and complemented by the Tale of Wenamun, which mentions the Tjeker at Dor around 1060 BCE.[3] It is also apparent from the last text that the Phoenician cities were free from any perceptible or relevant presence of Sea Peoples in them.

Finally, the Bible and some classical authors also make references to the Sea Peoples. The first one focuses, logically, on the presence of Philistines in the southern Levant (see, for example, Machinist 2000), whereas the classical authors only mention certain episodes, which are usually used as parts of larger discourses (see below). However, most times these texts, including the Bible, are as problematic as the Egyptian inscriptions, sometimes because they do not deal with first-hand information, other times for the purposes behind them.

The second corpus of information is the archaeological evidence. The data related to the actions and/or actual presence of the Sea Peoples in the Levant is twofold. In the first place we count with stratigraphic facts. This would be the case of the destruction layers, which apparently put an end to the Late Bronze Age at many sites, the possible existence of Aegean-inspired constructions or elements, such as the hearths, or changes in the funerary customs. The second possibility refers to the presence of foreign elements in the material culture; the most evident are: ceramics, weapons, tubular loom weights or cultic elements (besides Dothan 1982, Dothan and Dothan 1992 and Lehmann 2007: 517–518, see an updated analysis of those elements in Yasur-Landau 2010: 122–154).

Among the ceramic remains that can be related to the Sea Peoples we are dealing primarily with four pos-

[2] See Yasur-Landau 2010: 174, on the different interpretations regarding the number of encounters and where these took place.

[3] On that presence, see Gilboa 2005, 2006–2007 and Gilboa *et al.* 2015.

sibilities: the LH IIIC wares – either imported or produced locally –, the so-called Hand Made Burnished Ware (HMBW), the Grey Ware – Trojan or not – and the stable cooking pots. Among the metal objects, especial attention has been paid to certain types of weapons – in particular swords and knives –, which seem to find their origin in western regions of the Mediterranean, including the Italic Peninsula. Regarding the cultic objects, the presence of certain figurines and furniture could be mentioned (on all these elements, see below).

The starting point: The Levant at the end of the Late Bronze Age

There are two questions that have to be considered at this point: the cultural nature of the Levant at the end of the Late Bronze Age and the political situation of the kingdoms existing there. These two factors are the background against which the Sea Peoples phenomenon has to be contextualized and its consequences explained.

In the first place, the entire Levant, from Ghaza in the south to Ugarit in the north, displays a similar material culture during the Late Bronze Age (Weippert 1998: 31), which was deeply rooted in the region since the Middle Bronze Age. This homogeneity affects many cultural manifestations, among which the ceramic repertoire is one of the best examples. In point of fact, few if any strong typological and decorative differences with geographic repercussions can be observed among the repertoires registered in the entire Levant; their essence and evolution were also comparable.[4]

The same homogeneity can be observed regarding the ceramic imports registered over the entire territory. These originate, mainly, from the Aegean, Cyprus and, especially in the south, from Egypt. The imports of Aegean origin belong to the LH IIIB period and are represented especially by forms related to the banquet and also the serving and consumption of wine, some of which seem to have been produced specifically for a Levantine market (Leonard 1994; see also below). This fact affects particularly the craters, cups and certain types of jug – with the exception of decanters and relative forms, which are completely or nearly absent. There is also an entire group of forms that apparently are not related to these habits. This applies in particular to certain containers like the alabasters, the stirrup-jars or the pithoid-jars, forms most probably imported for their contents and not for the vases themselves.

Besides, the Cypriot imports, more abundant, are rather related to LC II productions, among which appear wares such as the White-Slip, Base-Ring, the Monochrome or the White-Shaved (Amiran 1970:167–178; Åström 1972). These insular imports seem to follow a pattern comparable to that of the Mycenaean imports, as they include also tableware-related forms and containers. Finally, the Egyptian imports are more frequent in those areas under their direct influence and cover a bigger range of functions and types (Amiran 1970: 187–190; Martin 2004; Killebrew 2004).

Regarding the second factor, namely, the political situation, the Late Bronze Age Levant witnessed a strong internationalization of the relations between states, which led to a strong interdependence among them. This is the so-called 'Palace-System' (Liverani 1995: 426–452; 2003; 2014: 325–346; Klengel 1992), characterized – on both a regional and a local scale – by a pyramidal organization, which differentiated between 'great' and 'minor' kingdoms, all them surrounded by nomadic population groups living on the fringes of their territories, especially in those areas where the presence of urban centres was difficult, if not impossible.

The Levant was divided then into a series of independent kingdoms, whose capitals were the centre of the economic, religious and political powers of the realm. There was also a strong hierarchical relationship between the kingdoms, which competed for supremacy in their respective levels of action. Once that supremacy was achieved, they pursued policies of domination towards other equal or minor politic entities through vassalage relationships and coercion. The objective was the exploitation of their vassals through taxes, commercial advantages and the obligation to assist their lords in times of war. The same structure worked out at the local level as well. In it, the elites played the central role as beneficiaries of the entire system through expensive administrations and armies, all paid by the impoverished lower classes of the society.

This system was not static. In point of fact, it evolved to a point where this mechanism of coercion and appropriation could no longer prevail and the system experienced a crisis. In a situation like that, any new disturbing factor, e.g. a long and severe drought, could trigger the collapse of the entire system (Kaniewski *et al.* 2010; Kaniewski *et al.* 2013; Langgut *et al*. 2013; see a revision of all the causes related to natural situations in Knapp and Manning 2016). However, it seems that the collapse was gradual, more evident on a regional scale in the north and bringing about different repercussions at the local level.

[4] Compare the repertoires of Ugarit in the north (Schaeffer 1949: 131–300 and 262–278, and Courtois 1978: 222–281), Kamid el-Loz in the Beqaa (Penner 2006) or the southern Levant (Amiran 1970: 124–167 and 190).

The fall of the Palace-System put the entire region in a different situation, which is difficult to characterize on the basis of the available data. Regarding the local powers, it is evident that they were free from imposed hegemonic entities, a situation that generated a double consequence (Aubet 2008: 54–57; Núñez 2015a: 113). First, these local kingdoms struggled to regain a regional dominance and, at the same time, resume their own commercial enterprises, this time without directions imposed from without. Second, the same kingdoms had to confront new threats on their own. Among them, we can mention the competence with other political entities and, probably also, actions performed by the so-called 'Sea Peoples', whose presence in the area is actually older; for example, at Byblos as mercenaries or traders (Artzy 1997, 1998), although it is not fully clear and evident why that earlier presence has any sort of direct relationship with the events of the end of the 13th and the 12th centuries BCE.

The end of the Late Bronze Age in the northern Levant

In my opinion, the best way to understand what really happened in Syria – and also in the south – is to read again the 'raw' information that the sources tell us about those events.

On the one hand, the written sources show that the Sea Peoples performed aggressive acts in the northern Levant. This is the situation mentioned by the diplomatic correspondence (Klengel 1992: 174; Singer 1999: 704–733; Yasur-Landau 2010: 164–166), which announces the presence of a foreign menace on the coasts of Ugarit, whose troops were said to be stationed in Hatti, and apparently also in the Kingdom of Amurru, while its ships were in Lycia. Later, other letters teach us that the territory of Ugarit was attacked, leading to the destruction of a number of Ugaritic towns and serious damage in the country.

These letters fail to mention the names of the places destroyed and whether these foreign peoples actually settled in the region or not. However, these events – including the threat to Amurru – seem to be confirmed by Ramesses III's inscription in Medinet Habu, which offers a number of northern territories (Hatti, Kode, Carchemish, Arzawa and Alashiya) that suffered from the actions of foreign population groups (as mentioned above, Philistines, Tjeker, Shekelesh, Denyen and Weshesh), which set "a camp... in one place in Amurru", "desolated its people" and "were coming towards Egypt".

The same inscription of Ramesses III also mentions that the 'frontier was set in Djahi', a place name that designates an undetermined portion of the Levantine coast, but which seems to correspond, broadly, to Canaan (Yasur-Landau 2010: 173–174; for Amurru, see Lipiński 1999: 6). This frontier was defended by "(local?) princes, commanders of garrisons and maryannu (i.e. the local military elite)", while the river mouths were defended by "warships, galleys and coasters (fully) equipped". Apparently, the battle took place soon afterwards, for against "those who reached my frontier... those who came forward together on the sea... His Majesty (set) out for Djahi... (and) the entire flame was in front of them". The result was that the Pharaoh apparently did "not let foreign countries behold the frontier of Egypt", whereas the Papyrus Harris I mentions that the Pharaoh defeated the Denyen, Tjeker, Philistines, Shardana and Weshesh and "settled them in strongholds, bound to (his) name" as members of his army, for which reason he "assigned for them with clothing and provisions from the treasuries and granaries every year".

From these two texts it seems clear that the battle on land happened after the northern regions – including Ugarit – experienced the impact of these foreign populations and that it took place at some point in the Levant (Yasur-Landau 2010: 170–186, with further bibliography). Two circumstances may support this statement. In the first place, the text explicitly places the encounter somewhere in Djahi/Canaan. Secondly, a land battle in the Delta area would imply two possibilities that are not demonstrated: that the Sea Peoples either had already conquered the entire Levant, an unlikely option, or, rather, invaded in masses the southern part of the Levant by sea (Barako 2000, 2007, 2013; Bietak 1993; Bietak and Jung 2007–2008), for which there is no conclusive evidence so far. In point of fact, the absence of destruction layers in the central Levant evidences that this region, whatever the reason, was safe from their threat or escaped unscathed from their attacks, whereas the idea of an invasion of the southern Levant by sea would probably imply war machinery whose size and sophistication are difficult to imagine in the hands of the Sea Peoples.

Another problem is to recognize the precise place that witnessed that encounter on land. Following the original texts, it seems obvious that it should be somewhere between Amurru, broadly the actual Akkar Plain, and the Land of Djahi, placed to the south (Fig. 1). An apparent open question is where this land of Djahi was located and whether the later Phoenician cities are to be found in that territory. In this sense, there would be three interrelated elements to consider. The first one would probably be the date when Egypt lost control of the different Levantine regions, a factor that may unequivocally indicate the place where the above-men-

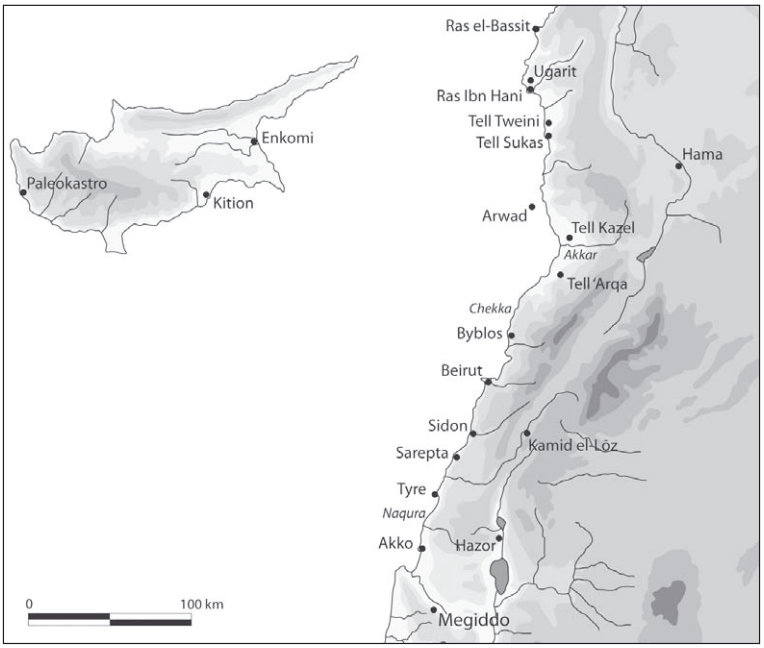

Fig. 1 Map of the northern and central Levant with the places referred to in the text

tioned frontier was settled (see Bietak 1993 or Barako 2007, on the one hand, and Lipiński 1996: 1–9, on the other, for two opposed opinions in this regard with further references). The second is, again, the by now apparent lack of destruction layers in the Phoenician cities (see below). That Djahi was placed south of the Phoenician cities would mean that the Sea Peoples had gone – apparently in peace – across the Phoenician territory, a theory that does not seem convincing. The third factor is the construction of the last Temple in Kamid el-Loz, dated in the time of Ramesses III (see also below).

All the options considered, we count, on the one hand, the Kingdom of Amurru itself, in the Akkar Plain, which played during the Late Bronze Age the role of a buffer zone between the regions controlled, respectively, by Hatti and Egypt (Klengel 1992: 160–174). On the other, and separated from Amurru by the Chekka Cape, we have the cities of Canaan in the south, for which the information related to this moment is rather scarce.[5] There are, at least, two factors that may be relevant in this context. One of them would be the construction just mentioned in the time of Ramesses III of the last temple of Kumidi, in the Beqaa (Hachmann 1996: 17–26; Weippert 1998: 33; Lipiński 1999: 6; 2006: 40–45); the second is the presence of Tyre in one of his lists of cities. Consequently, both aspects may indicate that at least some territory north of Naqura Cape on the coast and the Beqaa in the interior were under his domain at the moment when the battle took place. A different issue is to know how far north the pharaoh still extended his domain or whether the pace of the retreat was the same in the coast and the Beqaa Valley, questions that remain open (on this, see below).

Besides, the existence of a big battle would not be in contradiction with the possibility that the text would actually also allude to a series of encounters – on land or in the sea – between the pharaoh's forces and the intruders (on this, see Cifola 1991: 54–55; Yasur-Landau 2010: 174–175; against Kitchen 2012: 16). Nevertheless, it is also possible to assume that these potential smaller encounters were nothing more than skirmishes that anticipated the two final battles. These first encounters took place most probably around the frontier that was settled by the pharaoh and could even extend south from that line in the form of incursions that may have reached, why not, southern Levantine shores.

In contrast to this written evidence, the archaeological evidence available from the northern Levant

[5] See Belmonte 2003 for an accurate analysis of the central Levant in the Bronze and Iron Ages.

may offer one evident fact: the actual destruction of a series of urban centres, whose fate was different in each particular case. The archaeological remains indicate that Ugarit was never settled again; Ras el-Bassit was resettled, but the settlement had little relevance (Courbin 1986, 1990; du Pîed 2006–2007); Tell Sukas (Riis 1970; Riis *et al.* 2004) or Tell 'Arqa (Thalmann 2006; Badre 2007–2008) were also resettled, but after a long period of time. More interesting information may emerge in the cases of Tell Tweini/Gibala (Bretschneider and van Lerberghe 2008; Bretschneider *et al.* 2005, 2008, 2011, 2012), Ras Ibn-Hani (Bounni and Lagarce 1998; du Piêd 2006–2007) or Tell Kazel/Simirra (Badre 2006, with additional bibliography and 2007–2008; Capet and Gubel 2000; Capet 2006–2007). Those three settlements experienced a somehow comparable succession of occupation layers, some of which were sealed by a destruction layer.

At the same time, it would be necessary to see whether we are dealing with the non-traumatic presence of those foreign components, destructions caused by them that left the places inhabited for more or less long periods of time, or destructions followed by a fast occupation of those places. In order to demonstrate whether the Sea Peoples had anything to do with one or all of the traumatic episodes mentioned and how, it is obviously necessary to search for and isolate elements that may point in that direction. In the first place, we note the presence of certain new elements in the material register, which are alien to the cultural environment and appear to be directly or indirectly related to those destructions.

This is the case of the so-called Handmade Burnished Ware (HMBW; also known as 'Barbarian ware' by some scholars; see below), whose origin is apparently to be found in the central areas of the Mediterranean (Mycenaean, Italic, Balcanic?). This ware actually represents a special situation, as the forms registered differ from the other instances to be mentioned later: domestic – basically cooking pots – and storage shapes that display coarse wares of a rather rudimentary technical and decorative nature (Badre 2003; 2006: 89–92; Badre *et al.* 2006: 33–36; Charaf 2006; Capet 2006–2007: 198; Jung 2009b). However, this ware is not new in the Levant; its presence has been registered in Late Bronze Age contexts not only in the Levant, but also in Cyprus (Charaf 2006: 173–174; du Pîed 2006–2007: 163–167; on the relationship existing between both instances, see above).

Another element to consider is the LH IIIC ware. There are two relevant matters to consider in this regard. First, the imports probably originate initially in Cyprus or Anatolia/Cilicia, but later this ware was locally produced (Jung 2007: 558–559; Lehmann 2007: 507–508 and 2013: 267–268). Second, the forms represented, like their Mycenaean predecessors, are related basically to tableware: craters and drinking cups – carinated and bell-shaped – (Jung 2011; 2012: 110 and 115; Venturi and Pedrazzi 2011; Lehmann 2007: 500–508; 2013: 323).

The third element is the 'Trojan/Grey' ware, which repeats the same typological patterns of the previous one, that is, tableware-related forms: cups and craters (Capet 2006–2007: 198–200; Badre *et al.* 2006: 31–32; Lehmann 2007: 510; 2013: 305–306). However, there is a feature that particularizes this ware: it has been registered, among the north Syrian cities, only at Tell Kazel.

A fourth element is represented by metal objects, especially weapons (Yasur-Landau 2010: 140–141), among which those of Italic origin deserve special attention from some scholars, as these have been connected to the Shardana, identified by them as the inhabitants of Sardinia (Jung 2009a; Bietak and Jung 2007–2008; Jung and Mehofer 2013).

The presence of this array of materials has traditionally been connected with the 'invasion' of the Sea-Peoples, the same invasions that supposedly destroyed the Syrian cities. However, there are some instances where these imports appear in levels that directly antecede or are related to these destructions, thus challenging this interpretation and bringing into play other implications. This phenomenon is especially evident in sites such as Tell Kazel (Badre 2006; Capet 2006–2007; Jung 2007: 557–563) Tell Tweini (Bretschneider and van Lerberghe 2008; Bretschneider *et al.* 2005, 2008, 2011, 2012), and probably Ugarit itself as well (Caubet 2000: 49). In the light of these facts, the role of the Sea Peoples in those destructions should be reconsidered and revised. Probably, the revision should also be extended to the reasons for the presence of these foreign wares, including those locally produced – actual presence of Sea Peoples, simple exchange or imitations to satisfy a local demand?

Tell Tweini experienced two consecutive destructions, separated by a long interval between them (Fig. 2a). The first one destroyed its Stratum 7A and, therefore, closed its Level VIIIB. This event was, apparently, contemporary with that suffered, for instance, by Ugarit, Ras Ibn Hani or Ras el-Bassit (Bretschneider *et al.* 2005, 2008, 2011, 2012; Bretschneider and van Lerberghe 2008: 33), although its extension and impact in the city itself seem to have been rather limited. The date of this event has been estimated through 14C between the years 1225 and 1122 BCE (with a 95.4% probability from an uncalibrated date 2962 ± 14 BP;

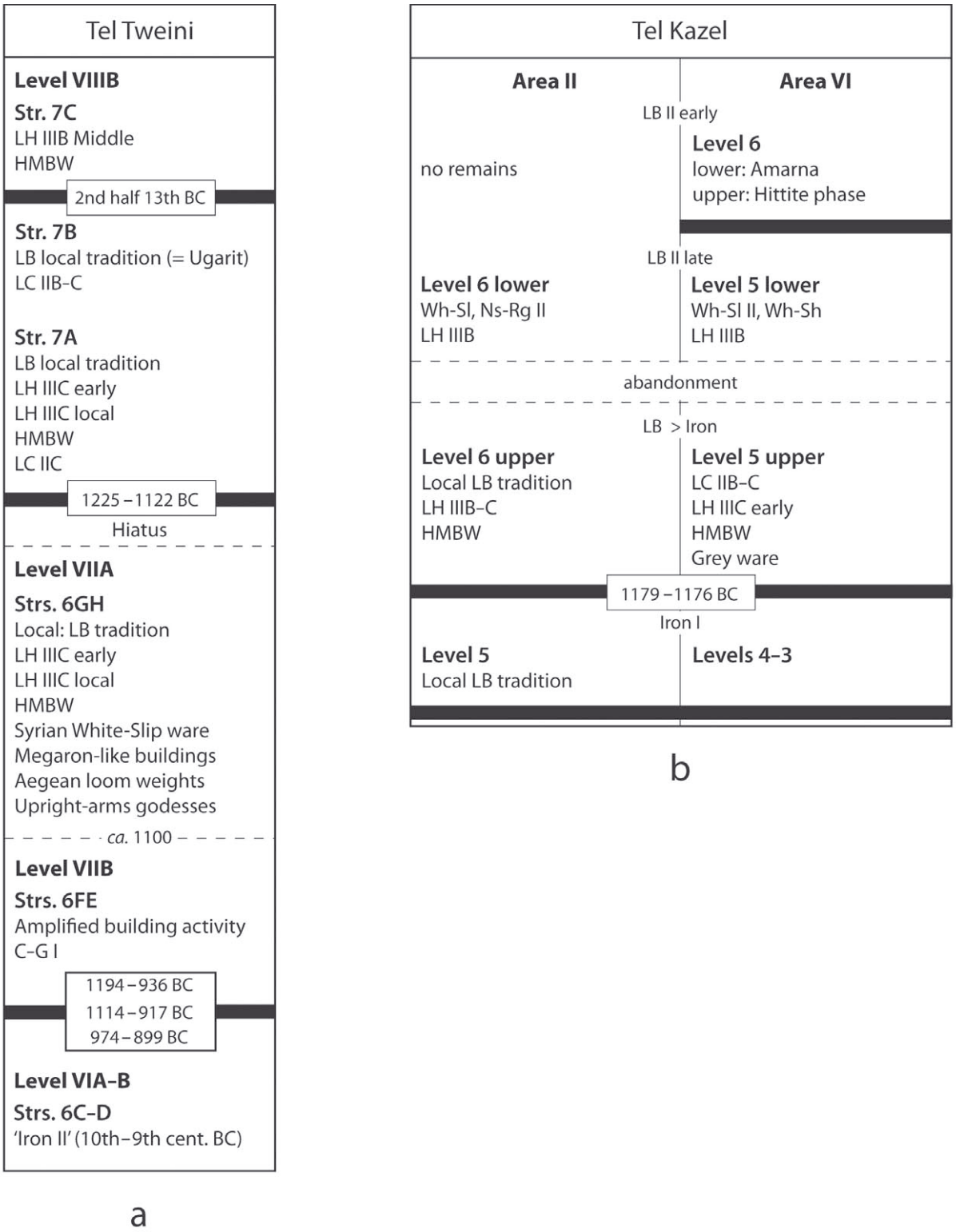

Fig. 2 Stratigraphies of Tell Tweini (a) and Tell Kazel (b), based on the information offered in the text

Kaniewski *et al.* 2010); however, a lunar eclipse, mentioned in a clay tablet found at Ugarit, has established the year 1192 BCE as a terminus post quem for the destruction of this city and, probably also for the rest, including Tell Tweini (Kaniewski *et al.* 2011: 5).

The cultural situation that characterized Level VIIIB is said to be similar to that of the rest of Late Bronze Age cities in Syria. Relevant is, however, the presence of the above-mentioned Handmade Burnished Ware in two of its strata: Str. 7C, said to have been destroyed somewhere in the second half of the 13th century BCE, and the same Str. 7A, to which the first evidence of LH IIIC can be added. Therefore, the presence of these wares, related to the Sea Peoples, was anterior to the destruction of the site attributed to them; in some instances, as in Str. 7C, this presence is even older and probably not linked to the events under consideration here.

After a hiatus of undetermined length, the following Level VIIA (Strata 6G and H) seems to introduce some other innovations. There is relevance in the presence in the local ceramic repertoire of the so-called (Syrian) White-Slip ware, represented mostly by amphoroid-craters whose main feature is a white covering of their surfaces and the presence of painted decoration representing net patterns, bands or hatched triangles in red or red and black (Bretschneider *et al.* 2011: 73, 80–81, fig. 10; Vansteenhuyse 2010: 108, fig. 3:7 and 9). Regarding the foreign wares, beside the already present LH IIIC early pottery – local and imported – and the Hand Made Burnished Ware, this level has apparently produced other undoubtedly Aegean elements such as megaron-like buildings, the above mentioned Aegean-related loom weights and goddesses with upraised arms (Bretschneider *et al.* 2011: 83–84, fig. 14 and 2012: 60, 62–64; Bretschneider and van Lerberghe 2008: 44). Those elements have been interpreted as the actual presence of new, culturally different population groups coexisting with the local population. This situation remained apparently unvaried for a further occupational period (Level VIIB, represented by Strata 6F and E, which produced the first Cypro-Geometric import; Bretschneider *et al*. 2012: 63) until a new destruction put an end to the Iron Age I in the city. The date of this episode has been estimated – also through ^{14}C determinations – somewhere in the second half of the 11th century BCE, and was followed by the Iron Age II levels VIA–B, dated in the 9th century BCE (Bretschneider and van Lerberghe 2008: 44, 63, table 1), no doubt using the conventional chronology of the Biblical Archaeology.

On the other hand, the last Late Bronze Age occupation at Tell Kazel – recognized in Level 6 'lower' in Area II and Level 5 'lower' in Area VI – is represented, again, by the typical local Late Bronze Age repertoire together with LC IIB and LH IIIB imports (see Fig. 2b; Badre 2006: 67–82). This phase ends for unknown reasons and is followed by a hiatus in the occupation of the site, which was followed by a level characterized as transitional between the Late Bronze and the Iron Age – Level 6 upper in Area II and Level 5 upper in Area VI – (Badre 2006: 82–92). The local repertoire of the new phase is said to be a continuation of Late Bronze Age standards, with the addition of the already described Syrian White-Slip wares. Meanwhile, the foreign wares now include the presence of LH IIIC, Hand Made Burnished and the Grey wares.

The presence of these Aegean wares has been interpreted as the belongings of a first wave of peaceful Sea Peoples, which took place before the events of Ramesses III's fifth regnal year. Besides, the end of this level was violent, an event that has been placed around 1179/1176 BCE in connection with a proposed second wave of more aggressive newcomers. These new hordes have been identified with Ramesses III's Sea Peoples that brought havoc in Amurru and finally settled there (Badre 2006: 93; Jung 2007: 565–567). Finally, the destruction of that transitional horizon gave place to the Iron Age in the site – Level 5 in Area II and 4–3 in Area VI –, characterized by the continuity from local Late Bronze Age traditions (Capet and Gubel 2000: 430).

The existence of Sea People-related wares in levels previous to a destruction episode that ended the Late Bronze levels in both Tell Tweini and Tell Kazel reveals certain relevant stratigraphic differences that might have historical and chronological implications. These differences consist in the presence of these wares before and after the destruction in one instance – Tell Tweini –, whereas at Tell Kazel they appear after a hiatus in the occupation of the site and before a destruction level.

In my opinion, in order to understand these differences, it would be necessary to know how all these strata and levels are related from a purely sequential point of view. Hence, it is relevant to see whether the 'Iron Age I' in Tell Tweini can be compared in sequential terms with the 'Transitional Late Bronze – Iron Age' level recognized at Tell Kazel or which of the different occupation levels recorded at Ras Ibn Hani may be contemporary with them. Another thorny question would be the chronological distance between these occupation levels and, especially, the destruction events. What seems clear is that the destruction that put an end to the Transitional Period in Tell Kazel was not contemporary with the episode that destroyed the Stratum 6FE at Tell Tweini. In its place, the destruction of the Level 5 of

Area II and Levels 4–3 of Area VI could be an alternative, although the information provided does not allow us to say much on this.

The bigger problem is that the connections between different strata are not established by the nature of the local materials, but by the presence or absence of the foreign wares. In point of fact, we assist in a process of sequential homologation that may be false. This factor, together with the fact that some of those foreign wares may have even been produced in local centres, and the idea that all the destructions that obliterated the region occurred at the same time, might have blurred the chronological reality of each one of these episodes – not only in Tell Tweini or Tell Kazel – and, logically, their historic interpretation. Therefore, the suggestion of a destruction of the transitional LB / early IA phase at Tell Kazel caused by a second wave of Sea Peoples is a plausible interpretation, but there may also be other acceptable alternatives. One could be to relate the hiatus between the LB and the LB / early IA transition to an abandonment of a city under the threat of the Sea Peoples and the ulterior occupation of the site by a mixed local and foreign population. This succession of events would perfectly explain the presence in the last-mentioned level of the Aegean and Aegeanizing wares. Following the same idea, the destruction that put an end to this transitional phase could actually be the consequence of the battle between the Sea Peoples, settled in the Akkar Plain, and Ramesses III mentioned in Medinet Habu (on this, see Lipiński 2006: 43–44).

Almost all the scholars that have worked in the area indicate that the continuity of the local materials – whatever they looked like – was the norm in all those sites (Du Piêd 2006–2007; Capet 2006–2007; Charaf 2007–2008; Vansteenhuyse 2010: 98–99). The problem is that it is sometimes really difficult to know what this assumed continuity means. Detailed information on these local wares is not available for most of the excavations – new and old – and consulting 'big' publications such as *Ugaritica* does not help much (Schaeffer 1949; Courtois 1978). The publication of the Bronze Age levels at Tel 'Arqa is an exception (Thalmann 2006), for most publications focus on imports, especially those of Aegean origin (Yon *et al.* 2000).

In any event, it should also be noted that the alleged continuity in the material culture of these sites also affects the functional character of the imports and its local imitations (on these two sources at Tell Kazel, see Badre *et al*. 2006: 27–31; Jung 2006; 2007: 557–563; 2011; Lehmann 2007: 464–465, 507, 517 and 2013: 267–268). With the exception of the Handmade Burnished Ware, the new imports – Aegean, Cypriot or Trojan – match from a typological and, hence, functional point of view those registered in Late Bronze Age contexts (see below). Therefore, and without forgetting the equation pots-people, the presence and nature of some of the new wares or their local imitations could be explained by the persistence of a local demand for certain ceramic forms, especially those related to the table service set (Sherratt 1999; Lehmann 2013: 328). However, if this was the case, what happened to the Sea Peoples who according to the written sources attacked the region? Were they simply absorbed by the culture of the local societies or were they actually deported after their defeat? Unfortunately, almost nothing is known of the material culture of those cities during the Iron Age.

As a conclusion, all sources considered, it is evident that the north Levantine coast suffered from a series of traumatic events, mainly destructions, which are explicitly reflected in a number of sites. If all these destructions were the consequence of the actions of the Sea Peoples is open to interpretation, although that possibility is clearly supported by non-propagandistic sources such as the diplomatic correspondence. Moreover, these destructions led, in some instances, to the definitive or temporary abandonment of cities and towns. In other places the settlement continued without apparent cultural breaks, showing an evident continuation of local Late Bronze age trends, only broken by the presence of certain new elements such as ceramics or metal objects of foreign origin. The exception would apparently be Tell Tweini, where the mentioned presence of megaron-like buildings and the presence of domestic and cultic elements of Aegean origin have been claimed.

Therefore, since all the destructions that have been registered in the north are not necessarily contemporary and caused by the same people, these wares produced in foreign centers, or locally made but inspired by them, should not condition the interpretation of those events. It is always complicated to isolate sequential moments not too distant in time using the particular nature of the local materials associated with them – in this case barely publicized –, or even the imports – better treated by the investigation. Therefore, it is obvious that this task becomes impossible when this information is lacking or incomplete. For that reason, all conclusions depend necessarily on the interpretations arrived at by the different scholars, especially those who have or had direct access to the material.

In this context, we may consider again the possibility that the battles entangled by Ramesses III against the Sea Peoples actually took place in north Syria, most probably in the Akkar Plain (see, again, Lipiński 2006: 43–44). In fact, an encounter in Amurru between Ramesses III and the Sea Peoples may explain very well the situation of the central Levant, for its cities

seemed to remain safe from the attacks, at least from those performed by land.

What happened in the central Levant?

Keeping in mind what has been just said, the corpus of information available is again rather small. On the one hand, the written sources are scarce and most of them make either an indirect reference to these cities during the episodes in question or describe post-conflict situations. One example of the last group of texts would be Justin's notice (XVIII 3, 5) of the conquest of Sidon by the king of Ashkalon, and the ulterior foundation of Tyre by the Sidonians that escaped from that attack, obviously an episode that had taken place after the Philistines were settled in Palestine. On the other hand, archaeological evidence of this sequential moment has been recognized in several sites (Charaf 2007–2008; Yasur-Landau 2010: 168–169): Tyre Strata XV and XIV, Sarepta Strata G2 down to G1/F, and, recently, Beirut (sites Bey 003 and 020).

All sources considered, three relevant aspects must be highlighted:

The first one is an apparent absence of destructions, with one exception, Kumidi, although this event probably had more to do with the void left by the retreating Egyptian Empire from the area than to a group of Sea Peoples raiding along the Beqaa Valley. As mentioned before, since the last temple in that site was built by Ramesses III, the event should have taken place late in this Pharaoh's reign or shortly after his death, that is, somewhere in the second half of the 12th century BCE (Hachmann 1996: 17–26; Weippert 1998). The ceramic repertoire registered in this period, corresponding to the architectonic levels 11/12 to 9, follows unequivocal Late Bronze Age standards (Penner 2006) and it is relevant to note the apparent absence of LH IIIC wares in those levels. It is complicated to find an explanation to this situation, which contrasts with the evidence recovered on the coast. Nevertheless, it may represent the same situation recognized, for example, in Megiddo Stratum VIIA, whose end in the second half of the 12th century BCE – not too far from that of Kamid el-Loz – is marked by the bronze base of a statue of Ramesses VI (Finkelstein 1996; 1998; 2013: 21; Finkelstein and Piasetzky 2009: 263–266; 2010: 379). In this case, only one fragment of a bell-skyphos has apparently been recovered in this stratum (Loud 1948: pl. 69: 7).

In this context, it is worth mentioning an ashy layer has been recognized at Tyre between its strata XV and XIV, as well as the alleged short period of abandonment that followed the latter (Bikai 1978: 8). Even if a destruction level is expected to be something more than an 'ashy layer', these two facts may lead us, obviously, to consider the already mentioned Justin's notice, an episode that should have taken place after the Philistine settlement in Palestine. In any case, the presence or not of a destruction layer is something that future excavations in the former island will certify.

However, and notwithstanding the presence or absence of that destruction, the continuity is evident in the repertoire of those two strata. Stratum XV – dated by Bikai between 1375/1360 and 1200 BCE – is the last Late Bronze Age level, whereas the Stratum XIV– dated 1200 to 1070/1050 BCE – covers the transition from the Late Bronze Age to the Iron Age (Bikai 1978: 65–66). The character and relevance of the latter has been put in question recently (Gilboa and Sharon 2003: 44–45). The argument employed defends that this stratum actually covers from the end of the Late Bronze Age down to the beginning of the so-called Iron Age 1b in Palestine; therefore, its value as a sequential reference should be put in doubt. However, these critics, based on the evidence recovered in north Palestinian sites such as Tell Keisan and, especially, Tell Dor, do not seem to consider the mentioned continuity of Late Bronze Age standards in the ceramic repertoire of the Early Iron Age, as already manifested by Anderson for Sarepta (Anderson 1988: 390; Charaf 2007–2008: 82–89). Obviously, the Late Bronze Age character of the local wares also existed during the transitional stage in the sequence represented by Tyre Stratum XIV, which most probably represents its last stages (on the sequential relevance of this stratum, see Núñez 2008: 30–32) and may have a sequential correspondence with Tell Keisan Stratum 9c (Briend and Humbert 1980: 203–206 and 216–227, pls. 67–80). Bikai also mentions a break between Tyre Strata XIV and XIII. Nevertheless, this impression may have been caused but by the evident sequential differences existing between them. In this regard, Stratum XIII offers all the typical forms and decorative patterns of the first part of the Phoenician Early Iron Age, a sequential stage comparable to Megiddo Stratum VIA o Tel Dor Iron 1b (Núñez 2008: 33–35).

At Sarepta the situation is somehow similar, although more complete. As mentioned before, the local repertoire of the strata that represents the transition between the Late Bronze and the Early Iron Age at that site – Strata G1 and F – displays a markedly typological continuity from previous Late Bronze Age situations. This character led Anderson to propose a Late Bronze Age III period, which would be represented by these two Strata (Anderson 1988: 390). In point of fact, the presence of LH IIIC imports in them (Anderson 1988: 613, pl. 28: 19 and p. 619, pl. 30: 10)

does not change their sequential character. Instead, the evolution of the local repertoire continues in its flow towards the Early Iron Age, which is represented by the Stratum E.

Therefore, the evidence in the central Levant shows a strong continuity from Late Bronze Age standards. That leads us to the second element. The local ceramic repertoire of the Early Iron Age is clearly the outcome of a dynamic tradition with particular typological, morphological and decorative principles that are firmly rooted as far back as the Middle Bronze Age in the region. In this context, the role of foreign influences cannot be denied, but neither overemphasized, for their presence does not change the general view.

If the focus is set on the ceramic repertoire, it is possible to enumerate four aspects that characterize over time the ceramic repertoire in the area: it is conservative in form, dynamic in behaviour and lineal and accumulative in character. These features can be easily observed in the local Canaanite ceramic repertoire that later became Phoenician, a phenomenon that can be synthesized as follows:

1) Disappearance of certain typical Late Bronze Age forms and types: this would be the case, among others, of the biconical jars (Penner 2006: 266, fig. 154, type 10,5, p. 268, fig. 155, type 10,5) or the bowls with carinated walls (Anderson 1988: 473, table 3B, type X-24, and p. 478, table 5A/B, type F-5).
2) Continuity of other forms, although with some morphological and/or decorative modifications: this is the case, just to mention a few, with the pilgrim flasks (compare, for example, Saïdah 2004: 44, fig. 11:14, with Saïdah 1966: 59, no. 4, p. 63, no. 15, pp. 78–79, nos. 50 and 51 and pp. 80–81, no. 54) or the dippers (compare the distribution of Bikai's juglets of types 2 and 3; Bikai 1978: 42–43).
3) Update of some other traditional forms, either through local dynamics or foreign influences: this feature is best represented, on the one hand, by the neck-ridge jugs, a form that derives from the Late Bronze Age lentoid flasks (Núñez 2008: 28–32), and, on the other, by the amphoroid craters (Núñez 2010: 52–53; 2014: 69);
4) Adoption and adaption of foreign forms: the best example would be the spouted jug (Núñez 2015a) or the pyxis (Saïdah 1966: 62–63, no. 14 and pp. 76–77, no. 48).

Therefore, and despite the limited information available, it can be stated that the dynamics of change in the ceramic repertoire took place notwithstanding the historical facts that are considered here and the suggested arrival of foreign influences. These two factors surely added new elements to a pre-existing phenomenon of change that, nevertheless, happened without any distortion or major break.

The second aspect to observe could be the reconstruction of the defensive system of the Late Bronze Age in Beirut. The site called Bey 03, placed in the southern part of the old tell (Badre 1997), and Bey 20, located to its east (Finkbeiner 2001; Finkbeiner and Sader 1997), displays how the old city walls of Late Bronze Age Beirut were remodeled and reinforced with a massive stone glacis. These works were undertaken at the end of the Late Bronze Age, most probably coinciding with the events that have just been analysed in north Syria or soon afterwards. Obviously, the material culture associated with that restructuration shows unequivocal Late Bronze Age ceramic standards (Badre 1997: 50–63), including the presence of a probable variation of the Syrian White-Slip ware – this time painted in black –, as well as imported Grey and LH IIIC wares.[6] Regarding the exact date of this renovation, we should probably recall Eshuwaru's Advice to reinforce the ramparts of Ugarit and use it as *terminus post quem*. This reference may lead to an early 12th century BCE date for these works, also supported by the already mentioned materials found in Bey 03 and, especially, Bey 20. However, the nature of some shards, especially the wavy-line decoration on the neck of the mentioned variation of the Syrian White-Slip ware, may push that date down to the end of the 12th or even the first half of the 11th century BCE.

The third element consists in the evident continuity of the funerary customs in these two periods. The evidence recovered both in Late Bronze Age and Early Iron Age burials is almost the same in essence (Fig. 3). Taking the second period as a reference, the standard funerary ceramic set was composed of three forms that are closely linked to the consumption of wine: a neck-ridge jug, a decanter or related form, and a cup (Núñez 2014: 59–66; 2015b). The role played in that set by other elements such as the pilgrim flasks or plates is complementary and does not affect the composition of the set mentioned. Something similar may occur with big containers like the craters, the amphorae or the cauldrons. Their use as cinerary urns may explain their presence in some graves; however, those instances in which they occur in associa-

[6] The ceramic materials recovered at Bey 20 are in course of publication by the author of this paper.

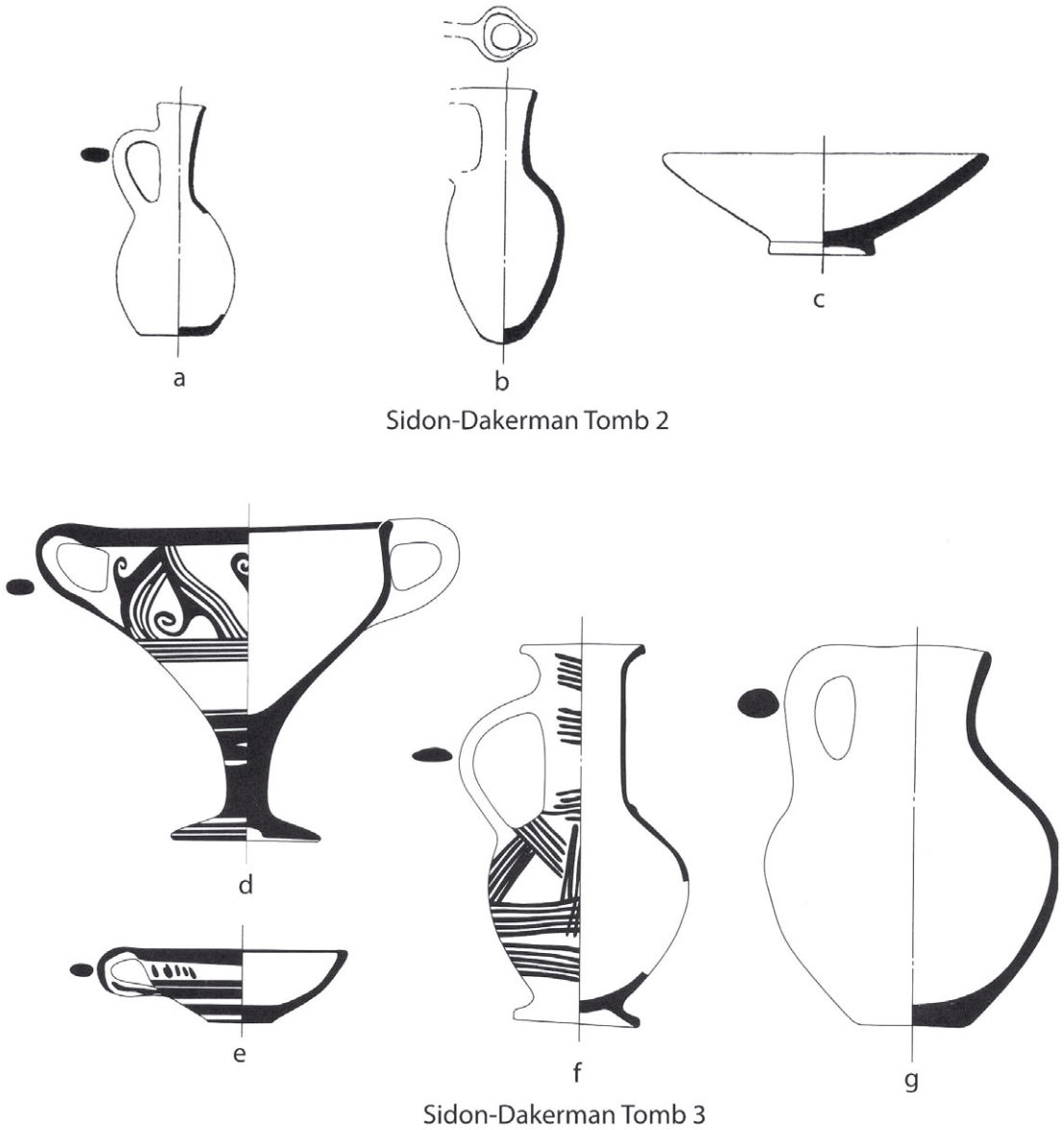

Fig. 3 Sidon-Dakerman Tombs 2 and 3 (after Saïdah 2004: 41, fig. 7 and p. 42, fig. 9)

tion with inhumation tombs, for example in Khalde (Fig. 4) (Saïdah 1966: 74 and 77, no. 47, from tomb 21), may require a different explanation, most probably linked to their use in the funerary banquet mentioned.

Canaanite Late Bronze Age tombs offer a similar panorama. This is observable especially in the simplest ones, for example the tombs 2 and 3 of Sidon-Dakerman (Saïdah 2004: 41, fig. 7 and p. 42, fig. 9; Fig. 3). These tombs cover the two chronological extremes of the Late Bronze Age: the former should be dated, on grounds of the typological character of their funerary gifts, in the Late Bronze Age I, whereas the latter belongs to the Late Bronze Age IIB. Regarding the typological and, hence, functional nature of their respective funerary ceramic sets, it is possible to observe the presence of decanters (Fig. 3b, a dipper, and Fig. 3g, a pitcher), open forms used as cups – a plate in one instance (Fig. 3c) and two imported LH IIIB cups in the other (Fig. 3d and e) – and, finally, a second jug, which share similar morphological features notwithstanding their respective different ori-

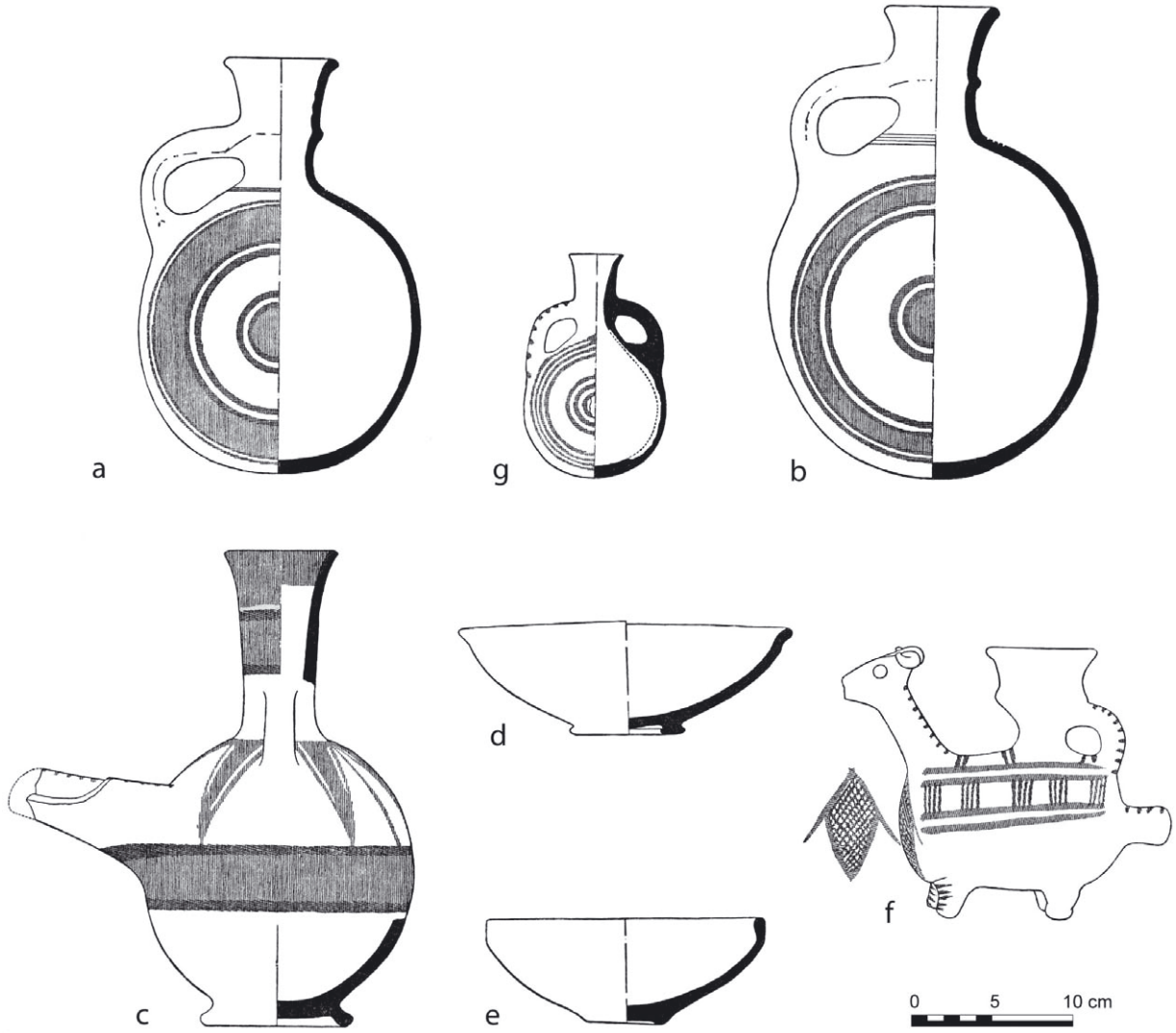

Fig. 4 Khalde Tomb 21 (after Saïdah 1966: 74 and 77, no. 47)

gins – local in one instance (Fig. 3a) and Cypriot in the other (Fig. 3f, Cypriote Base Ring II) –. Among those jugs the stance of their handles – from the shoulder to the middle of the neck – is a noteworthy trait that will be observed later among the neck-ridge jugs.

From these elements, it is easy to deduce a strong continuity also in the funerary ritual, or else in the elements used in it. Changes in the repertoire become evident only in the typological nature of the vase or sometimes in its origin. Nevertheless, these changes apparently do not affect their functional character, which remains the same: the funerary banquet and the deceased's share in it (Núñez 2015b: 249–250). This leads to the character and relevance of the wares of Aegean origin or inspiration.

It has been mentioned before that, in essence, the Aegean imports of the Late Bronze Age and those recovered in Iron Age contexts offer few if any typological differences. The forms represented in one period and the next are basically those related with the preparation and consumption of wine, especially craters and cups. Nevertheless, there would be a difference between the two periods: the absence in Iron Age contexts of containers that could be compared to the Late Helladic stirrup or

pithoid jars, among others. However, this absence could be explained by the ending of the contacts with the areas which produced the contents of those jars, whereas the taste for Aegean cups remained in the Canaanite / Phoenician society (Núñez and Aubet 2009).

Two aspects remain to be mentioned here. The first one refers to the transit of the northern Canaanite cities into their Phoenician phase. In this regard, the battle between Ramesses III and the Sea-Peoples in Amurru and the ulterior settlement of some of them in the southern part of the Levant may explain why the Canaanite/Phoenician cities remained apparently untouched. These consecutive facts assured that those cities never lost their essence as consolidated social, political and economic entities, even in those moments when Egypt withdrew its hegemony over them. This may explain why in times of trouble those cities did not experience any apparent break in their stratigraphies and, more evidently, in their material culture.

The second question refers, logically, to the moment in which the Egyptian hegemony over these territories came to an end. The date of the tribute paid to Tiglathpilesser I by Sidon, Byblos and Arwad – 1110 BCE. – serves as *terminus ante quem* for that process. This date is later confirmed by the tale of Wenamon, which describes the new status of a series of cities, now completely independent, around 1060 BCE. According to the author of this story, Dor was at that time under the Sikila (on the actual nature of this presence, see Gilboa 2005, 2006–2007; Gilboa *et al.* 2015), whereas no explicit or implicit reference to foreigners is made for Tyre, Sidon and Byblos.

The question is to know which references may be of any use for finding the precise moment in which the Egyptian hegemony disappeared in its entirely. The first one, and *terminus post quem*, would be the dispatches sent by the King of Tyre to the Egyptian governor of Ghaza mentioned in the Papyrus Anastasi III, dated in the reign of Merneptah (1236–1223 BCE). Another one would be the last temple of Kumidi, built in the time of Ramesses III (1198–1166 BCE) and destroyed sometime in the second half of the 12th century BCE (Hachmann 1996: 18, 20); the same pharaoh also mentions the city of Tyre in one of his lists (Klengel 1992: 177). Finally, the presence in Megiddo of a bronze stand with the name of Ramesses VI (1141–1134 BCE), which represents the last reference of the Egyptian hegemony in north Palestine (Lipiński 2006: 46–47; Finkelstein 1996, 1998; against Bietak 1993), although its use as a reference for the cities placed to the north may be complicated, given that Megiddo is placed in the south. Another question, difficult to answer now, is whether the Egyptian retreat was homogeneous over the coastal territories and the Beqaa. One way or another, it is evident that the Phoenician hegemony over the Phoenician cities ceased to be effective by the end of the 12th century BCE.

In any instance, what fell at the end of the Late Bronze Age was the particular diplomatic and economic system that characterized that period, but probably not its essence, which continued to exist later, obviously on a smaller scale, thanks to a certain number of politic entities that survived the crisis. Some of those entities are the Phoenician cities, especially Sidon in the first place and later Tyre, which knew how to profit from that situation by taking over the commercial role that other cities like Ugarit or Byblos had before it (Aubet 2008: 54–57, 109).

Conclusions

Efforts to find an explanation for the evidence of new foreign elements in the local material culture should focus not only on the isolation, description and later explanation from a non-local perspective of diverse factors as well as the analysis of internal dynamics and/or external stimuli. As a social phenomenon, attention should also be paid to the mechanisms that these local societies used in assimilating these stimuli, giving place to precise responses and new situations. It would also be interesting to find out whether these peoples were aware of the transformations experienced by their own material culture.

In point of fact, each society explains its particular nature and evolution best through its own circumstances. Conventions and customs filter and transform any foreign influence to make it more appropriate to their own standards. In this regard, there is a strong continuation in the central Levant and, as it seems, also in the north. However, the resulting processes seem to have been different in those areas, resulting in a bigger impact in the north than in the centre.

Scholars working in north Levantine sites speak of a clear continuity between the Late Bronze Age and the Iron Age, as also is observed in the central region. Therefore, we should consider the Early Iron Age as nothing but the unfulfilled result of a general restructuration after the end of the Palace System. It is an update of the entire territory from political, economic as well as also social and cultural terms. We can state, as Anderson did (see above), that the Early Iron Age is the epilogue of the Late Bronze Age, whereas the actual Iron Age started in fact somehow later. In terms of the material culture, the beginning could be related to the introduction of the wares inspired by metallic prototypes and covered by red slip. This phenomenon was probably connected with the new economic situation enjoyed by the Phoenician cities from the end of the 10th century BCE onwards.

In this context, there would be several final points to consider. First, one may wonder whether the Sea Peoples' presence in the Levant and its implications for each region should be considered as different manifestations of the same phenomenon, or, rather, as different and, probably, consecutive episodes of a general historic event. Second, keeping in mind the former point, what was the role or, rather, the impact of the Sea Peoples in the central and northern Levant?

Regarding the first question, it seems that in the northern Levant we can observe both an episode of conflict and another of settlement of foreign populations. However, it is impossible to decide whether the last episode followed the former or not, and what happened then to the local population. On the other hand, regarding the central Levant, it seems that their impact was rather reduced; nevertheless, this does not mean that they were not present or did not have some degree of influence on the locals. In either case, it might be interesting to note, first, that destruction events occur north and south of this central region and, second, the only destruction documented so far affected Kumidi, the centre of the Egyptian administration, and this phenomenon probably was a consequence of the abandonment of the city.

At the same time, we should remember that their material manifestations, both in the north and the centre of the Levant, are limited basically to certain ceramic forms that are related to drinking habits. This is, in essence, the same situation observed in the Late Bronze Age, despite the bigger array of forms represented at that time, and it was also in later stages of the Iron Age. Therefore, it is possible that this diachronic phenomenon was nothing but the permanence of the same social demand throughout the ages; a demand that may have nothing to do with the actual presence of foreign population groups there (Sherratt 1999).

However that may be, it seems evident that these 'Sea Peoples' cannot be blamed as the primary cause of the collapse of the Palace System, but as a symptom of that crisis and one of its consequences. We can assume that the reasons have to be sought in a social and economic situation that was so corrupted that the fall of the system was inevitable. Other external factors may have played a relevant role as well, for example the adverse climatic conditions and famines (Liverani 1995, 2003, 2014; Singer 1999: 715–719; Kaniewski *et al.* 2011, 2013; see also Wiener, this volume; Kaniewski and Van Campo, this volume; see Knapp and Manning 2016 for a challenge to these positions).[7] In any event, what seems clear is that the crisis probably started with the collapse of Hatti, whereas Egypt and its hegemony over the southern half of the Levant rather experienced a slow and gradual decline. Something similar can be observed between Ugarit and Byblos: the former was destroyed and its role disappeared with it, while Byblos was not destroyed, but left its already decadent role to other cities, especially, to Sidon first and later to Tyre.

Another point that becomes evident is that the presence and actions of the Sea Peoples can be synthesized in three possible manifestations: first, their pacific presence among the members of the local societies, second, the destruction of local settlements, probably after these had been plundered, and, third, the destruction of settlements and their ulterior occupation by a mixture of local and foreign populations. Whatever the case was, it is evident that these newcomers did not cause all the destruction events observed in the Levantine sites at the end of the Late Bronze Age.[8] Other actors could have been involved in those episodes, including local populations revolting against their own ruling class, or looting cities after their desertion by the members of the 'higher powers' – probably the case of Kumidi and also in many other places in Palestine.

Faced with this situation, we should put the role of the Sea Peoples in its due place, namely, one factor that takes part in a complex historic phenomenon to which later events in the southern half of the Levant can be added. In point of fact, firstly, there is no evidence or reason to link their previous presence in the area with the phenomenon analysed here and, second, one may wonder if the situation in Palestine in the earlier stages of the Iron Age was rather a consequence of the historic events that affected the northern and central parts of the Levant, and was largely conditioned by them. This reasoning may lead us, why not, to look back and recall the 'traditional paradigm' formulated by Albright and Alt a long time ago, upon which the defeated Sea Peoples were placed by the Egyptians, among other places, in the southern Levant as members of their own army (Albright 1932: 58; Alt 1963; Barako 2013: 37–39). In other words, the place or places where the Sea Peo-

[7] Knapp and Manning consider that the main factor was the end of the Mediterranean trade; however, in my opinion, this circumstance is another of the consequences of the fall of the Palace System.

[8] See a similar approach for the southern Levant by Millek in this volume.

ples settled after their defeat by Ramesses III may be open to interpretation (see Kitchen 2012: 17), but their participation in the Pharaoh's campaigns against the Libyans is by no means incompatible with the fact that their bases were situated in the southern Levant.

In this sense, the influence exercised by the long-lasting research in the southern Levant has led to the impression that settling there was the Sea Peoples' objective, as if this region was some sort of 'promised land' also for them. One might think of some other territories that could fit in better with that ideal, for example Cilicia or the Amuq plain, which are not so distant from Anatolia or Cyprus (in this sense, see Hawkins 2009). On this evidence, it seems that their arrival in Palestine was rather another episode in a more complex phenomenon that affected the entire east Mediterranean region; a phenomenon in which, probably, the Sea Peoples did not even play a leading role despite the huge amount of information produced in the southern half of the Levant, a corpus of data that has not been matched by any other area, either in quantity or quality.

The reasons that have led to this unbalanced situation are clear: a historicist approach to the issue and the use of the Biblical Archaeology by some as a tool of ethnic, historical, territorial, political, ideological/religious vindication. In other words, this is a question of perception of the phenomenon, which has been strongly conditioned by a militant reading of the Bible made by some. However, despite all the efforts and the funds, there are still many aspects that remain under discussion: which factors brought them there, why and how, the actual amount of immigrants and the character of their settlement and its evolution. Obviously, those are aspects that lie beyond the scope of this paper, although they deserve to be dealt with somewhere else in the future.

Maybe, the answer resides in a more comprehensive view of the phenomenon, one that may wonder whether the relevance of the southern Levant, and its role as reference for the entire phenomenon, should be reconsidered; all in all, one approach that does not regard the southern Levant as the hub of the wheel. Cyprus, Cilicia and the Amuq plain probably played this role instead. However, given the actual circumstances in the central and northern Levant, it will take some time for us to reach a new and more accurate perception of the issue.

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Fluctuations in Levantine Maritime Foci across the Late Bronze/Iron Age Transition: Charting the Role of the Sharon-Carmel (*Tjeker*) Coast in the Rise of Iron Age Phoenician Polities

Ayelet Gilboa and Ilan Sharon

Abstract

Scholars dealing with transformations in Mediterranean commercial spheres after the collapse of the Bronze Age World, usually accredit 'The Phoenicians' with renascent (or continuing) commercial initiatives on the Levantine side – a first step in the Phoenicians' commercial 'expansion' that will come to fruition in the later Iron Age. By the term 'Phoenicians' they mean polities and/or peoples in Lebanon, more specifically in southern Lebanon. In that region, the argument goes, the impact of the invading Sea People was negligible and therefore commercial activities and maritime traffic continued unabated. In this paper we explore this *communis opinio* by attempting to determine exactly which Levantine regions were involved in maritime circulation of goods in the early Iron Age. The only medium suitable for this purpose is pottery that travelled aboard ships, which survives abundantly enough and whose production centres can be determined with good resolution. We conclude that the process was more complex: In the early Iron Age, the Phoenician cultural sphere should be extended southward beyond Lebanon, to Israel's Carmel and Sharon coasts, usually conceptualized by modern scholarship as Sea People territory. Only by the mid-9th century BCE does this region abruptly stop its engagement in maritime exchange of goods and the town of Dor – its main port town – is transformed from a trading entrepôt to an administrative centre. The annexation of the Carmel/Sharon regions by the northern Kingdom of Israel may be the explanation for this. The cessation of seafaring activity in Southern Phoenicia facilitated the rise of the cities of Central Phoenicia (i.e. southern Lebanon) to maritime supremacy.

Introduction

The investigation of the 'Sea People phenomenon' in the Levant (Fig. 1) has shifted in recent years from questions of geographic origin/'ethnicity', chronology and settlement processes to issues of social dialectics between immigrants and locals and the *in-situ* formation of identities (e.g. Sharon 2001; Gilboa 2005, 2006–2007; Venturi 2007; Yasur-Landau 2011; Maeir *et al*. 2013; Faust 2015; all with references to previous studies). The impact of the 'Sea People phenomenon' on Mediterranean commercial spheres – the focus of this paper – has received much less attention; relevant studies are referred to further down in this paper.

As opposed to some traditional views it is nowadays patently clear that the centuries following the Late Bronze Age collapse did not signal a total cessation of cross-Mediterranean traffic and exchange of goods, though these were then certainly much diminished in scope and conducted in a different socio-political environment (a very selective list: Sherratt and Sherratt 1991; D'Agata *et al*. 2005; Bell 2006; Aubet 2008: 248; Gilboa *et al*. 2008; Sherratt 2010, 2012 and further references in Gilboa *et al.* 2015c: n.1). The identity of the agents of early Iron Age (c. 1150–850 BCE) Mediterranean trade has been much debated (summaries for example in Coldstream 2000: 24; Kourou 2008: 307–308; Gilboa 2013: 315, 326–327 and cf. Fantalkin 2006). On the Levantine side, however, early Iron Age commercial enterprises are almost unanimously accredited to 'the Phoenicians'. Of all early Iron Age people and polities they are perceived as the immediate and main economic beneficiaries of the Bronze Age collapse (Aubet 2000; 2001; Bell 2006: 4, 98–99, 111–112 and Broodbank 2013: 449, 487 are, of course, just a few examples out of a very long list). These views, implicitly or explicitly, seem to be based on the following considerations:

1) Ancient chroniclers in general associate Phoenicians in the West with the Tyrian/Sidonian sphere (summaries in Aubet 2001: 195–197, 215–218). In particular, some of them attribute early (12th/11th centuries BCE) foundation dates to some (particularly Tyrian) colonies in the west, such as Gadir (Cadiz) in Iberia and Lixus and Utica in North Africa. However, such early activity is not currently supported by archaeological evidence, even considering the purportedly early finds from Huelva in Spain (summary in Gilboa 2013).
2) When foreign material culture traits begin to be attested in Phoenician holdings in the West, starting in the second half of the 9th century BCE, there is a marked similarity (mainly in pottery) to those

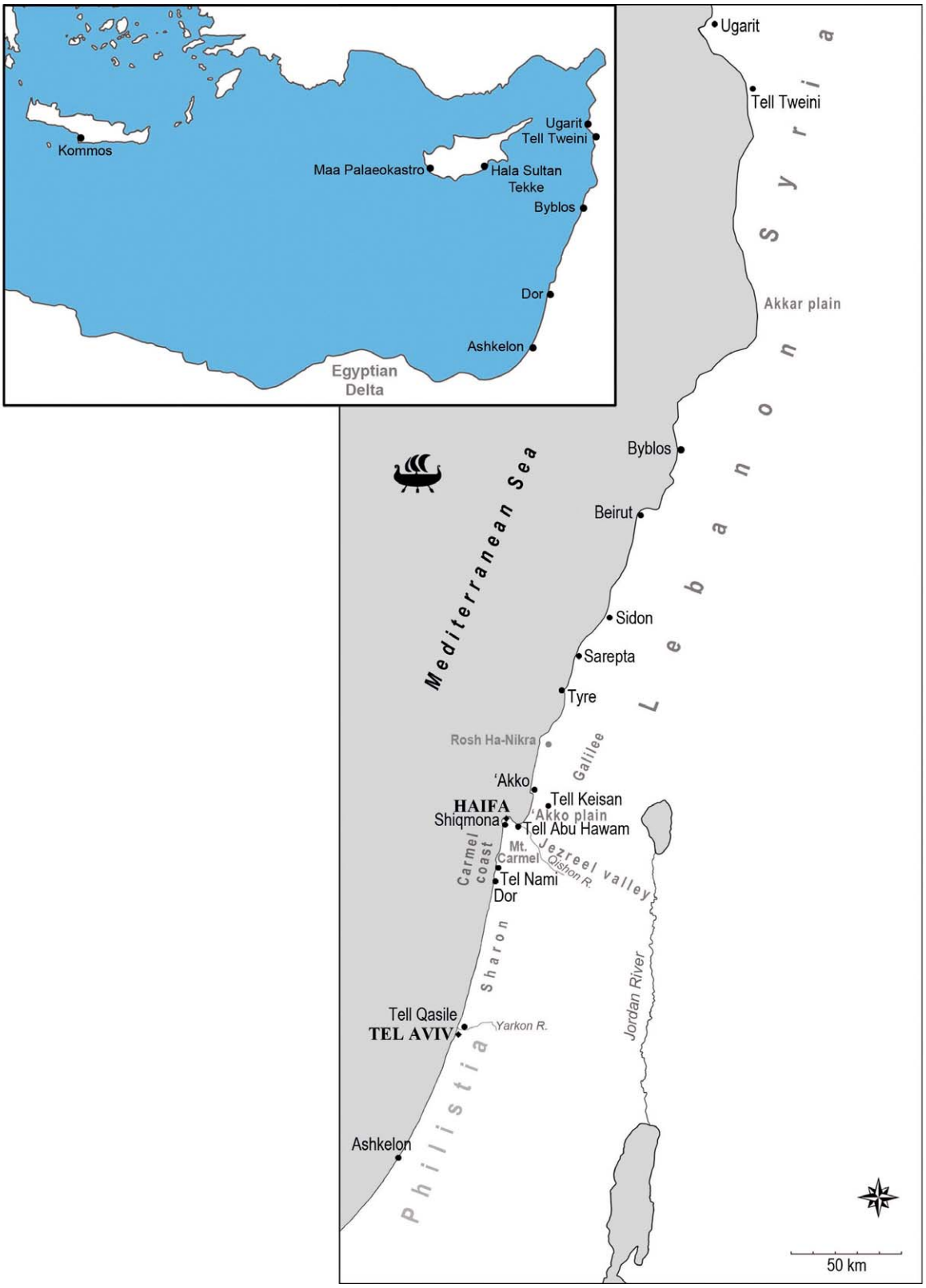

Fig. 1 The Eastern Mediterranean with main sites mentioned in the text

from southern Lebanon, chiefly Tyre (e.g., recently Núñez Calvo 2013).[1]

3) The lack of Late Bronze Age destructions in Lebanon means that it was not affected by any 'Sea People' incursions (e.g. Markoe 2005: 16–19) and was therefore allowed uninterrupted commercial activity (for example, Bell 2006: 113). This apparent phenomenon may have more to do with lack of knowledge than with lack of destructions. Of the few excavated sites that revealed a LB/Iron Age sequence, there is no evidence of destruction in Sarepta or Tyre, but new evidence from Sidon may change that picture (Doumet-Serhal 2010: 125–128).

For the Iron Age, then, scholarly literature sees 'Phoenicia' and Lebanon (most importantly southern Lebanon) as coterminous (e.g. Iacovou 2004; Broodbank 2013: 499; and further references in Gilboa 2005: 2–3).

Importantly for the concerns of this paper, while this perception is grounded in archaeological evidence of the late(r) Iron Age, it is also retrojected to the earlier Iron Age (late-12th–mid-9th century BCE). Any manifestation of 'Phoenician' material culture in this period beyond the southern Lebanese sphere is viewed as resulting from Sidonian and/ or (mainly) Tyrian activity. Two cases in point are particularly relevant here:

1) Similarities in material culture traits between regions in the north of present-day Israel (the Galilee Coast, the 'Akko Plain and the Carmel Coast) and south Lebanon have been taken to represent terrestrial expansion to and conquest of the former regions by southern Lebanese polities (Stern 1990; Aubet 2000; Bell 2006: 16, 89; Iacovou 2004).

2) Phoenician containers in Cyprus – most conspicuously of Phoenician Bichrome Ware, which starts to occur there during Cypro-Geometric I (CG I; e.g. Bikai 1987; Gilboa *et al.* 2008) are generally seen as attesting to specifically southern Lebanese (again, mainly Tyrian) commercial enterprises and even colonisation beginning in the 11th century BCE. These are identified as the first steps in more extensive and far-flung westbound initiatives by Tyre/Sidon (e.g. Bikai 1994; Aubet 2000: 80, 85; Bell 2006: 98; and further references in Gilboa 2013).

The first point (purported Phoenician conquests south of Lebanon) has already been dealt with in previous papers (Gilboa 2005; Sharon and Gilboa 2013). Our main argument is that there is no evidence for a transformation from a 'Sea Peoples' to a 'Phoenician' material culture in northern Israel. 'Phoenician' material culture in these regions is not less indigenous than it is in Lebanon, and its gradual development can be followed *in situ* from the end of the Late Bronze Age. It does not attest to any expansion or conquest by northern polities. Therefore the 'Phoenician' cultural sphere in the early Iron Age should be extended southwards to include regions as far south as the Carmel Coast.

What follows is an attempt to re-assess the second point enumerated above – namely the notion that in the Levant, southern Lebanese polities assume *the* leading role in continuing or renascent trade initiatives after the Late Bronze Age. We also claim that the very term 'Phoenician', though heuristically useful to a certain point, becomes a constraining epithet when trade networks in the early Iron Age are investigated. The unfortunate juxtaposition of a loaded historical term, informed by the political realities and agendas of much later periods, with a specific archaeological 'culture' (i.e. a bundle of material culture traits) also confuses other purportedly 'Phoenician' phenomena, but this is beyond the scope of this paper.

In order to try to chart fluctuating commercial contacts through time, an attempt should be made to define with the highest possible accuracy the specific (often competing) polities who partook in regional and interregional exchanges.

Empirically, this investigation is based on evidence accumulating for more than three decades of excavations at Tel Dor on Israel's Carmel Coast, and on spin-off research projects conducted in order to better understand the Tel Dor data. We concentrate on pottery because it is the main surviving material correlate for inter-regional exchanges, and because its origin can be fairly well pinpointed by fabric analysis while its cultural affinities can be mapped by stylistic considerations. The rationale dictating this investigation is that when conducted from a nuanced chronological, regional and – when possible – quantitative viewpoint, such an assessment may shed light on the proportionate involvement of various Levantine regions, and occasionally even specific sites, in overseas trade. It is clear that maritime exchanges usually involved commodities much more important than pottery (and even their contents), many of which would leave no archaeological trace in ordinary cir-

[1] But see, for example, Mederos Martin's and Ruiz Cabrero's (2011) suggestion that Castillo the Doña Blanca on the Bay of Cadiz should be understood as a Sidonian foundation.

cumstances (e.g. Sherratt 2015). However, most ships carried some quantity of ceramics – especially containers – whether part of the main cargo or otherwise, and some of this must have been offloaded at ports-of-call en route. When *direct, extensive and repetitive maritime exchanges occur over relatively short distances*, these phenomena should become visible.

Much of the data discussed here has already been presented in previous publications and therefore is only reviewed shortly, and our emphasis is on new data and on synthesising the results from a long-term perspective.

Dor's early Iron Age in brief

Six chrono-stratigraphic horizons were defined in the early Iron Age sequence at Dor, termed Ir1a *early*, Ir1a *late*, Ir1a|b, Ir1b, Ir1|2, Ir2a – a terminology we advocate as generally applicable for Phoenicia (Gilboa and Sharon 2003). Though there are some differences between these horizons in specifics of material culture (summarised in Sharon and Gilboa 2013), continuity, rather than change, is conspicuous and therefore here we treat the entire sequence as one. In terms of the relative chronology of Israel and Philistia our Ir1a parallels the heyday of Philistine Bichrome ware (excluding the initial monochrome phase, which is thus far unattested at Dor); the Ir1b horizon is roughly contemporaneous with the late 'debased' Philistine Bichrome phase. Thus both of these together constitute what is traditionally called Iron Age IB in Israel (e.g. Mazar 2011: 105). The Ir1|2 is a transitional Iron Age I / Iron Age II horizon, recently dubbed 'Early Iron Age IIA' in Israel (e.g. Herzog and Singer-Avitz 2006; Finkelstein and Piasetzky 2009; Mazar 2011: 107); while the Ir2a is the conventional (i.e. 'Late') Iron Age IIA. Both Ir1|2 and Ir2a should correspond to the beginning of the LPDW (Late Philistine Decorated Ware) in Philistia. Note, however that our 'early Iron Age' sequence probably ends before the end of conventional Iron Age IIA (see below). In absolute terms this is from a certain point in the second half of the 12th / beginning of the 11th century to a certain point in the middle or second half of the 9th century BCE, depending on the ('high' or 'low') chronological framework employed. In Egyptian terms this would mean between some point either in the Late Ramesside or early Third Intermediate Period to the mid-22nd Dynasty, possibly during Osorkon II's reign (see discussion in Waiman-Barak *et al*. 2014: 317–318).

Throughout this chrono-stratigraphical sequence, Dor was a densely-built town (about 8 hectares in extent), fortified during at least most of this duration and exhibiting some of the most monumental public edifices known around the Mediterranean at the time (Sharon and Gilboa 2013). In addition, as we detail below, Dor has produced to date more evidence of inter-regional exchanges than any other early Iron Age site in the Levant during this time. To some extent this picture may be biased due to the relatively large exposures of early Iron Age levels (and to meticulous quantitative analyses of the pottery), compared to the still limited comparative exposures of early Iron Age levels in Lebanon. However, as we argue below, not everything can be attributed to the serendipity of excavations.

Dor's early Iron Age inter-regional exchanges evidenced by pottery

We start our discussion with Phoenician containers in Cyprus, since, as mentioned, they are the most often-quoted index for Lebanese activities abroad in the early Iron Age – whether these are seen as 'colonial' or pre-colonial. In order to start to test this hypothesis, about 50 'Phoenician' containers in Cyprus were investigated by petrographic analysis to determine their provenance. They include mainly Phoenician Bichrome Ware containers, but also other shapes/wares (e.g. small flasks, further discussed below) and they represent the entire Cypriote early Iron Age – LC IIIB to CG III, with one earlier, LC IIIA vessel (details in Gilboa and Goren 2015). These comprise nearly half of the Phoenician containers of these horizons assembled in Bikai's (1987) catalogue, so we consider the sample representative. About 40 of the vessels were demonstrated to be imports from the Levant and about half of these were produced on the Carmel Coast, most probably at Dor, while the other half originates somewhere in southern Lebanon, in the Tyre-to-Sidon stretch. Unfortunately, at present it is difficult to differentiate petrographically between products of the specific sites in the latter area (Sidon, Sarepta and Tyre). Only one of the sampled vessels was clearly produced in another region – somewhere on the 'Akko plain. Most importantly, this study showed that the fifty/fifty situation also applies to Phoenician Bichrome Ware: about half of them were produced on the Carmel Coast and not in southern Lebanon. Thus, in as much as this distinctive ceramic style is taken as the earliest clear index of 'Phoenician' material culture and commercial enterprises, the Carmel Coast has to be included in it.

Dor was not only one of the main suppliers of Phoenician Bichrome containers (and their yet unidentified contents) to Cyprus, but in general, one of the main producers of such vessels in the early Iron Age. Current evidence shows that Phoenician Bichrome at Dor forms a higher proportion of the assemblage than in other Phoenician sites, with the notable exception being Tyre (and not, for example, Sarepta; details in Gilboa *et al*. 2015c). Fabric analysis at Dor has shown that most of

the vessels excavated at the site were produced there, while a minority arrived from sites in the Lebanon (Waiman-Barak 2016; Yuval Goren, personal communication). Clearly, then, the until recently straightforward association between 'Phoenician' containers in Cyprus and Lebanese activities should be reconsidered.

Maritime traffic between Dor and Cyprus is also attested by pottery moving west-to-east. From the Ir1b horizon till Ir2a, Dor produced more Cypriote ceramics than any site outside the island in this time span, with a relative concentration currently only matched at Tyre (details in Gilboa *et al*. 2015c). The raison d'être for this import in not easy to decipher, since much of the pottery comprises (very simple) open shapes and not containers. This hints that we are dealing here with more than simply commercial exchange.[2] Be that as it may, other than at Tyre no such extensive phenomenon is attested in any coastal (or other) Levantine region. This is certainly true of Philistia's extensively excavated sites,[3] while the situation in Syria has yet to come into better focus. Some major sites, such as Tell Kazel and Tell Afis, reveal a rather minimal representation of Cypriote imports (respectively, Yon and Caubet 1992; Bonatz 1998; Mazzoni 2005:12). Others, such as (nearly) coastal Tell Tweini (Vansteenhuyse 2010: figs. III.1:1–3, 5–7; III.5, III.6; Nys and Middernacht 2010) and Amuq sites (e.g. Tell Tayinat, Chatal Höyük) seem to have larger quantities, starting in Amuq Phase O, but apparently still a far cry than those at Dor at Tyre (personal communications from Brian Janeway and Lynn Welton regarding Tayinat and Marina Pucci for Chatal Höyük; cf. Swift 1958: 120–121; Karacic and Osborne 2016).[4] It is also clear that even in other 'Phoenician' sites, such as Sarepta, Tell Keisan and possibly even Sidon (from which information regarding the early Iron Age is still not extensive enough yet), no such phenomenon is attested.

Beyond Cyprus, Dor had extensive maritime contacts with Egypt. The early Iron Age continuum produced hundreds of fragments of Egyptian-made vessels, mostly large containers – jars and amphorae – surpassing anything known from anywhere outside Egypt's borders in this period (Waiman-Barak *et al.* 2014; Gilboa 2015b). In this case, based on currently available data, this phenomenon might be matched at Ashkelon on the Philistine coast and possibly also at 'Akko, but on a much reduced scale. No similar evidence has been forthcoming from any other Levantine site. Egyptian ceramics, other than a handful of examples, are conspicuously absent from early Iron Age sites in Lebanon and Syria. In the opposite direction, Phoenician containers were uncovered in Egypt in Third Intermediate Period contexts – mainly jars, flasks, and Phoenician Bichrome jugs (references in Gilboa *et al*. 2015c: n. 44). These have not been tested, but they are all of types more common in Dor's production than in that of sites further north. In the light of the well-attested contacts with Dor and the lack thereof with sites further north, we suggest that a large portion may well have been produced at Dor and shipped from there. Only future fabric analyses of these vessels in Egypt can corroborate this assumption.

A new study attempting to identify the origin of Canaanite/Phoenician containers found overseas from a long-term perspective (Gilboa *et al*. 2015b) furnishes further clues on the role of the Carmel Coast and the adjacent Sharon coast in early Iron Age maritime exchanges. This study summarised the evidence at hand regarding the origin of Levantine containers, especially transport jars, found overseas from the 14th to the 8th century BCE. It considered only cases where such an origin could be suggested by fabric analysis.

The conclusions were as follows: The most prolific evidence pertains to the LB, mainly the 14th–13th centuries BCE, based on hundreds of 'Canaanite' jars sampled in Egypt (mainly at el-Amarna and Memphis; e.g. Smith *et al.* 2004); Kommos in southern Crete (Day *et al.* 2011); Floor II at Maa-Palaeokastro in western Cyprus (Jones and Vaughan 1988; and possibly also from Enkomi; see Crewe 2007: 124); the Uluburun wreck (preliminarily Goren 2013); and probably Vivara, Italy (Goren 2014). Containers shipped from the Levant in this period originate in rather diverse regions, but these are unequally represented. The lion's share were pro-

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[2] Dor's Cypriote imports are currently studied by Anna Georgiadou.

[3] Some exceptions are the Cypriote Black Slip jugs in the Tell el Far'ah (South) cemeteries; further examples are discussed in Gilboa 1989; 2015a. Recently two genuinely Cypriote vessels have been identified in an earlier (12th-century BCE) context at Ashkelon (Master *et al.* 2015) and surely there must be some more yet unidentified ones among the vast decorated assemblages of Philistia. This does not change, however, the radical difference in the scope of visible exchanges with Cyprus evident in Philistia versus Dor and Tyre.

[4] Since the materials of these and other relevant sites in Syria are currently being processed, a future comparison between quantities, vessel shapes and origin of Cypriote finds (and their contextualization and impact) in Syria and Phoenicia is bound to be instructive. More significant Cypriote ceramic export to the Amuq is first attested later in the Iron Age II (Phase N) *inter alia* by the well-known Black-on-Red containers (e.g. Pucci 2010). The latter, however, embody an altogether different and very specific phenomenon, which is known from many regions of the Levant. For more potential Cypriote imports in Syria in general see Lehmann 2013.

duced in the Southern Levant, more specifically along the coast between the Jezreel Valley/the northern tip of the Carmel mountain range in the north, and the northern Sharon plain to the south. Only a few originate from the coast south of the Yarkon River – the region which will eventually become Philistia. The second largest group(s) originates in the Northern Levant – from the territory of Ugarit in the north to the Akkar plain/north Lebanon fringe in the south. Relatively few jars (mainly on board the Uluburun ship) are of southern Lebanese production.

For the crucial 12th century, regrettably, evidence is scant and inconclusive. Partial data from Maa-Palaekastro Floor I and the LC IIIA levels at Hala Sultan Tekke in Cyprus – altogether only 13 vessels the origin of which could be identified to some degree (Jones and Vaughan 1988; Renson *et al*. 2013; commentary in Gilboa *et al.* 2015b) – show that most (eight) of the vessels originate in the Southern Levant but in as yet difficult-to-determine regions between the Jezreel Valley and the Philistine coast, and another five were produced somewhere between south Lebanon and the 'Akko Plain. For what it is worth, the only Levantine flask analysed by petrography from LC IIIA Cyprus was produced on the Carmel Coast (Gilboa and Goren 2015: Appendix 2, Kouklia 1).

For the subsequent early Iron Age (11th–9th centuries BCE), the only compositional data available are those mentioned above for Phoenician containers in Cyprus – with Dor and the Tyre-Sidon region represented in equal numbers. In this period, hardly any Phoenician-made containers are known west of Cyprus. As mentioned above, they do occur in Egypt but cannot currently be sampled. Significantly, the Syrian coast/northern Lebanon are not represented any more in the fabric analyses, but at least one jar that by its shape must be Syrian is known in Cyprus (Pedrazzi 2007: fig. 3.17:g).

Evidence for the later Iron Age – the second half of the 9th and the 8th century BCE – has been forthcoming for the first time from the copious assemblage of Phoenician transport jars unearthed at Kommos, the largest such assemblage known beyond the Levant (Bikai 2000). Mineralogical and chemical analysis of 20 representative jars and jugs indicates that most of the them originate on the southern Lebanese coast (Tyre-Sidon; of which 13 are identified with this region with certainty and 4 less categorically); one is from the Sharon coast; and two from indeterminate (coastal) regions in the southern Levant.

The caveats of this investigation are obvious (see above). Nevertheless, some interesting patterns have emerged, among which the following three are notable in the present context: First is the near-disappearance of Syrian containers from the data set after the Late Bronze Age, a phenomenon easily understood in the light of the destruction of the main Syrian coastal sites c. 1200 and the subsequent slow demographic and economic recovery of the region (e.g. Akkermans and Schwartz 2004: 358–395; Venturi 2007; but see more below). Second is the importance of commodities shipped in containers manufactured on the Carmel Coast and most probably shipped from this region, as from the Late Bronze Age. (For assessments of the role of this region in maritime commerce in the Late Bronze Age, see also Artzy 2006; Ben Shlomo *et al*. 2011.)

What happened along the Carmel Coast during the 12th century is still unclear, mainly because of the rather insignificant representation of 12th-century BCE containers in provenience studies. But from the moment information is available again (the 11th century BCE), Carmel-Coast-made containers once more comprise an important share (about half) of those known to have been shipped from the Levant overseas. Southern Lebanese containers are relatively well-represented in the various data sets starting in the 11th century BCE. It is only, however, from about the mid-9th to the late 8th century BCE (after which no compositional data are available) that they seem to eclipse all others. From about the mid-9th century and on, the Carmel Coast conspicuously loses its prominent representation among Levantine containers in overseas destinations. In our *Discussion* below we argue that there might be a causative association between the disappearance of Carmel Coast containers from the East Mediterranean scene about the mid-9th century and the 'takeover' by southern Lebanese ones thereafter.

Other lines of evidence regarding Dor's early Iron Age exchanges

Further evidence regarding the scope of Dor's commercial spheres of interaction has been provided by residue analysis of early Iron Age flasks uncovered at the site (Namdar *et al.* 2013). Several of them contained cinnamon, which in this period could have only originated in South or Southeast Asia. The routes through which this precious commodity reached the site are totally unknown, but it is clear that it formed the basis for a secondary industry related to the spice trade, namely of some (unidentified) spiced liquids, which were packed in local flasks and were both consumed locally and at other sites to which these flasks were distributed. The latter include sites in the Levant itself (such as other Phoenician sites and centres in Philistia; Waiman-Barak 2016) and beyond it (Gilboa and Namdar 2015). This trade in pricey liquids probably accounts for the above-mentioned export of small flasks from Dor to Cyprus. Dor was probably not the only Phoenician site that was engaged in the marketing of these (or similar) spiced substances. Similar flasks that were produced in other regions in Phoeni-

cia, including southern Lebanon, are widespread in the Levant and beyond (Gilboa and Goren 2015; Waiman-Barak 2016). Other regions in the Levant, most notably Philistia, also manufactured various small flasks in this period. Currently, however, there is no evidence of any systematic distribution of the Philistine flasks to compare to that of the Phoenician ones.

Lastly we consider Dor's possible involvement in the early Iron Age trade in silver. Starting in the early Iron Age, a dramatic increase in the use of silver is in evidence both in the Levant and in other regions of the Old World (for Egypt, see recent discussion in Jurman 2015). It was used for the production of jewellery, in the form of cut silver (*hacksilber*; known mainly from silver hoards), and more (Balmuth 2001; Thompson 2003; Golani 2013).[5] The Southern Levant has no natural silver ores and silver could have reached this region from any number of locales in Anatolia (the closest sources), Iran and various regions in the central and western Mediterranean, possibly also Egypt.

Israel produced the largest number of silver hoards known to date in the Levant – more than 30 (Thompson 2003; 2007). Five of these hoards belong to the time span considered here – the early Iron Age. Of these, two are from the 'Akko plain ('Akko and Tell Keisan), two are from the vicinity of the Carmel ('En Hofez and Dor), while the fifth is from Ashkelon in Philistia. The Dor hoard is by far the largest known from this time span (Stern 2001; Thompson 2003).

Ancient sources (and modern scholarship) have inexorably linked Mediterranean Iron Age trade in silver with the Phoenicians (Aubet 2001: 44, 80–84, 94, 130–131; 204, 280–281; 339–340; Markoe 2005: xxi, 38, 128, 235, 238, 245–246; *id.* 2015; Thompson 2007: 23–30; Pérez Marcía 2013: 460–465; all with references). Thompson and Skaggs (2013) recently suggested that a combination of Lead Isotope Analysis (LIA) and historical/philological considerations indicates that at least part of the silver in the four early Phoenician hoards originates in Sardinia. Because of the difficulties in using LIA to provenance silver we do not comment here on the conclusions of these scholars. We only note that notwithstanding the question of the specific source of the silver (a large portion of which is probably Anatolian; see Thompson 2007: table 1; 2009) the concentration of four out of five 'early' silver hoards in the 'Akko plain-Carmel stretch must draw our attention to the centrality of these regions in the consumption and probably trade in silver.

Discussion: The role of the Carmel Coast in early Iron Age inert-regional exchanges and how this relates to *Tjeker* 'Sea People' and 'Phoenicians'

Based on the foregoing discussion we re-assert what has been argued at the beginning of this paper. The Carmel Coast, with its main port town at Dor, was one of the most active regions in inter-regional exchanges following the Late Bronze Age collapse. As is well known, the writer of the Wenamun account refers to Dor's inhabitants in the early Iron Age, as *Tjeker/ Skl* (and based on this story the commonest scholarly association of 'maritime *Tjeker*' is with piratical activity). In Amenope's Onomasticon the same term probably refers to a coastal region of the Levant, the exact location of which is not entirely clear (commentary in Gilboa 2005: n. 2). Since *Tjeker* are also mentioned in Ramesses III's Year 8 inscriptions among Egypt's adversaries, they are traditionally perceived as an invading population, originating from some specific faraway geographic region, with some specific ethnic affinity (e.g. Redford 2006–2007; Halpern 2006–2007). In contrast, we have repeatedly argued in the past that the examination of Dor's material culture in the Iron Age (partially summarised above) demonstrates that beyond the local ('Canaanite') substratum, there is mainly a significant Cypriote input, chiefly in local ceramic industries and other crafts such as the production of ivories. The assumption of Cypriote emigrants absorbed at Dor[6] can go a long way to explain the establishment of the close, direct and enduring contacts between Dor and the island. Over and above mere exchanges of goods/commodities these evince various avenues of information flow, and quite possibly some social cohesion (Friedland and Robertson 1990).[7] This is manifested for example by the profile of the Cypriote ceramic import to the site (above) and by the close and *bidirectional* stylistic discourse evident in the similar manner in which specific containers were adorned in both regions (e.g. spouted jugs likely used on socially significant occasions; examples in Gilboa and Goren

[5] For the question whether or not these silver items attest to some 'pre-monetary' economy, see, for example, Thompson 2003; Gitin and Golani 2004; Kletter 2004; Peyronel 2010; Paz García-Bellido *et al.* 2011; all with references to previous studies.

[6] Especially after end of LC IIIA (after the LB/Ir transition in the Levant) and as part of the dramatic restructuring of the island's human landscape between LC IIC and the Geometric period (Iacovou 1994, 2013)

[7] Here, of course, is a classic chicken-and-egg dilemma. Did social bonds bring about material exchanges or vice versa?

2015). The absorption of certain Syrian decorative traditions into Dor's pottery production may indicate that the Dorian conglomerate included people from this region as well (for all these issues see Gilboa 2005; 2006–2007; Sharon and Gilboa 2013; cf. now also Stern 2013).

We also argued that the Dor evidence indicates that what the Egyptians called *Tjeker* should largely be understood as coterminous with what scholarship designates (or should designate) as early Iron Age 'Phoenicians'. Similarly, an examination of the literary record pertaining to the *Tjeker* seems to indicate that this Egyptian term, rather than denoting any specific intrusive 'ethnic' population, was a geographical one, referring to a concrete (yet currently only loosely defined) region or regions and people in the Syro-Phoenician sphere (Goedicke 1975: 176, 180–184; Vandersleyen 1985: 53; Bikai 1992: 135–136; Drews 1993: 53; Gilboa 2005; 2006–2007: 233–234; see recent summary and extensive references in Beyl 2013: 35–46, 64; and Redford 2006–2007 for a diametrically opposed view).

Two main questions should be answered at this point. The most fundamental lingering question relates to the *reasons* for the apparent singularity of the intensive early Iron Age circulation of goods between southern Lebanon and the Carmel Coast especially with Cyprus, when compared to all other coastal areas in the Levant – a question that at present we are unable to answer. But the picture is fairly clear. Though data regarding more northerly Lebanese sites such as Beirut, Byblos and Arwad is too scant to consider, no evidence of comparable networks of exchange is apparent between Syria and Cyprus, nor, for that matter between Syria and Egypt. As mentioned, with the possible yet-to-be-explored exception of Tell Tweini, very few examples of *bona fide* Cypriote ceramics, or of Egyptian pottery, are known from early Iron Age Syria to match the quantities known from Tyre and Dor. Conversely, with the exception of single Syrian jar in Cyprus (mentioned above), no Syrian pottery of any sort is known abroad.

In recent years it has become very clear that the extensive 'Aegeanizing' ceramic assemblages uncovered (and re-studied) in various sites in the Amuq-Cilicia region, partly with Cypriote stylistic affinities (e.g. Janeway 2011; Lehmann 2013; this volume), reveal very few data regarding actual *exchanges*, beyond the initial influx – which to our minds indeed exemplifies new populations reaching Syria from this region (cf. Venturi 2007; Janeway 2014; and see the discussion of the immigration option and a suggestion that Syria and Cyprus *did* engage in prolonged exchanges during the Iron Age in Lehmann 2013: 320–322, 325–326). The reason for this absence could be sought in the demographic/economic crisis in Syria after the disintegration of its Late Bronze Age systems, but this, a priori, is not a good enough explanation. Throughout history, trade relations were maintained by small-scale and simple societies, and examples abound.

The urban centres of Philistia ('traditional' Philistia, south of the Yarkon river), reveal a picture that in many respects echoes the situation in Syria. The extensive Aegeanizing ceramic assemblages there *inter alia* betray Cypriote ceramic traditions, and other specifically Cypriote traits are manifested on other material media in this region. These are most readily evident in Philistia's 'Bichrome Phases', which parallel the beginning of Dor's early Iron Age (Ir1a–Ir1b), but also to various extents in earlier and later horizons (Dothan 1982: 160–172; Killebrew 1998; 2005: 230; Zukerman *et al*. 2007; Yasur-Landau 2010: 262; Maeir *et al.* 2013: 14; Mountjoy 2013; Rutter 2013). Some of the Cypriote traits in the 'Bichrome Phases' have no antecedents in the Levant and therefore either indicate some new population influx from this region, or minimally fresh stylistic impact attesting to continuing contact with Cyprus. Again, however, there is minimal evidence of actual *exchanges* between polities in this region and those in Cyprus (as first clearly described in Barako 2000). Sherratt (1998) suggested that such exchanges can be reconstructed based on postulated invisible commodities, such as textiles, travelling between the two regions. However, following our premise that extensive and prolonged direct maritime commerce should be revealed by at least some pottery that travelled with the ships, the difference between Philistia's exchanges with Cyprus and those of the Carmel to southern Lebanon stretch is striking.

It has been suggested in Gilboa 2005; 2006–2007 that this difference between Philistia and coastal regions to its north may be understood by the difference in the absorption circumstances and social negotiations of the new populations in these various regions vis-à-vis the locals (and other newcomers; for similar approaches, e.g., Maeir *et al*. 2013; Faust 2015). The disappearance of the Egyptians from their Canaanite holdings meant that newcomers to Philistia faced a very unstable social reality. Old elites lost their support and perhaps legitimacy, and agricultural land formerly belonging to Egyptian Crown and temples where left for the taking. Newcomers, therefore, managed to rapidly become part of the landed elite, and broadcasted their status and identity by locally producing conspicuously foreign-looking pottery.

Admittedly, however, this reconstruction does not explain why no intensive commercial contacts were forged between the Philistine centres and Cyprus, comparable to those well-attested at Dor and at Tyre. It is quite clear that at least part of the new emigrants to

Philistia's sites, similarly to the situation at Dor, originated from this island (see above) and must have possessed a good knowledge of maritime routes and the island's economic potential, and possibly to a certain extent maintained kin-based communication with Cyprus. Why was connectivity in the Philisto-Cypriote case – which is apparent at least to some degree – not translated into any meaningful circulation of commodities (cf. Appadurai 2010)?

The difficulty in comparing processes on the Philistine coast to those in the Carmel/Sharon region is exacerbated by the fact that in general, early–mid-12th-century occupational levels (i.e. coeval with the 'Philistine Monochrome' stage) have either not been identified in the latter, or are not well defined, such as at Tel Zeror, Dor, Shiqmona and Tell Abu-Hawam; while Tel Nami, just north of Dor, clearly ceased to function after the early 12th century BCE (Artzy 2006: 51).

The second consequent question relates to the role of the Carmel Coast in later Iron Age Mediterranean trade. If, as we maintain, this region was so important in Eastern Mediterranean maritime exchanges in the early Iron Age; and if, as we and others have argued, the specific centres-of-initiation of later Iron Age maritime westbound activities ('Phoenician expansion') were those in which maritime traditions, know-how etc., were preserved after the Late Bronze Age collapse; and if early Iron Age Cypro-Phoenician interactions were central for these later activities (for these latter two issues, see for example Niemeyer 1990; Aubet 2000: 78–90; Bell 2006: 113; Kourou 2012); why did Dor, and the Carmel/Sharon Coasts in general, drop out? Why did no memory of Phoenician Dor make it into the Greek and Latin traditions? Why do we not hear about 'Dorian' activity in the West?

This question, we believe, is one that we are now in a position to answer. A recent study of the Tel Dor sequence (Gilboa *et al*. 2015a) shows that at a certain point around the mid-9th century BCE, the *Tjeker*/Phoenician town was replaced by a new administrative centre. While there is no unambiguous evidence that this change was violent, it was nevertheless very radical. None of the earlier buildings were left intact. Moreover, the entire character of the site was transformed. Instead of an intensely populated town, where dwellings crowded the (few) public structures, the new centre had large public buildings and wide open expanses. If the town had any residential districts, no private houses were found in any of the excavation areas. This transformation was accompanied by a dramatic change, and indeed near total disappearance of all the ceramic categories that previously were exchanged between Dor and other regions. No Phoenician Bichrome or any other 'Phoenician' containers are produced any more at the site, and concomitantly, of course, they are not shipped anywhere. There are no Egyptian jars any longer, and the import of Cypriote ceramics diminishes drastically. Dor also lacks any impressive quantity of Greek (Euboean and Attic) ceramics, to compare to that uncovered at Tyre (though unfortunately mostly out of context; see Bikai 1978; Coldstream 1988). By typological considerations, most of these hundreds of fragments at Tyre, starting with Attic Middle Geometric and Euboean Sub-Proto-Geometric II–III and continuing into the Late Geometric period, should date from *after* Dor's early Iron Age sequence. This may provide another indication of the town's diminished maritime contacts (and from this period and on – a divergence versus Tyre in this respect).

Somewhat later, the Dor ceramic assemblage loses its 'Phoenician' association altogether and – in a process that is currently not very well defined – becomes indistinguishable from that of sites of the Northern Israelite Kingdom. In the 8th century BCE it is very different from that of the 'Akko plain and southern Lebanon.

We suggest that the confluence of evidence (transformation from commercial town to administrative centre, the virtual end of overseas contacts and the 'Israelisation' of the ceramic repertoire) is best explained by a takeover of the Carmel and Sharon regions by the Northern Israelite Kingdom. (Note that according to the bible such an event must have occurred earlier, in the 10th century BCE or even before, as an 'Israelite' province of Dor is mentioned in the list of Solomon's governors.) Whether this is the correct explanation for Dor's reduced commercial importance after c. 850 BCE or not, the cessation of its involvement in overseas ventures was probably one of the factors that paved the way for the era of prominence of the southern Lebanese polities.

To conclude, when extensive westward Phoenician expansion began in the course of the second half of the 9th century BCE, ex-Phoenician/*Tjeker* Dor was inconsequential. But its commercial prominence prior to that date should be taken into any consideration of the mechanisms by which Lebanese polities, especially the main southern ones – Tyre and Sidon – became central for Mediterranean commerce in the Iron Age.

Beyond, however, charting the way we think the Carmel Coast should be integrated into the maritime history of the Levant and the Mediterranean in the Late Bronze/Iron Age transition, many questions have not been dealt with here and should be in the future: What other, and as argued above, more important goods were accompanied by the travelling pottery? What were the mode(s) of exchange? Did the differential involvement of the various Levantine regions in maritime exchanges have anything to do with localised effects of the en-

vironmental crisis of the late second millennium BCE (recent summary in Kaniewsky *et al*. 2015) and/or with the diverse ways specific societies may have responded to and recovered from this crisis (Riehl 2009)?

Notwithstanding all these unknowns, if the rough reconstruction of events and processes proposed here is viable, there is also a small lesson in it. We do not intend to undermine here concepts of a permanently-connected Mediterranean, with modes of interactions shaped mainly by fragmentation into micro-agro/ecological regions and other factors of *structure* (Horden and Purcell 2000; Broodbank 2013). But we do argue that when commercial contacts are investigated from a nuanced geographical and chronological point of view, not only have cultural factors to be considered (as argued by many; e.g. Panagiotopoulos 2015 with references), but there is no escaping the decisive, and most interesting consequences of *histoire événementielle*.

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The Late Bronze to Early Iron Age Transition in Transjordan – Between Tradition and Innovation: Evidence of Migration at Tell Abu al-Kharaz, Jordan Valley?

Teresa Bürge

Abstract

The discovery of an exceptionally well-preserved early Iron Age compound of the occupational Phase IX at Tell Abu al-Kharaz in the Jordan Valley shed light on the hitherto scarcely known regional and, to an even higher extent, interregional contacts in the Transjordanian Jordan Valley during this period. The compound offers the possibility of a better understanding of the transition from the Late Bronze to the Iron Age in this region, in specific as regards continuity versus occupational breaks and cultural discontinuity and innovations.

The early Iron Age pottery and other finds at Tell Abu al-Kharaz indicate a high degree of continuity from the Late Bronze Age. On the other hand, there are a number of innovations, which reflect an amalgamation of new, foreign, and traditional, local traits. This combination of continuity and innovation is consistent with finds from other sites in the Jordan and the Jezreel Valleys. Foreign traits, which are visible in the material culture of Phase IX, are mainly from the Eastern Mediterranean, Cypriot and Aegean spheres of culture. There are a number of Phoenician imports, whereas the Egyptian influence is negligible. Western traits are reflected in fine ceramic wares and small portable objects, which were most likely traded, together with objects which were locally produced. These include new types of cooking pots and loom weights, which indicate changes in cooking and dietary habits, and in domestic textile production.

Introduction

Tell Abu al-Kharaz is a 12 ha mound in the central Jordan Valley, 5 km east of the Jordan River and just north of the perennial Wadi al-Yabis (today Wadi ar-Rayyan). The site is located close to or on the ancient trade route through the Jordan Rift Valley between the Sea of Galilee in the north (c. 35 km distant) and the Dead Sea in the south (c. 70 km distant; Fig. 1). The eastern end of the road from the Jordan Valley through the Jezreel Valley to the approximately 80 km distant Mediterranean is just north of Tell Abu al-Kharaz. The favourable position of the site stimulated travelling and trade from the site to various regions of the Eastern Mediterranean and vice versa throughout all settlement periods, i.e. from the Early Bronze Age IB (approximately 3200 BCE) to the Iron Age IIB/C, approximately the end of the 8th century BCE (Fischer 2006, 2008, 2013).

A large and exceptionally well-preserved early Iron Age compound at Tell Abu al-Kharaz (Fischer 2012b, 2013; Fischer and Bürge 2013a, 2013b; Bürge 2015; forthcoming) offers the possibility of a better understanding of the transition from the Late Bronze to the Iron Age in this region, in particular as regards continuity versus occupational breaks and cultural discontinuity and innovations. The aim of this paper is to discuss possible evidence of migration to Tell Abu al-Kharaz in the early Iron Age and connections to the Sea Peoples phenomenon, i.e. migration movements in the Eastern Mediterranean in the 12th century BCE and beyond.

The material evidence

The earliest Iron Age occupation at Tell Abu al-Kharaz, i.e. Phase IX of the occupational sequence of the site, is mainly attested in Area 9 in the southern part of the tell (Fig. 2), where a 46 m long and 8 m wide compound was excavated. It is built against the city wall and consists of 21 rooms of standardized sizes, approximately 3–3.5 m × 3.5–4 m (Fig. 3). They are pairwise arranged, with small doorways between the two rooms, one to the north and one to the south, of the same pair. The easternmost three rooms did not have a room to the north, as the raising bedrock in the north-east did not provide enough space. The contexts inside the compound were sealed by a roughly one metre thick layer of secondarily fired mudbricks and debris from the collapsed upper storey including stones, carbonized wood and ash. The nature of the find contexts clearly indicates that the building and its contents were exposed to fire. In general, there are no passages in the stone walls,[1] partly

[1] Only the westernmost pair of rooms, Rooms 1 and 2, could be entered from the exterior via a doorway leading into Room 1.

Fig. 1 Map of the Southern Levant with sites mentioned in the text

Fig. 2 Air photograph of Tell Abu al-Kharaz surrounded by the dust road (12 ha; October 2014)

preserved to a height of 2 m, leading to the exterior. Therefore, this structure is interpreted as a basement, which could be reached from above via ladders. The upper storey was built of mudbricks judging by the large amount of such bricks in the debris, which covered the basement.

The rooms contained more than 200 complete or almost complete ceramic vessels, in addition to metal and bone objects, alabaster vessels and other stone objects, and textile production tools. Several clay ovens and a clay silo were also found in the compound. A large amount of carbonized organic remains, such as wheat, barley, millet, chickpeas, lentils, olive stones, barley flour and possibly the remains of dried olive oil,[2] was preserved in vessels or spread on the floors. The number of storage jars suggests that the structure was used for storage. However, other vessel types, especially cooking pots, but also kraters, jugs, juglets and bowls are also well represented.

Absolute chronology

The absolute chronology of the Iron Age periods at Tell Abu al-Kharaz dating from the 12th century to the 7th century BCE and thus including Phase IX has been published and intensely discussed elsewhere (Fischer 2013: 516, table 83; Wild and Fischer 2013; also Fischer and Bürge 2013a: 156–158). Consequently, only a summary will be presented here. Due to the favourable find situation of the contexts of the Phase IX compound in Area 9, plenty of short-lived samples

[2] Residue analyses will be carried out by Dr. Abdulraouf Mayyas, of the Hashemite University, Jordan.

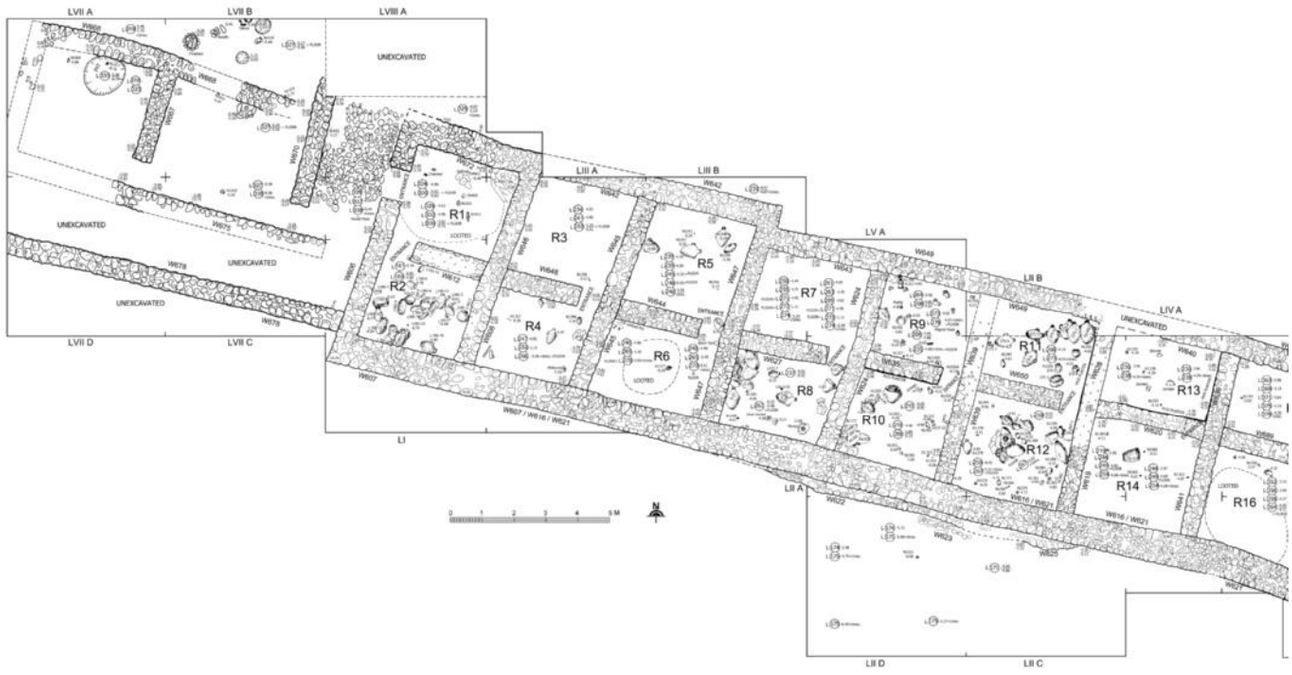


Fig. 3 Plan of Areas 9 (cell-plan compound) and 10

were collected from floors and from the contents of in situ vessels.

A total of 44 Iron Age samples, of which 17 stem from short-lived Phase IX material, were radiocarbon-analysed (Table 1). Fifteen samples derive from the Phase IX compound in Area 9: thirteen samples are from the basement and two from the upper storey. Thus, all the samples from Phase IX, Area 9, derive from a single destruction event. There is an additional radiocarbon-analysed sample from a Phase IX context but from Area 7 in the northern part of the tell. Two dates were retrieved from the following (more recent) Phase X in Area 9. Table 1 also includes an outlier from the basement of the Phase IX compound in Area 9.

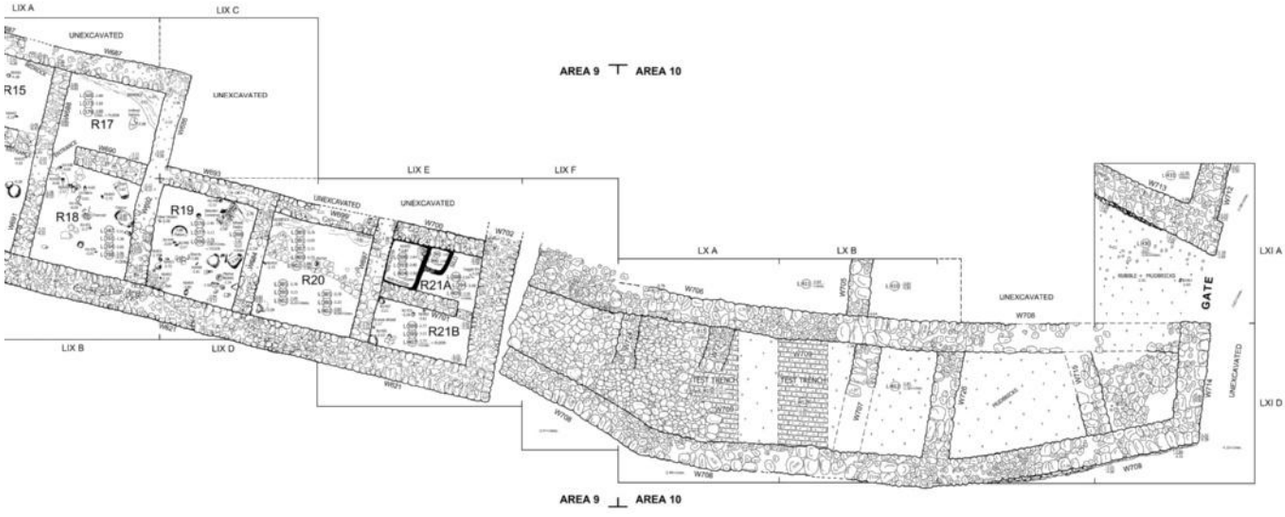
From samples, which were dissolved in the pretreatment process, humic acids were used for radiocarbon dating (samples marked with HS). The potential of humic acids for radiocarbon dating has been proven in a recent study where the results from standard dating procedures were compared with those from humic acids from the same samples (see also Wild *et al.* 2013): the results demonstrated largely identical dates.

The calibration plot of the combined ^{14}C data from Phase IX generated with Oxcal 4.1 can be studied in Figure 4. The calibrated and uncalibrated ages of the samples are shown in Table 9.01. The combined data of the uncalibrated ages yield a very precise ^{14}C age of 2917 ± 10 years BP. Unfortunately the calibration curve in the time period between roughly 1130 and 1050 BCE is rather flat and exhibits some wiggles. Thus, the uncalibrated high precision age does not provide calibrated dates of the same precision.

The calibration programme Oxcal, versions 3.10 (Bronk Ramsey 1995) or 4.1 (*id.* 2001), and the calibration curve IntCal 09 (Reimer *et al.* 2009) were utilized for the calibration. In summary, on the basis of 95.4% (2σ) probability, the destruction of Phase IX occurred between 1193 and 1049 BCE. If the probability is reduced to 68.2% (1σ) the time span of the destruction can be narrowed to 1128–1055 BCE. If both 2σ and 1σ probabilities are taken into account, the destruction cannot be dated later than around 1050 BCE.

Relative chronology

The relative chronological sequence and parallels to other Southern Levantine early Iron Age sites are discussed in detail elsewhere (Bürge 2015: 319–334; forthcoming). In general, Iron Age I shapes have a long



(reused Early Bronze Age defence system), Phase IX

life-span and it is often difficult to distinguish Iron Age IA/early Iron Age I from Iron Age IB/middle or late Iron Age I types.[3] One of the criteria to distinguish these periods is the presence of Philistine Monochrome/ Bichrome pottery in earlier strata and its absence or the transformation of this ware into 'degenerated' forms in later strata (Dothan 1982: 70–80, 149–153; Finkelstein *et al.* 2000: 265). However, even at a well-stratified site, such as Megiddo, it is not clear if such a subdivision is valid (Harrison 2004: 12). Arie (2006: 223) discounts the possibility of a distinction between Megiddo Strata VIA and VIB which is solely based on Philistine wares. Another nearby, well-stratified site is Beth-Shean, the Iron Age I assemblages of which can be distinguished by the presence of Egyptian and Egyptianizing pottery in the early part of this period (Strata S-4 and S-3, Lower Level VI), whereas the later Iron Age I periods lack Egyptian influence (Stratum S-2, Upper Level VI; Panitz-Cohen and Mazar 2009: *passim*; Panitz-Cohen 2013). This situation corresponds well with the historical evidence, as the demise of Egyptian domination coincides with the disappearance of Egyptian material culture. However, an Egyptian influence was never clearly perceptible at Tell Abu

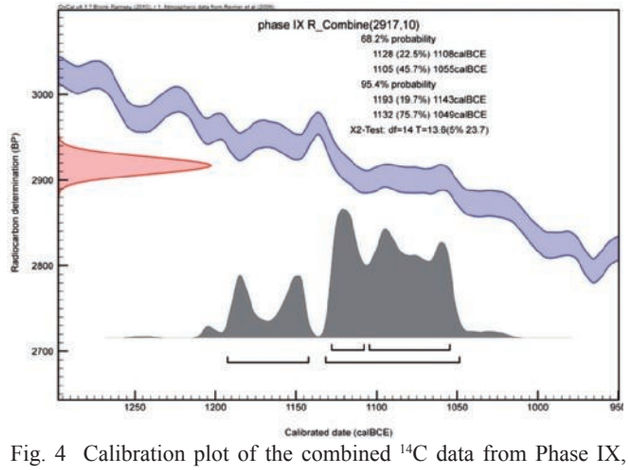


Fig. 4 Calibration plot of the combined ^{14}C data from Phase IX, Area 9 East, generated with OxCal4.1. The calculated mean value, the calendar time ranges with their respective probabilities and the result of the $\chi 2$ test are displayed in the plot (by E.M. Wild)

[3] Finkelstein and others prefer a subdivision of the Iron Age I into three periods: early, middle and late (Finkelstein and Piasetzky 2011: 50).

Lab. No.	Material	Area/Locus	δ13C (‰)	14C BP	Calibrated 2σ			Phase
VERA-5266HS	twigs	9/160	–27.6±1.0	2890±40	1220BCE	–92,60%	970BCE	IX
					960BCE	–2,80%	930BCE	
VERA-5266HS_2	twigs	9/160	–29.0±1.0	2880±40	1210BCE	–95,40%	920BCE	IX
VERA-5267HS	grain-twigs	9/160	–24.9±1.1	2925±40	1270BCE	–95,40%	1000BCE	IX
VERA-5268	twigs	9/160	–25.4±1.2	2940±40	1270BCE	–95,40%	1010BCE	IX
VERA-5268HS	twigs	9/160	–29.6±1.8	2865±40	1200BCE	–95,40%	910BCE	IX
VERA-5544HS	twigs	9/208	–23.5±1.5	2900±35	1260BCE	–1,70%	1230BCE	IX
					1220BCE	–93,70%	970BCE	
VERA-5545	twigs	9/219	–26.8±2.8	2855±35	1130BCE	–95,40%	910BCE	IX
VERA-5545HS	twigs	9/219	–17.9±1.8	2955±35	1300BCE	–95,40%	1040BCE	IX
VERA-5546	chickpeas	9/237	–24.5±1.9	2920±35	1260BCE	-5,50%	1230BCE	IX
					1220BCE	-89,90%	1000BCE	
VERA-5546HS	chickpeas	9/237	–22.3±1.3	2920±35	1260BCE	-5,50%	1230BCE	IX
					1220BCE	-89,90%	1000BCE	
VERA- 5550	millet	9/267	–7.2±1.7	2985±40	1380BCE	–95,40%	1050BCE	IX
VERA-5550HS	millet	9/267	-6.4±1.7	2915±35	1260BCE	-4,30%	1230BCE	IX
					1220BCE	–91,10%	1000BCE	
VERA-5547HS	seeds-twigs	9/239	–26.0±0.8	2960±35	1310BCE	–95,40%	1050BCE	IX
VERA-5548	grain	9/244	–25.9±1.1	2940±35	1270BCE	–95,40%	1020BCE	IX
VERA-5548HS	grain	9/244	–26.7±1.1	2895±35	1220BCE	–95,40%	970BCE	IX
VERA-5078HS	twigs	7/38	–25.7±0.6	2875±40	1210BCE	–95,40%	920BCE	IX
VERA-5270HS	twigs	9/164	–26.9±0.7	2880±35	1210BCE	–95,40%	930BCE	X
VERA-5271HS	twigs	9/165	–28.2±2.9	2800±35	1050BCE	–95,40%	840BCE	X
VERA-5269HS	charcoal	9/160	–27.1±2.0	3455±35	1890BCE	–95,40%	1680BCE	Outlier

Table 1 Nineteen radiocarbon datings: Phase IX (16), Phase X (2), and one outlier from Phase IX (after Wild and Fischer 2013: 460, table 75A)

al-Kharaz (see also below) nor at many other sites in Transjordan. In addition, the fact that early Iron Age pottery is characterized by regionally distinct pottery assemblages (Mazar 2015: 5; Herr 2015: 97) does not facilitate a synchronisation of sites in different areas of the Southern Levant.

Common early Iron Age shapes attested at Tell Abu al-Kharaz, Phase IX, include rounded and s-shaped or carinated bowls, handle-less kraters with high carination, multi-handled carinated kraters with 12 (and possibly more) handles, open handle-less cooking pots with rounded bases and folded over, triangular rims, closed-shaped cooking jars, goblets with globular and piriform body, dipper juglets, jugs and jars with rounded or biconical bodies, storage jars with ovoid bodies or with pronounced shoulders, Phoenician type lentoid flasks, pilgrim flasks with cup mouths and pyxides of different shapes (see selected local pottery types in Fig. 5). This assemblage can thus be dated to the Iron Age IB (see comparanda, e.g., in Mazar 2015).

A fairly good chronological indicator is a bichrome decorated globular jug imported from Phoenicia (Fig. 6:6), which may give a terminus post quem.[4] The development and relative chronology of jugs of Phoenician Bichrome ware is well known (Birmingham 1963: 37; Culican 1982; Bikai 1978: 37–39; *ead.* 1987; Anderson 1990; Núñez Calvo 2008). The Phoenician globular jug as attested at Tell Abu al-Kharaz, Phase IX, de-

[4] One has to be aware of the risk of circular argumentation: although the Phoenician sequence is fairly well established, its chronology is very much dependent on the Cypriot chronology which to a certain extent relies on the Aegean chronology which again depends on the chronology of Cyprus and the Levant.

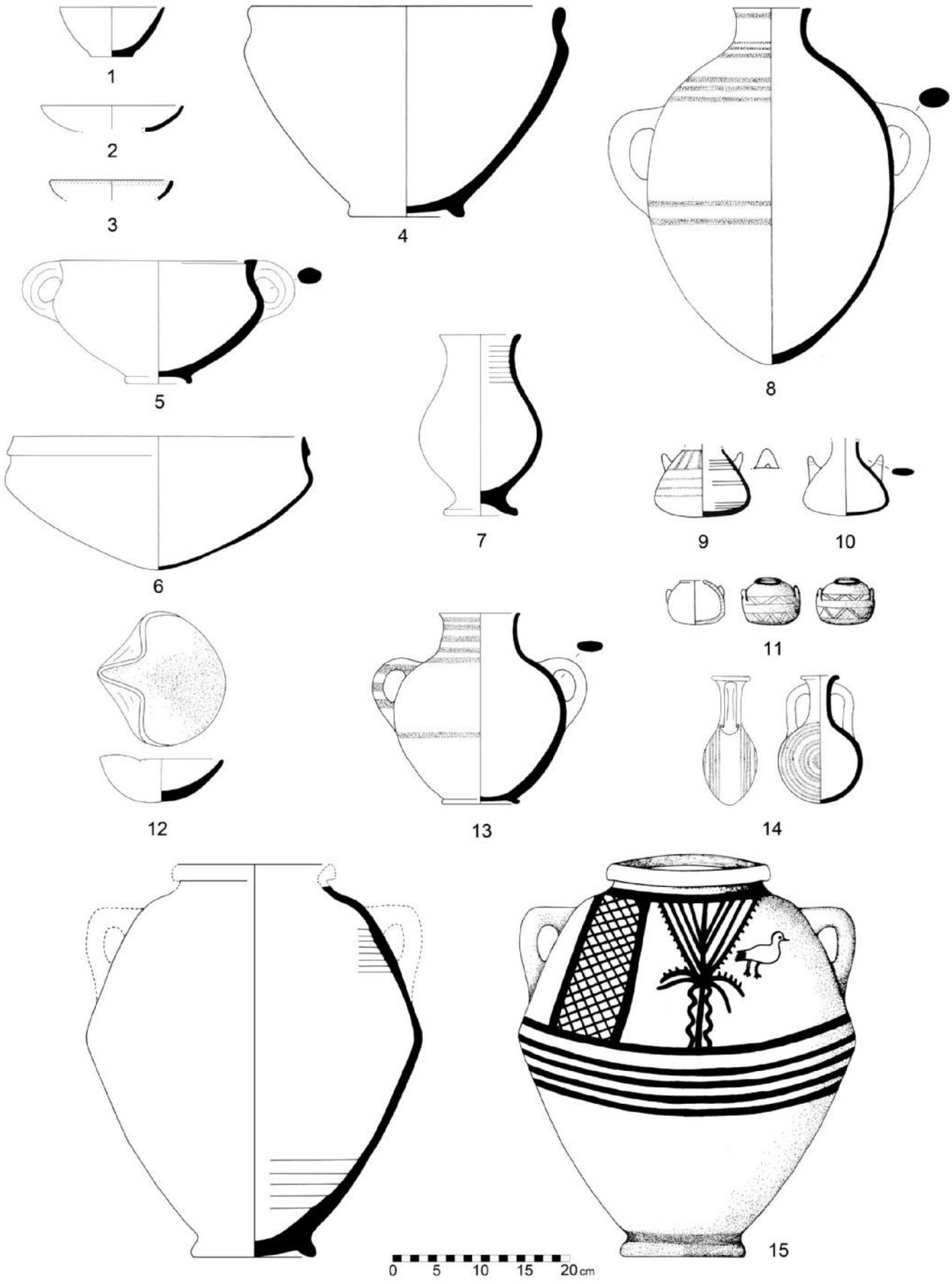


Fig. 5 Selected finds from Tell Abu al-Kharaz, Phase IX

veloped from the two-handled lentoid flask (Anderson 1990: 43–47) and corresponds to Stage B of the classification and formation of this type of vessel according to Núñez Calvo (2008). The earliest examples of the globular jug, which only later develops a low ring base (*ibid.*: 25, fig. 4) are from Tyre, Stratum XIII/I (Bikai 1978: 38, table 8A.b; pl. XXXIII:25), from Yoqneʿam, Stratum XVII (Zarzecki-Peleg *et al.* 2005: 325–327), Megiddo, Stratum VIA (Arie 2006: 205, fig. 13.22), Tell Keisan, Levels 9a–b (Briend and Humbert 1980: pl. 62:4–6), and Tell Abu Hawam, Stratum IV (Hamilton 1935: 9, fig. 14; pl. XIV:158).

However, the majority of these strata are dated after 1050 BCE if we use the 'Low Chronology' (e.g. Finkelstein and Piasetzky 2011). The same strata are dated into the first quarter of the 9th century BCE if the 'Ultra Low Chronology' is applied (Gilboa and Sharon 2003: 55, table 21). Therefore, both the 'Low Chronology' and the 'Ultra Low Chronology' do not match the evidence from Tell Abu al-Kharaz considering the lowest (!) possible radiocarbon date of the destruction of the compound, viz. 1050 BCE. This date is the combined result of the radiocarbon-dating of 15 short-lived samples which were retrieved from the interior of complete vessels standing on the floors of this building which collapsed during a single event and which was not disturbed prior to its excavation in 2010–2012 CE.

The Late Bronze Age 'crisis' in the Southern Levant

The final part of the Late Bronze Age, roughly 1400–1200 BCE, is often labelled the 'international period' or 'the age of internationalism' or 'globalism' (e.g. Killebrew 2005a: 21–49; 2014; Aruz *et al.* 2008, 2013; Fischer *et al.* 2015; Pfälzner 2015). It is characterized by extensive trade networks and far-reaching cultural contacts throughout the Eastern Mediterranean and beyond, the latter of which includes central Europe (e.g. Jung and Mehofer 2006), the Western Mediterranean (e.g. Vianello 2005) and Mesopotamia (e.g. Aruz *et al.* 2008, 2013). During this period the Levant was controlled by two mighty kingdoms: Hatti to the north and Egypt to the south.

The demise of the Late Bronze Age societies in the Eastern Mediterranean had multiple causes, which are discussed in several papers of this volume. The period between the end of the Late Bronze Age and the beginning of the Iron Age is characterized by political and social changes in combination with the effects of climatological and other natural deviations. In the face of this plethora of events it is difficult to distinguish between the main causes of the changed conditions, the triggers which started these changes, and the consequences of the changes.[5] Processes of collapse and transformation have been discussed at length (e.g. Renfrew 1979; Liverani 1987) and are yet difficult to fully understand. The events, which are archaeologically and historically recorded in the Southern Levant, include a number of destruction layers starting around 1200 BCE and continuing in the 12th century BCE. These were contemporaneous with the waning power of Hatti and Egypt, which eventually resulted in their withdrawal from the Levant. At the same time, the rupture of long-distance trade, migration and the settlement of newcomers in certain regions was followed by a reorganisation of social structures (Deger-Jalkotzy 1995, 1998; Yasur-Landau 2010: 60–96; cf. also Renfrew 1982), and by economic and technological changes. The settlement of one of the groups of the 'Sea Peoples', the Philistines, who are mentioned and depicted at the mortuary temple of Ramesses III, and the appearance of new groups, for instance the Israelites, are amongst the most debated issues in the archaeology of the early Iron Age in the Southern Levant.

The evidence for other groups of 'Sea Peoples' in the Southern Levant is more fragmented. Aegean-style pottery, i.e. 'locally made Mycenaean IIIC', which was often produced in Cyprus (Mommsen *et al.* 2011) and 'foreign' so-called Hand-made Burnished Ware (Pilides 1994; Lis 2009; Boileau *et al.* 2010), were found along the coast of the Northern Levant (e.g. Badre *et al.* 2005; Jung 2006, 2007, 2012; Janeway 2011, 2013, 2017; Lehmann 2013; Pucci 2013) and in Anatolia (e.g. Sherratt and Crouwel 1987; Gates 2013; also Lehmann in this volume). These groups of pottery are often connected with the influx of immigrants, on which the present author agrees, especially as Hand-made Burnished Ware is concerned, because it is highly unlikely that such an unattractive ware was traded.

Mainly on the basis of later Egyptian texts (i.e. the Onomasticon of Amenope, and the Wenamun tales) and non-contemporaneous biblical records (Old Testament) various locations have been suggested for other groups of the Sea Peoples: the Shekelesh/Sikil at Tel Dor and its surroundings (Stern 2000, 2013, 2014);

[5] A good overview is provided by Knapp and Manning (2016), which also points at the problems and desiderata for understanding this period.

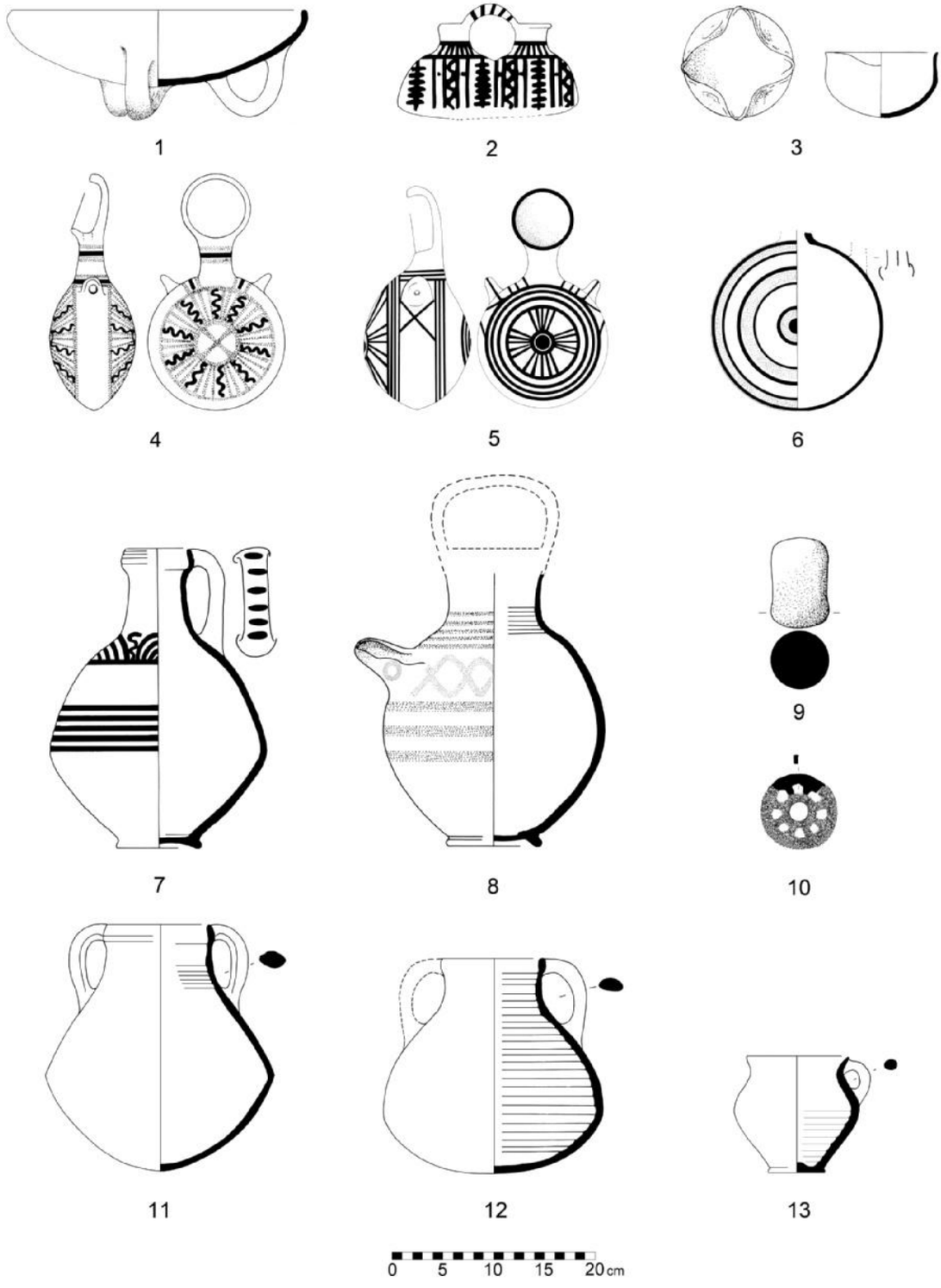


Fig. 6 Selected finds from Tell Abu al-Kharaz, Phase IX (1–12) and cooking jug from Hala Sultan Tekke, Stratum 1 (13)

the Sherden at Akko (Dothan 1986; Zertal 2001); and the Denyen at Tel Dan (Yadin 1968, 1991; Margalith 1994: 91–124). Other hypotheses, which are more relevant to Tell Abu al-Kharaz, point to the presence of 'Sea Peoples' in the Jordan Valley (McGovern 1994) and Transjordan in general (Pritchard 1968; Tubb 1988, 1995, 2000; Kafafi 2009). All these hypotheses are mainly based on historical considera-

tions, whereas firm archaeological evidence is missing. In fact, what has been interpreted by Tubb as evidence of 'Sea Peoples', who according to his theory served as mercenaries in the Egyptian army in the Jordan Valley, rather hints at a strong Egyptian presence at Tell es-Saʿidiyeh (Negbi 1991, 1998; van der Steen 2004: 67–68). The main difficulty in understanding the Sea Peoples phenomenon is that there is very little more known about these peoples than what can be interpreted from the Egyptian records and documents from Ugarit (see compilation with references by Knapp and Manning 2016: 118–120; Fischer, this volume).

The transition from the Late Bronze to the Iron Age at Tell Abu al-Kharaz and surroundings

The latest Late Bronze Age settlements which correspond to Phases VII (LB IB/C) and VIII (LB IC) at Tell Abu al-Kharaz are only fragmentarily preserved, mainly because of later encroachments. One of the few well-preserved remains from Phase VII is a temple. The associated finds, which include Cypriot imports of Base-ring I and early and mature White Slip II wares and elaborated locally produced ceramics (Fischer 2006: 140–157), indicate a relatively wealthy population with far-reaching contacts. In contrast, the nature of the settlement of the following Phase VIII is difficult to assess. It seems that this phase lasted for a rather short period of time (*ibid.*: 347), viz. until roughly 1300 BCE, after which an occupational lacuna followed. This lacuna lasted until the appearance of new settlers in the early Iron Age Phase IX.

The transition from the Late Bronze Age to the early Iron Age in the Southern Levant west of the Jordan River has been extensively discussed elsewhere (see e.g. the summary in Killebrew 2014 with further references). It should be stressed that the territory of today's Israel is one of the archaeologically most intensely exploited regions worldwide, whereas Jordan, in general, is more sparsely excavated. This often leads to a tilted view in publications (see also Herr 2014: 658), and definite conclusions concerning this period in Transjordan cannot and should not be based on the evidence from Cisjordan alone. Therefore, the following discussion will focus on the evidence from Transjordan, supported by the records of some Cisjordanian sites with comparable finds, which are close to Tell Abu al-Kharaz.

At Tell Deir ʿAlla, approximately 23 km south of Tell Abu al-Kharaz, there is an occupational break between the Late Bronze and the Iron Ages. The site was occupied at least until the beginning of the 12th century BCE: A faience vase with the cartouche of the last 19th Dynasty Queen Tewosret (c. 1188–1186 BCE according to Kitchen 1987; see Franken 1992: 31, fig. 3-9:5; van der Kooij 2006: 222, fig. 18) was found in Phase E, which provides a terminus post quem for the destruction of the final Late Bronze Age occupation (van der Steen 2008a, 2008b). Phase E was destroyed by fire, which may indicate a violent break between the Late Bronze and the Iron Ages.

A similar case is Tell es-Saʿidiyeh, approximately 15 km south of Tell Abu al-Kharaz, which at that time was an Egyptian outpost (Fischer forthcoming): It was occupied until approximately 1150 BCE. After an occupational gap of roughly 100 years, it was reoccupied in the mid-11th century BCE (Tubb and Dorrell 1991: 69; *iid.* 1993: 56–61). The cemetery of Tell es-Saʿidiyeh was used from the later part of the Late Bronze Age to the beginning of the Iron Age, i.e. roughly in the 13th and 12th centuries BCE (Period 1), and from the Iron Age IB–IIA (Period 2; Green 2009: 82–83). There are clear differences as regards the status of the buried: The Period 1 burials reflect a relatively wealthy society, whereas later there is a decline in the amount of burial objects and there are less valuable materials and imports (*ibid.*: 84–89). Green explains this decline with either an absorption of the Period 1 elites into the local population, after the Egyptians lost control of the Transjordanian Jordan Valley, or the abandonment of the site by these elites (*ibid.*: 89).

Pella, 6 km north of Tell Abu al-Kharaz, was most likely still under Egyptian influence in the 13th century BCE, which is expressed in the material culture (Bourke 2012: 174; contra van der Steen 2002: 216–217; 2004: 301–302). According to the interpretation by Smith and Potts (1992b) the occupation is attested until the end of the Late Bronze Age, approximately 1200–1150 BCE, or somewhat later in the 12th century BCE (Smith and Potts 1992a: 100). According to Bourke (2012: 184) the occupation lasted even longer, that is until the mid-11th century BCE, thus including the first half of Iron Age I (*ibid.*: 184). The earliest Iron Age occupation seems to be characterized by continuity in Late Bronze Age ceramic forms, which, however, are manufactured to a 'lower' level of workmanship (*ibid.*: 183–184). After a site-wide destruction, there is only a squatter occupation of an impoverished settlement until approximately 950 BCE, when Pella experienced a redevelopment (*ibid.*: 184).

In a recent publication, chronological comparisons between various phases of occupation of the adjacent sites of Tell Abu al-Kharaz (see above) and Pella were carried out. These are based on 19 radiocarbon dates

from Pella Phases 1–5 (Fischer 2013: 461–463).[6] The Pella samples cover roughly the end of the Late Bronze Age and the first half of the Iron Age. As the crucial period discussed in this paper is concerned, Tell Abu al-Kharaz Phase IX corresponds to Pella Phase 3, and Tell Abu al-Kharaz Phase X to Pella Phases 3–4 (*ibid*: 462–463).

Also at Beth-Shean, located 15 km northwest of Tell Abu al-Kharaz west of the Jordan River, the Egyptian presence is clearly visible in the material culture of the final Late Bronze Age and initial early Iron Age strata (Martin 2009; Mazar 2011). The town was destroyed around 1140/30 BCE but reoccupied again. The settlement of the early 11th century BCE is characterized by the reuse of earlier structures without any Egyptian influences (Mazar 2009a).

Tel Rehov, located approximately 5 km from Beth-Shean, was under Egyptian control at least until the end of the 13th century BCE (*id.* 2013: 222–223). It is not clear from the preliminary publications (e.g. Mazar *et al.* 2005; Mazar 2013) whether the transition from the Late Bronze Age to the early Iron Age was accompanied by violent destruction or not. The early Iron Age material culture of the 12th to early 10th centuries BCE is mainly characterized by continuity of Canaanite traditions. However, spool-shaped loom weights and a small number of 'Mycenaean IIIC' sherds were found in 12th–11th centuries BCE strata (Mazar 2007: 574, note 4; 2013: 223), which may – according to the excavator – hint at limited presence of people from the Mediterranean or Aegean.

In addition to sites close to Tell Abu al-Kharaz, two more sites, which are located at some distance in the Transjordanian highlands, should be mentioned: Sahab and Tell Irbid. Both sites were certainly important settlements during the transitional Late Bronze to Iron Age period but these sites have suffered from modern construction work, and the excavations are not sufficiently published. At Sahab, located approximately 10 km south-east of Amman, Egyptian influence is attested in the 13th and 12th centuries BCE, i.e. until the early Iron Age (Ibrahim 1987). However, the character of the early Iron Age settlement is not entirely clear (Ibrahim 1972, 1974). Only minor portions of Tell Irbid, located in the centre of the modern town of Irbid in northern Jordan, are excavated. The records indicate a continuous occupation from the Late Bronze to the Iron Ages (Lenzen 1988; Lenzen and McQuitty 1989). The nature of the occupation is not clear, but it is possible to extract some information from tomb material (Dajani 1964, 1966). A recently discovered burial of a single female contained numerous impressive tomb gifts of carved elephant and hippopotamus ivory (Fischer *et al.* 2015). In contrast to these luxurious finds, which were certainly imported – most likely from Ugarit because of excellent parallels from the Royal Palace of Ugarit – the pottery repertoire is restricted to a few shapes. Only one vessel is decorated. There are just a few finds of bronze, which stand in sharp contrast to other, roughly contemporary burials, for instance some tombs from Period 1 at Tell es-Saʿidiyeh (Green 2006). Thus, we may conclude that the ivory objects were heirlooms from an earlier peaceful and more wealthy period, when the know-how of ivory carving in the Levant was at a high level (Caubet 2013: 452–453), and the Late Bronze Age trade routes were still in use. In contrast, the relatively simple locally made pottery and the absence of earlier so popular imports from the Mycenaean world and Cyprus reflect a society, which had less far-reaching contacts and points to a break in intercultural trade (see also Fischer *et al.* 2015).

Additional sites exhibit an inconsistent pattern as regards cultural continuity and breaks: Tel Kinrot (Münger *et al.* 2011) and Tel Hadar (Kochavi 1993) on the Sea of Galilee show – similarly to Tell Abu al-Kharaz – a lacuna in the Late Bronze Age II and were not resettled until the Iron Age (see also Fritz 2000). Other sites, such as Megiddo (Strata VII/VIB; Finkelstein 2013: 1335–1336), Tell Zeraʿa (Vieweger 2011, 2012), Tell el-Fukhar (Strange 1994, 2015) and Tell el-ʿUmeyri (Herr 1997, 1998, 2000), were settled during the transitional Late Bronze to Iron Age periods. However, all these sites experienced destructions and minor breaks or lacunae in this period. Other settlements, for instance in the Transjordanian highlands, show transformations from the Late Bronze to the early Iron Age, which are mainly characterized by the foundation of new settlements (Routledge 2004: 90–93).

A number of surface surveys were carried out in the central Transjordanian Jordan Valley and the surrounding hill country. These include (from north to south) the Zeraqon survey (Kamlah 2000), the Wadi al-Yabis survey (Mabry and Palumbo 1988, 1989; Palumbo

[6] The material from Pella has been forwarded by S. Bourke to P.M. Fischer who supervised the OENB-Jubiläumsfonds project "Chronological Studies on the Terminal Late Bronze and Iron Ages in the Eastern Mediterranean". Radiocarbon dating has been carried out by E.M. Wild at the VERA-laboratory in Vienna.

et al. 1990), the northern Jordan survey (Mittmann 1970), a survey along the Jordan Valley between the Yarmouk River and the Dead Sea (Ibrahim *et al.* 1976; Yassine *et al.* 1988) and the lower Wadi Zarqa survey (Gordon and Villiers 1983). In Cisjordan, the Manasseh survey was carried out in the area of Shechem and Samaria (Zertal 2004, 2008), another survey in the region of Shechem (Campbell 1991) and in Samaria (Finkelstein 1988; Finkelstein *et al.* 1997), and in the hill country of Benjamin (Finkelstein 1993). The settlement patterns in the Late Bronze and early Iron Ages in the central Jordan Valley and surrounding regions show quite a uniform picture: Iron Age I is one of the periods where these regions were most densely settled, whereas the Late Bronze Age pattern of larger settlements appears to be rather sparse. Consequently, there seems to be a sudden increase in smaller settlements from the Late Bronze Age to the Iron Age I (see also discussion in van der Steen 2004 and, more recently, Petit 2009: 153–210).

In summary, it is clear that various regions of Transjordan were affected by the 12th century BCE transformations during the period known as the 'crisis years' However, most of the sites listed above reacted in different ways: There were shorter and longer occupational lacunae during this period and some sites were already abandoned before the end of the Late Bronze Age II. It is also evident that there was a break as regards the amount of imported and luxury objects. A rupture in the established commercial connections sometime between the Late Bronze and the early Iron Ages is reflected in various tombs east of the Jordan, such as at Tell Irbid and Tell es-Saʿidiyeh. The evidence from Transjordan corresponds roughly to that from other regions in the Southern Levant. On the other hand, there are sites which experienced a revival in the early Iron Age, such as Tell Abu al-Kharaz, but also Tell el-ʿUmeyri, Tel Kinrot and Tel Hadar.

As regards the absolute chronology of the Late Bronze to early Iron Age transformation, it seems as if most of the 12th century – and possibly already the 13th century BCE – was affected by gradual changes. The end of the Egyptian hegemony in the 12th century BCE Southern Levant together with other events such as migration had negative effects on trade connections. This can be observed as regards imports of luxury pottery (Leonard 1987, 1994; van Wijngaarden 2002: 34–124), which has largely disappeared in the 12th century BCE. However, it must be taken into consideration that there are not enough data from Transjordan. Another matter to consider is that there are not enough absolute dates from sites other than Tell Abu al-Kharaz. Additional dates from first-class contexts would certainly help to better understand the sequence of events of the late 13th and the 12th centuries BCE.

Continuity and innovation: planned architecture at early Iron Age Tell Abu al-Kharaz and parallels in the Southern Levant

The complete layout of the early Iron Age town of Tell Abu al-Kharaz remains speculative as it is restricted to Area 9 in the southern part of the tell. The architectural layout of Tell Abu al-Kharaz, Phase IX (cf. Fig. 3), is unique and cannot be compared with any other structures from the early Iron Age in the Southern Levant. Settlements from this period are often regarded as unfortified and unplanned (e.g. Herzog 1992). In fact, the degree of urbanism in general seems to decrease from the Bronze Age to the early Iron Age. It also seems that heavily fortified towns do not become common again earlier than Iron Age IIA. However, fortifications, including casemate systems, already existed in the Iron Age I in settlements of the Transjordanian highlands and somewhat later in the Cisjordanian hill country (see summary with references in Finkelstein 2011: 118–122).

The defence system of early Iron Age Tell Abu al-Kharaz made partial use of the Early Bronze Age glacis east of the compound. The position of the Phase IX compound at the southern, most vulnerable, border of the upper plateau is not surprising. This is the part of the town, where the people of the Early Bronze Age had already understood two thousand years earlier the vulnerability of the southern part of the settlement and built a massive city wall of up to 5 m width (Fischer 2008: 220, 354). Other massive walls were built in the period of the Middle and Late Bronze Age settlement (*id.* 2006: 337–347). Nevertheless, compared to these earlier city walls the Iron Age city wall, which is incorporated into the compound as its outer wall, is only 1 m wide. On the other hand, the total width of the compound is roughly 8 m. In the event of warfare, the outer wall would have withstood a battering ram worse than a massive wall. However, the visually massive compound with an estimated height of at least 4–5 m certainly was impressive enough to discourage potential invaders. In addition, the top of the city wall/compound could quickly be reached by the inhabitants and used as a fire base in case of hostile attacks.

The attached domestic compound was adapted to the topography of the tell, as it is located exactly between the border of the upper plateau, limited by the city wall, and the rising bedrock. The building of the regular cell-plan structure, which extends almost 50 m in length, required exact planning and measuring, and constant supervising during construction. Since this compound is

the only building completely preserved from Phase IX, it is difficult to state whether the rest of the town had a similar, planned, character, or whether this was the only building with such a regular layout. Fragmentary walls from Area 11, which can be attributed to either Phase IX or X, form a similar cell-like structure but perpendicular to the edge of the upper plateau and the width of the spaces is less than 2 m, which may be the result of the local topography.

The compound of Area 9 brings to mind to a certain extent casemate structures, which were common in Iron Age I in the Transjordanian highlands and later also at other sites (summarized by Finkelstein 2011: 118–122). One example is the fortification system of Khirbet Qeiyafa in the western part of the high Shephelah (Garfinkel and Ganor 2009; Garfinkel *et al.* 2014). The occupation of this single-period site was dated to the early Iron Age IIA with a destruction in the first third of the 10th century BCE (Garfinkel *et al.* 2015: 887), i.e. somewhat later than Phase IX at Tell Abu al-Kharaz. In general, the walls of the casemate structures which were previously discussed are wider than those of the Phase IX compound and our bipartite structure does not resemble any of the structures described.

The regular and standardized architectural layout of our almost 50 m long compound gives the strong impression that urban planning took place at Tell Abu al-Kharaz already in the early Iron Age. The building adapts to the topography of the tell and takes maximum advantage of the space between the natural slope to the south and the rising bedrock to the north. A similar evidence of town planning comes from Tel Kinrot, where the Stratum VI/V occupation of the early Iron Age displays a number of rectangular buildings which are arranged parallel and perpendicular to each other and intersected by a regular road system (Fritz and Münger 2002: 5, fig. 2; Münger *et al.* 2011: 75). Here, too, the structures had to be arranged on terraces following the natural topography.

Another planned town of the early Iron Age is Tell Qasile, Stratum X: The various compounds have rectangular layouts with a network of parallel and perpendicular streets (Mazar 2009b). Mazar (1980: 77) once suggested Cyprus and in specific Enkomi as the place of origin of Southern Levantine early Iron Age town planning. There are in fact some resemblances to Late Cypriot urban centres: The densely built Late Cypriot IIIA city of Enkomi is subdivided in rectangular blocks surrounded by a regular network of streets (Courtois *et al.* 1986: fig. 1; Fisher 2006–2007). Other examples include Kalavassos-Ayios Dhimitrios in the Late Cypriot IIC period (South 1996) and the large Late Cypriot IIC–IIIA town of Hala Sultan Tekke, which consisted of a number of city quarters organized in rectangular layouts (Åström 1996; Fischer in this volume).[7] These urban plans may have been transferred from Cyprus to Philistine towns (Mazar 1991).

Although an influence from Cyprus is not excluded, it seems more likely that the unique compound of Phase IX at Tell Abu al-Kharaz is an *in situ* invention, which adapts the compound to the natural topography of the tell: The limited space of 8 m between the narrow city wall and the bedrock was used as a basement. The situation was different in earlier periods, when this narrow space was occupied by much wider city walls and consequently did not permit the construction of any living or working areas. As shown above, external cultural influences on the architectural layout could not be traced. The layout of our compound reveals an efficient local administration and advanced construction skills, without which it would have been impossible to build this structure at this difficult and exposed location. This leads us to the following questions: Is this really the builder's first construction of this type? Where and from whom did the builder learn this advanced technique? Or is the Phase IX compound just a one-time successful construction?

Our compound antedates later Iron Age II urban planning, which is often ascribed to Judahite cities. It is regarded as an Iron Age IIA 'invention', which becomes more widespread in the Iron Age IIB (Shiloh 1978; Herzog 1997: 237–249; Garfinkel and Ganor 2009: 33; Garfinkel *et al.* 2012: 360). However, this early example from Tell Abu al-Kharaz Phase IX, together with the somewhat later structures of Tel Kinrot, Strata VI/V and Tell Qasile, Stratum X, contradict this view.

Continuity and innovation: the pottery and other finds of Tell Abu al-Kharaz, Phase IX

The situation of Tell Abu al-Kharaz represents a specific problem as regards tradition and innovation since we have an occupational lacuna between roughly 1300 BCE (Phase VIII) and 1100 BCE (Phase IX). However, as will be demonstrated, there is evidence of both tradition and innovation.

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[7] Urban planning in Cyprus has often been taken as evidence of 'Aegeanization', but since the tradition of town planning is older than the postulated 'Aegeanization', which started around 1200 BCE, this hypothesis must be rejected (Iacovou 2013: 599).

Late Bronze Age traditions are clearly visible in the material remains of Phase IX. Most obvious in this respect is the biconical jar with the palm-tree-and-bird motif, which follows Late Bronze Age counterparts fairly precisely in both shape and decoration (Fig. 5:15). A similar case is the small jar with a globular body, which derives from a Late Bronze Age type of jar (Fig. 5:13; see also Bürge *et al.* forthcoming). Other pottery shapes which show cultural continuity include most types of bowls, the chalices, the handleless kraters, the two-handled krater, the goblets, the dipper juglets, the ovoid storage jars, including those with painted decoration, the pyxides, the lentoid flasks, and the one-spouted lamps (one in Fig. 5:12). Non-ceramic finds which associate with the Late Bronze Age comprise, for instance, a spendonoid balance weight of haematite with an Egyptian unit of weight (45.5 g = ½ *dbn*), conical, biconical and ring-shaped spindle whorls, and the alabaster vessels (Fischer and Bürge 2013a: 154, fig. 15; see also Fig. 5:11). In comparison to the Late Bronze Age pottery (Fischer 2006: *passim*) generally, it is clear that the early Iron Age production of pottery and other objects was carried on at a lower artistic level. In general, the early Iron Age repertoire of decoration on pottery is limited to horizontal and wavy lines. The palm-tree-and-bird motif is one of the few exceptions which associate with the pictorial themes of the Late Bronze Age. Another example is the rather irregular zigzag decoration on one of our alabaster vessels (Fig. 5:11), which stands in contrast to Late Bronze Age alabaster objects with regular geometric decorations executed with drills and compasses (Sparks 2007: 117, fig. 43).

The open-shaped cooking pots (Fig. 5:6), which correspond to the dominating general shape of Late Bronze Age cooking pots, point to the continuation of traditional cooking habits. At the same time, a totally different type of cooking vessel was in use in Phase IX: a closed, jar-like cooking vessel with rounded or carinated body and rounded base (Fig. 6:11, 12). This type is an amalgamation of jugs with flat and disk bases of Aegean, Cypriot, and Philistine types (Fig. 6:13; see also Jung in this volume, fig. 1), and the traditional Late Bronze Age carinated cooking pots with a rounded base. The appearance of flat-based cooking jugs in Philistia also implies the use of another type of hearth, namely a flat pebble hearth where the vessel could stand by itself (Yasur-Landau 2010: 123; Maeir and Hitchcock 2011). This type of hearth has been used in Cyprus, for instance at Hala Sultan Tekke in Stratum 2 (Fischer 2012a: 99, fig. 7) and was eventually introduced in Philistia (see references in Maeir and Hitchcock 2011). Our cooking jugs with rounded bases were obviously used on the same kind of hearth and oven, i.e. either in small pits or in *tawabin* or *tananir*.[8] Cooking jugs are attested at Phases IX and X at Tell Abu al-Kharaz. From Phase XI onwards they were no longer used and only open-shaped cooking pots continued to exist (Fischer 2013: 447–452).

There are pottery shapes which mirror a revival of even older traditions. One is the bowl with loop feet (Fig. 6:1), which imitates metal vessels, and has close parallels in the Middle Bronze Age (e.g. Tell el-Farʿah North: Mallet 1988: *passim*). The four-spouted lamp (Fig. 6:3) is another example which can be traced back to the transition from the Early to the Middle Bronze Age (e.g. Palumbo 2008: 232, fig. 7; Al-Muheisen and Al-Bashaireh 2012: 92, fig. 4).

The pyxides of various shapes from Phase IX (see two in Fig. 5:9, 10) derive from Late Helladic IIIA–B prototypes, which were imported to the Southern Levant (van Wijngaarden 2002: 31–124). Since this type of vessel was also locally produced and frequent in the Iron Age I, it can be regarded as part of the local pottery repertoire (see also Mazar 2015: 17). However, the composite pyxis (Fig. 6:2) represents a special case, as it is clearly inspired by Aegean and Cypriot Late Bronze Age traditions. Similarly, the excellently executed jug with white slip and red decoration (Fig. 6:7) shows Aegean/Cypriot traits, which will be discussed below. The general shape of the strainer jug (Fig. 6:8) reflects local tradition but the basket handle seems to have been inspired by Mycenaean pottery (FS 159; see Mountjoy 1986: 203; also Dothan and Porath 1993: 56). An innovation is represented by the pilgrim flasks with cup mouths (Fig. 6:4–5).[9] These flasks are mainly spread in and around the Jezreel Valley (Fig. 7). The decoration with the wheel-spoke pattern, the wavy lines and the 'Maltese Cross' on our pilgrim flasks is new.

[8] The *tabun* (plural *tawabin*) is a dome-shaped installation of clay, which is partly dug into the floor and thus immovable. The other type of clay oven, the *tannur* (plural *tananir*), is cylindrical or slightly conical and stands on the floor, thus being mobile (McQuitty 1984; Mulder-Hymans 2014).

[9] A related idea of 'cup-mouths' can be seen in vessels from the Late Bronze Age: the arm-shaped bottles of Red Lustrous Wheel-made ware (e.g. Bergoffen 2005: 143, pl. 35c).

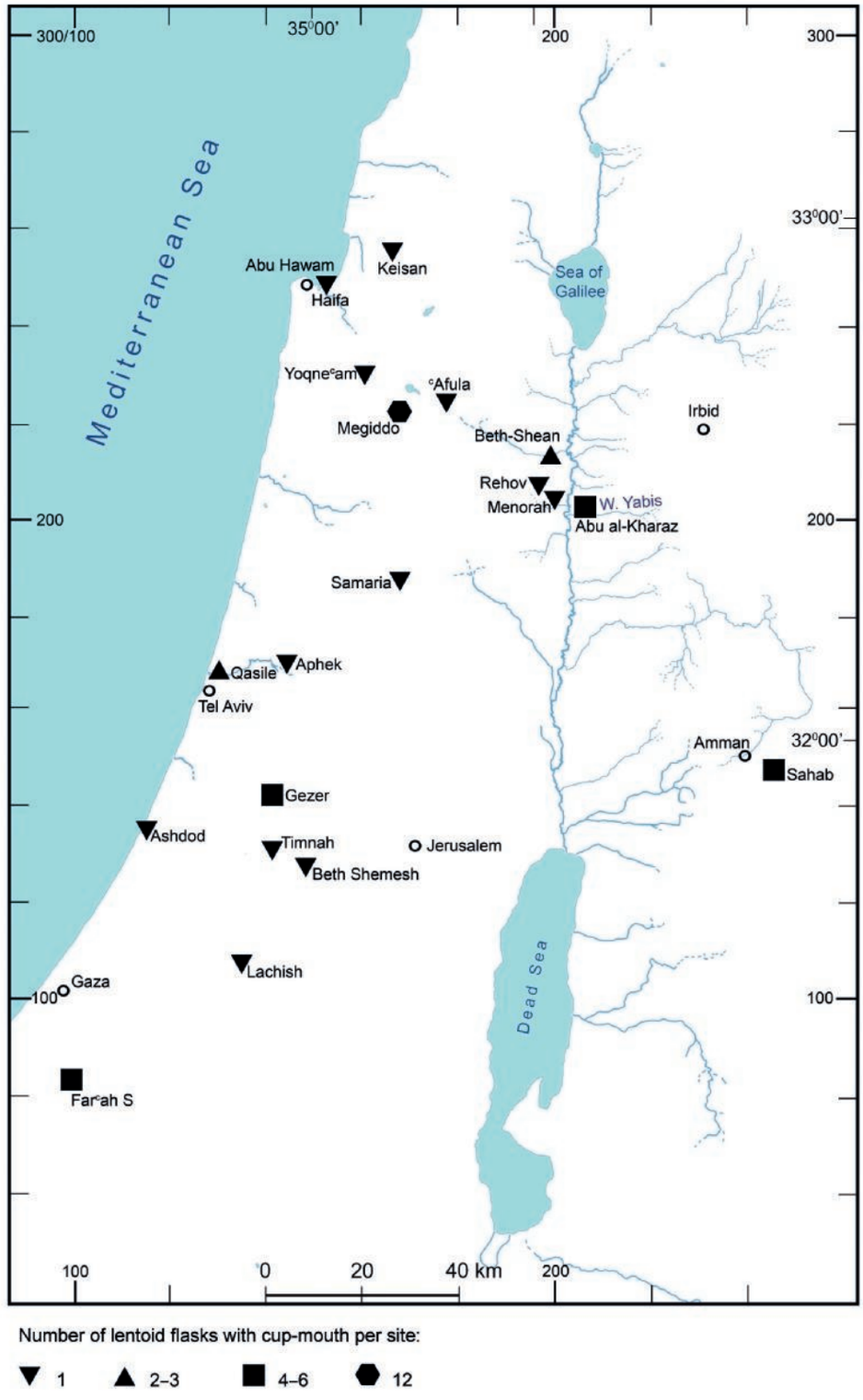

Fig. 7 Distribution of pilgrim flasks with cup mouth in the Southern Levant

The cylindrical loom weights of unfired clay from Phase IX (e.g. Fig. 6:9) are new in our early Iron Age context. This type of loom weight appears in the Southern Levant at the beginning of the Iron Age. The diachronic study of loom weights at Tell Abu al-Kharaz is as follows: The prevailing type of the Early Bronze Age is ring-shaped and made of basalt. Elaborate and well-balanced items were also used as spindle

whorls. Loom weights are not attested in the Middle and Late Bronze Age phases of Tell Abu al-Kharaz. The lack of loom weights in the Late Bronze Age (especially the later part) is attested at various other sites in the Southern Levant, for instance at Beth-Shean, Hazor, Megiddo and Lachish (Yasur-Landau 2007, 2010: 267). This might be due to the use of a different type of loom during these periods, for instance the Egyptian vertical loom (Yasur-Landau 2007). The cylindrical loom weight of unfired clay appeared for the first time in Phase IX, was also used in Phase X and was thereafter replaced by doughnut-shaped loom weights, also of unfired clay (Fischer 2013: 205, fig. 186).

In summary, the material from Phase IX reflects a mixture of tradition and innovation. This observation matches the evidence from other sites in nearby valleys, for instance Megiddo, Tel Qashish and Yoqneʿam, but also Beth-Shean and Tel Kinrot.

Intercultural relations of Tell Abu al-Kharaz in the early Iron Age

Imports from Phoenicia comprise the bichrome decorated globular jug (Fig. 6:6), and the lentoid flasks with monochrome decorations (one in Fig. 5:14). These vessels have parallels, for instance in Tyre and in Phoenician Tel Dor and Tell Keisan (see references above). Globular jugs with bichrome decoration were exported from Phoenicia to other parts of the Southern Levant including the Jezreel and Jordan Valleys. Whereas many of them are original imports, some globular jugs are local imitations of Phoenician vessels. However, the vessel from Tell Abu al-Kharaz is clearly an import: it differs to a large extent from other locally produced vessels in its extremely well-levigated clay and the highly burnished surface with precise decoration. It is difficult to assess whether our jug was imported directly from Lebanon or via middlemen from the Mediterranean littoral through the Jezreel Valley.

Our two lentoid flasks (one in Fig. 5:14) are more common in the Southern Levant than the globular jug. They have forerunners in the later part of the Late Bronze Age (Gilboa *et al.* 2008: 124–127 with further references). These flasks are sometimes locally made but at least one of our two flasks is imported from Phoenicia according to the fabric. The globular jugs and the lentoid flasks were certainly traded not only as containers, but also because of their coveted contents (see e.g. Namdar *et al.* 2013).

Some vessels of fine table ware reflect western influences. These influences concern either the surface treatment and decoration or the general vessel shape, or both. The thick white slip on the bowl with the loop base (Fig. 6:1) and on the jug with red decoration (Fig. 6:7) resembles some vessels of Philistine Bichrome (e.g. Zukerman 2009: 500) and earlier Monochrome 'Myc IIIC' wares (e.g. Ben-Shlomo 2005: 65). This surface treatment is clearly a foreign element at early Iron Age Tell Abu al-Kharaz.[10] The jug with the thick white slip and red decoration (Fig. 6:7) represents a special case: The shape differs from all the other early Iron Age jugs. In particular the profiled rim, which is somewhat everted, and the long narrow neck are unusual. In addition, the decoration is uncommon in the local repertoire of patterns: there are five horizontal lines on the belly, just above the carination, another line is at the height of the shoulder and above the line are alternating patterns of four concentric semicircles and vertical wavy lines; there are six horizontal stripes on the handle. This pattern of semicircles and wavy lines differs from the local repertoire of decoration, which is limited to rather simple patterns. Close parallels of this pattern are from the Aegean and Cyprus, where often shoulders of stirrup jars are decorated with such a pattern which includes semicircles (see for instance at Hala Sultan Tekke in Fischer 2012a: 94, fig. 3:1). Similar patterns in the Southern Levant include jugs from ʿAfula (Dothan 1955: 69, fig. 20:2) and Beth-Shemesh (Grant 1931: pl. XV:1106; 1932: pl. XLII:4). There are also a few other vessels at Tell Abu al-Kharaz, Phase IX, with a thin white slip which bring to mind the surface treatment of Philistine pottery.

The strainer jug with the basket handle (Fig. 6:8) displays an amalgamation of local and foreign elements: The strainer jug *per se* is common in the local repertoire. The basket handle, however, reflects Aegean influences. Jugs with basket handles, which appear on locally produced vessels in the Southern Levant around 1200 BCE, for instance at Ashdod, Stratum XIII (Dothan and Porath 1993: 175, fig. 15:10), can be traced back to Mycenaean counterparts ('feeding bottles') from the Late Helladic period (FS 159; see Mountjoy 1986: 203). However, these jugs are usually much smaller than ours.

[10] In addition to the bowl with three loop feet, which reflect a revival of Middle Bronze Age traditions, one should mention Chocolate-on-White Ware from Tell Abu al-Kharaz and elsewhere in this discussion. It has an even thicker white slip and also started to appear at the end of the Middle Bronze Age (Fischer 1999, 2003).

The pilgrim flasks with cup mouths appear to be a local innovation, which seems to originate around the Jezreel Valley but in any event in the northern part of the Southern Levant. The uniformity of these vessels is striking, and their decoration seems to be limited to only a few patterns. Our bichrome flask is decorated with the 'Maltese Cross', wheel spokes and wavy lines. This pattern was labelled as 'Philistine' by Dothan (1982: 204) and it is clear that the 'Maltese Cross' often occurs on Philistine or related pottery (Mazar 1985: 72–73). The use of two colours is paralleled in the Philistine Bichrome pottery. The monochrome decoration on our other flask consists of metope-like bundles of 'wheel-spokes' with concentric circles in the centre. This pattern slightly resembles the 'Maltese Cross'; on the other hand, metope patterns are a characteristic pattern on Late Bronze Age Canaanite pottery (Fischer 1999). The amalgamation of different styles of decoration on pottery, namely local 'Canaanite', Syrian/Phoenician and Aegean/Cypriot is a characteristic of the early Iron Age pottery from the Jezreel Valley.

The cooking jars (Fig. 6:11, 12) also display a mixed influence: Wheel-made closed cooking pots with one handle and flat or disk bases reached Cyprus via the Aegean around 1200 BCE (Jung 2011). Identical cooking jugs were found in the earliest Iron Age settlements in Philistia (Yasur-Landau 2010: 232). Our cooking jars differ from the Philistine jugs, as they have two handles, rounded bases and often a carinated body, which resembles the general profile of the common, open-shaped cooking pots. Thus, the cooking jugs from Tell Abu al-Kharaz, Phase IX, are regarded as an amalgamation of the 'traditional' Canaanite cooking pot and the closed, Aegean cooking jugs, which were most likely transmitted from the Aegean via Cyprus and (possibly) Philistia, or directly from the Mediterranean coast through the Jezreel Valley.

Our cylindrical or slightly spool-shaped loom weights of unfired clay (Fig. 6:9) also derive from the Eastern Mediterranean. Similar weights were common in Late Helladic IIIC Tiryns and other contemporary sites on the Greek mainland (Rahmstorf 2003). They appear eventually in Cyprus, e.g. in Kition (Karageorghis and Demas 1985: pl. 201) and Maa-Paleokastro (*iid.* 1988: pl. 189) during the Late Cypriot IIIA period. In due course, they reached Philistia, for instance Ashkelon (Stager 1991: 36–37), Ashdod (Dothan and Porath 1993: 64, 193, figs. 24:3–5), Tell es-Safi/Gath (Cassuto 2012: 469–470) and Tel Miqne/Ekron (Shamir 2007: 44, fig. 1).

Amongst the few metal finds from Phase IX is a part of a bronze wheel which originally had eight spokes (Fig. 6:10). Such wheels were found in Tell Qasile, Stratum XII (Mazar 1986: 13–14, fig. 6:4) and Tel Miqne/Ekron (Dothan 2002: 4–8). Similar wheels from Cyprus are parts of four-wheeled stands (Catling 1964: 207–208, pl. 35a–d; *id.* 1984: pl. XI). It is not unlikely that the tradition of making miniature wheels originates from Cyprus. However, the function of these stands remains unclear and it is doubtful if all the retrieved wheels or fragments of wheels can be reconstructed as parts of four-wheeled stands.

Evidence of migration in Phase IX?

In connection with the question of identifying ethnicity in the archaeological record it has also been questioned whether and how migration can be ascertained in the material culture (e.g. Binford 1965; Adams 1968; Myhre and Myhre 1972). Since then, a number of theories and models for defining migration phenomena in archaeology have been discussed (e.g. Anthony 1990; Berry 1992, 1997; Burmeister 2000), along with other possible reasons for transformations of material culture (Killebrew 2005b; Eerkens and Lipo 2007).

Migration was only one type of interregional interaction (e.g. Yasur-Landau 2010: 7, 10). Others include trade and raids. These different kinds of interregional interaction leave different traces in the archaeological record: If we are dealing with trade, we should see mainly foreign objects, which are portable, i.e. trade goods. However, it is difficult to apply this hypothesis, as we can expect that a number of interaction phenomena occurred at the same time and at the same places as regards migration in the 12th century BCE Eastern Mediterranean (*ibid.*: 10). Since the supposed settlement of Philistines and other peoples in the Southern Levant occurred in an already settled area, there are a number of reactions, which may be expressed in the material culture and influence "deep changes" (*ibid.*: 13–33). Such reactions include complex processes of amalgamations of different aspects of (material) culture (see terminological discussions, e.g., in Yasur-Landau 2010; Stockhammer 2012; Hitchcock and Maeir 2013; Faust and Lev-Tov 2014).

The existence of foreign fine table wares in Phase IX at Tell Abu al-Kharaz has already been discussed. In addition to the few Phoenician imports, which can be considered the result of trade, there are some ceramic vessels, which can be described as an amalgamation of local vessels with 'foreign' elements – or vice versa. These ceramic wares, together with the bronze wheel, which possibly derives from Cyprus, are not proof of the presence of a 'foreign' ethnic group. Such objects might well have been used by a number of different ethnic groups who considered them items of luxury.

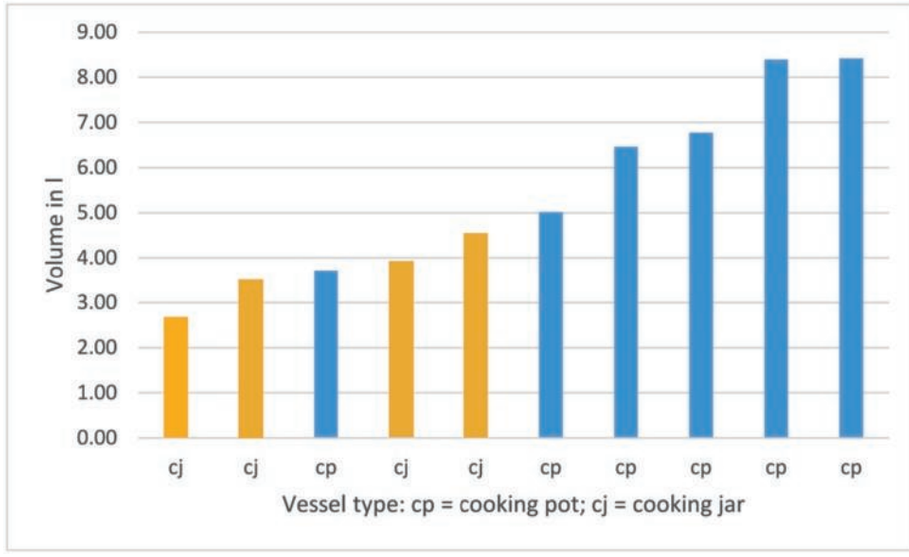

Fig. 8 Volumes of cooking jars (cj) and cooking pots (cp) from Tell Abu al-Kharaz, Phase IX

In contrast, cooking and dietary habits are closely connected to certain societies. The habits are transmitted from one generation to the next and not usually changed suddenly without serious reason. The volumes of the Canaanite-type cooking pots and the Aegean/Philistine-type cooking jugs differ (Fig. 8). In addition, the shape is an indication that foodstuff which was prepared differed depending on the type of cooking vessel used: Open cooking pots are more suitable for rapid cooking or frying at high temperatures, whereas the closed cooking vessels were used for low-cooking of mainly liquid food (Borgna 1997: 204; Ben-Shlomo *et al.* 2008: 237; Yasur-Landau 2010: 131–132). The rounded bases which characterise both types hint that the same kind of oven was used as in previous periods. There are a number of sites which produced contemporary parallels to our cooking jars, i.e. Tell es-Saʿidiyeh, Deir ʿAlla, Beth-Shean, Megiddo, Tell Qiri, Yoqneʿam and Tell Qasile (see references in Bürge 2015: 188). However, at these sites, the amount of closed cooking jugs compared to the number of traditional open cooking pots is very small, and never exceeds 10% (Hunt 1987: 183; Panitz-Cohen 2009: 225, table 5.12a). In contrast, the relatively high proportion of closed cooking pots in Phase IX, i.e. 25% of all cooking vessels, is striking and represents a different picture in comparison with listed sites in Cisjordan. The distribution of cooking jugs within the building does not follow a strict pattern, as in a number of rooms both closed and open types were found (Fig. 9). Thus, it can be assumed that both types were used by the same people. This phenomenon can be described as an amalgamation of Canaanite, Philistine, Cypriot and Aegean traditions.

There is evidence of grass pea (*lathyrus sativus*) in Phase IX (Kofel *et al.* forthcoming). It is difficult to decide if it is from wild plants or if it has been cultivated (Kislev 1989). The grass pea is often connected to the Aegean and appears in the Southern Levant, mainly in Philistia, at the beginning of the Iron Age (Mahler-Slasky and Kislev 2010). In contrast, it has a long history of domestication and cultivation in the Balkan and the Aegean Islands (*ibid.*: 2479). The grass pea can be toxic if consumed in large quantities, but the toxicity can be limited, if it is prepared in special ways, such as boiling the seeds for two hours and decanting the water (Jha 1987; Mahler-Slasky and Kislev 2010: 2479). This means, that not only the plant but also the know-how of preparing it must have been transmitted. However, we already have *lathyrus sativus* at Tell Abu al-Kharaz in the Early Bronze Age (Fischer and Holden 2008), which just may indicate wild plants.

Similarly, the consumption of pork in the Iron Age is often attributed to the presence of people from the Mediterranean/Aegean, as it is believed that pork was not consumed any more in this period by the local population, and specifically not by the Israelites (Hesse 1990: 217–218; Finkelstein 1996; Hesse and Wapnish 1997; Faust 2006: 37–38). In addition, it could be demonstrated that European pigs were introduced to the Southern Levant in the early Iron Age (Sapir-Hen *et al.* 2015). In fact, there are some remains of pig in

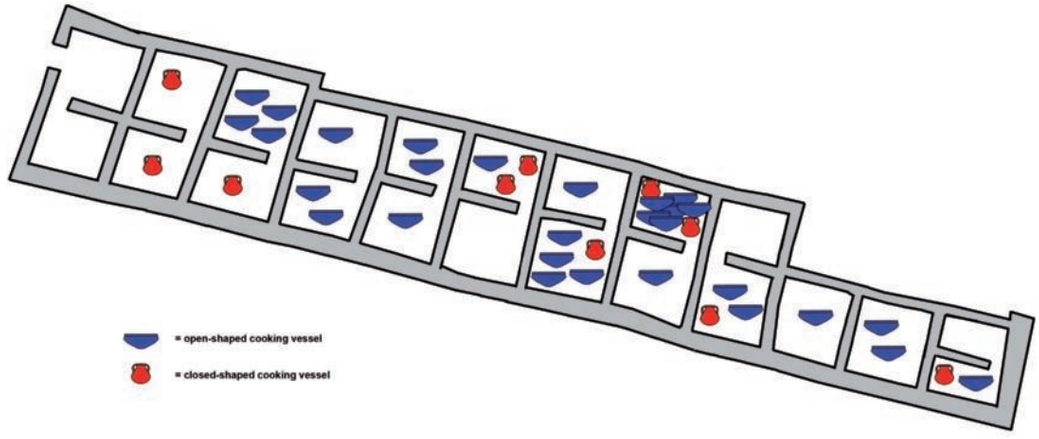

Fig. 9 Distribution of open- and closed-shaped cooking pots in the Phase IX compound

the Phase IX compound, and also in Phases X and XI (Gharaibeh *et al.* forthcoming). However, the presence of pig bones is attested at a number of 'Israelite' sites. Therefore, it was suggested that pork consumption is more connected to sedentary populations than to nomadic populations (Harris 2008: 71–72; Sapir-Hen *et al.* 2013). The few remains of pig bones may also represent occasional wild-boar hunting (Sapir-Hen *et al.* 2013: 2–3).[11]

Loom weights are a part of a specific material culture, and a sudden change of domestic textile production techniques may reflect "deep changes" (Yasur-Landau 2009; 2010: 29–30). It is, therefore, interesting to note the appearance of a totally new type of loom weight, namely unperforated cylindrical or spool-shaped weights of unfired clay which gradually spread over the Eastern Mediterranean (Rahmstorf 2003; 2011; Yasur-Landau 2010: 132–135) and beyond, for instance Italy (Rahmstorf 2011: 320 with further references). It is also the only type at Tell Abu al-Kharaz in Phases IX and X. If warp-weighted looms were used, both the shape/thickness, and the weight itself of loom weights are of importance: Heavy loom weights are more suitable for weaving thicker yarns, whereas the thickness influences the density of the fabric (Frangipane *et al.* 2009; Mårtensson *et al.* 2009). Thus, the sudden change of loom weights also has implications for the production of the intended fabrics.

It is not possible to isolate specific ethnic groups during the early Iron Age in the Jordan Valley, as we have no evidence of how these groups referred to themselves or of their ethnic consciousness. It is only possible to trace elements of a number of ethnic groups and their culture and their possible provenance. As far as the material from Tell Abu al-Kharaz, Phase IX, is concerned we can certainly demonstrate cultural traits from vast parts of the Eastern Mediterranean. Both the possibly imported fine wares and the locally made cooking jugs show an amalgamation of foreign and local traits, whereas the loom weights are totally new. However, these traits seem to become less evident in the subsequent Phase X and disappear in Phase XI. A possible explanation is gradual assimilation, which occurred after Phase IX. It is interesting to note that one of these traits, the cooking jars, which disappear in the Iron Age IIA, becomes rather common in the Iron Age II in the Southern Levant in general (Ben-Shlomo *et al.* 2008). This proves once again that cultural traits were not uniform in various regions.

In summary, it is suggested that individuals or small groups of people arrived at Tell Abu al-Kharaz, where they intermingled or married local people (see similar suggestions referring to other sites in Bunimovitz and Yasur-Landau 2002; Yasur-Landau 2009). These individuals most likely do not come directly from the Mediterranean coast, and therefore cannot be labelled 'Philistines' or any other 'Sea Peoples' tribe, but may be their offspring. They had already undergone a number of cultural changes before their arrival at Tell Abu al-Kharaz. However, this remains only a tentative re-

[11] The exact analysis of the osteological material is forthcoming. Wild boars and pigs can be distinguished, amongst other criteria, by their size (cf. Sapir-Hen *et al*. 2013 with references).

construction, as other possible indicators of the presence of a foreign group amongst the local population, such as funerary habits and religious beliefs, could not be attested in the early Iron Age at Tell Abu al-Kharaz – as no burials from this period are excavated. In any case, in the aftermath of the transformations from the intercultural Late Bronze Age to the more isolated early Iron Age, the 'multi-cultural' town of Tell Abu al-Kharaz of Phase IX was obviously still in contact with other regions.

Conclusions

The discovery of the excellently preserved compound from early Iron Age Phase IX at Tell Abu al-Kharaz is unique in the Southern Levant. The virtually undisturbed contexts of the basement and the remains of the collapsed upper storey(s) allowed the study of a number of aspects: The analysis of the architecture and the building materials revealed that the building had (at least) two storeys, of which the lower storey – the basement – is built of stone whereas the upper storey(s) is/are of mudbrick. The unparalleled regular layout of the building indicates that it was rigorously planned before and constantly supervised during construction. This, in turn, hints at a well-organised society which settled the early Iron Age town. The associated finds are all mainly related to domestic activities.

The almost 50 m long compound, to which an annex of 12 m to the west was attached, was built on the remains of the Early, Middle and Late Bronze Age city walls which provided a stable foundation for the compound. To the east of the compound is a defence glacis from the Early Bronze Age, which was modified and reused in the period when the building was used. The connection and integration of the building with the town's defence system, and its location at one of the most vulnerable parts of the town, are not accidental: it was a suitable place to house soldiers or other functionaries and their families. However, because of the small number of bronze objects which could have been used as weapons, it is difficult to draw clear-cut conclusions on the function of the inhabitants of the building.

The results from 15 radiocarbon dates from short-lived samples which were found on floors and inside vessels from our compound provide a time span from 1193–1049 BCE (95.4%, 2σ probability) and from 1128–1055 BCE (68.2%, 1σ probability). Therefore, the destruction cannot be dated later than around 1050 BCE. In relative terms, Phase IX at Tell Abu al-Kharaz was roughly contemporary to or possibly somewhat earlier than Beth-Shean, Stratum S-2, Megiddo, Stratum VIA, Yoqneʿam, Stratum XVII, Tell Qasile, Stratum X, and Tel Kinrot, Stratum V, and can be attributed to the period traditionally termed Iron Age IB.

The search for architectural parallels with the Phase IX structure yielded no results. There is a remote affinity to casemate structures, but the analysis of these structures highlighted a number of differences in size, layout and context, which makes an interpretation of our compound as casemate structure unlikely. There are a few buildings which bear some resemblance to our compound. One comes from early Iron Age Tel Kinrot at the Sea of Galilee. The planned architecture of the Phase IX compound and a number of other early Iron Age sites with planned layouts contradict the traditional view of the existence of mainly unplanned and unfortified settlements in the early Iron Age. Although a Cypriot tradition for planned layouts of early Iron Age towns in the Southern Levant was considered, the compound from Tell Abu al-Kharaz is most likely an *in situ* invention, which was perfectly adapted to the natural topography and used stable structures from earlier periods as foundation. As the compound is – so far – the only completely preserved building in this settlement phase, the layout of other parts of the town cannot be reconstructed.

The early Iron Age pottery and other finds at Tell Abu al-Kharaz indicate a high degree of continuity from the Late Bronze Age despite the occupational lacuna between Phases VIII and IX. On the other hand, there are a number of innovations, which reflect an amalgamation of new, foreign, and traditional, local traits. This combination of continuity and innovation is consistent with finds from other sites in the Jordan and the Jezreel Valleys, for instance Beth-Shean, Megiddo, Tel Qashish and Yoqneʿam.

Foreign traits, which are visible in the material culture of Phase IX, are mainly from the Eastern Mediterranean, specifically Cypriot and Aegean, spheres of culture. There are a number of Phoenician imports, whereas the Egyptian influence, which in principle was never clearly perceptible in the Late Bronze Age material from Tell Abu al-Kharaz, is negligible. Western traits are reflected in fine ceramic wares and small portable objects, which were most likely traded, together with objects which were locally produced. These include new types of cooking pots and loom weights, which indicate changes in cooking and dietary habits, and in domestic textile production.

Thus, it is clear that the settlers of early Iron Age Tell Abu al-Kharaz were influenced by the transformations in the 12th century BCE. Limited migration of individuals or families, which arrived from the Eastern Mediterranean through the Jezreel Valley, is suggested. These migrants mingled with the local population by intermarriage, which explains the amalgamation of

local and foreign traits in the material culture of particular contexts. It is suggested that the migrants most likely did not arrive directly from the Mediterranean and that the migration process lasted years, decades or even generations. Therefore, it is problematic to refer to these migrants as 'Sea Peoples', as the immigrants to Tell Abu al-Kharaz had already experienced cultural changes on their way to Transjordan. However, these possible descendants of the 'Sea Peoples' contributed to a rich, flourishing, well-organized and multi-cultural society at early Iron Age Tell Abu al-Kharaz.

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Philistines and Danites

Wolfgang Zwickel

Abstract

The so-called Philistine territory ran through some significant changes from the 13th to the 10th century BCE. In the Late Bronze Age several city states existed in this territory, which was controlled by the Egyptians. After the arrival of groups of the Sea Peoples the five Philistine capitals Gaza, Ashkelon, Ashdod, Ekron and Gath became the core land of the Philistines, while Jaffa remained an Egyptian military fortress at least until 1150 BCE. Other areas north and east of the Philistine core land (territory of Kegila, Gezer and Beth-Shemesh) remained typical Canaanite city states until the 10th century BCE. The territory north of Ashdod up to present-day Tel Aviv, which is according to Biblical texts attributed to the Philistines, was settled in the Iron Age I by Danites, likely the Sea Peoples group Dananu, who settled there and integrated themselves in the newly established Israel tribal system – unlike the Philistines, who tried to establish an independent kind of living in the area. This area was likely conquered in the 10th century BCE by Philistines living in Ashkelon – and surprisingly not by those living further to the north in Ashdod, Gath or Ekron.

Introduction

The aim of this article is to discuss the settlement history and the acculturation of the northern so-called Philistine territory. Generally scholars consider the entire area between Gaza in the south and present day Tel Aviv (including Tell Qasile) in the north and its hinterland as the area of the Philistines. But what are the reasons for doing so? The Philistine Pentapolis Gaza, Ashkelon, Ashdod, Ekron and Gath is located especially in the southern and central part of this area. Ekron is the northernmost town of the Pentapolis and is located nearly 35 km airline distance to the south of Tell Qasile, while the distance of one Philistine capital to its nearest neighbouring capital only measured some 9–18 km (Fig. 1). Table 1 lists the distances between the Philistine capitals and Tell Qasile (all airline distances in km).

If one considers Ekron and Gath to be only one single Philistine capital – they were evidently never strong enough to rule independently (Maeir and Uziel 2007) – the distance between one capital and the other ranges between 15–18 km. Hence, the northern part of the Philistine realm is located very much off center in relation to the actual Philistine Pentapolis.

The distance between the five capitals corresponds with a normal area, which is usually considered to be obligatory for sustaining a city with food. Each town needs a certain area as hinterland for agricultural production in order to sustain its inhabitants. Their geographical distribution (cf. Fig. 2) demonstrates that Gaza and Ashkelon possessed their own cultivable hinterland located to the east of these cities. Only Ashdod and Gath/Ekron were located more or less in the center of their individual territories. The area of Gaza was considerably larger than that of the other capitals. Trade in the Wadi es-Seba (an area which included also other sites, such as Tell Jemmeh, Qubur el-Walayda and Tell el-Farʿah S) seems to have played a dominant role in collecting the revenue for the territory of Gaza. On the other hand, the cultivable area of the large area of Gaza was constrained by dunes on the Mediterranean shore and by the absence of sufficient rainfall in its southern part.

	Ekron	Gath	Ashdod	Ashkelon	Gaza	Tell Qasile
Ekron		9	15	29	44	33
Gath	9		17	27	40	42
Ashdod	15	17		15	32	38
Ashkelon	29	27	15		18	52
Gaza	44	40	32	18		70

Table 1 Distances between the Philistine capitals and Tell Qasile (all airline distances in km)

Fig. 1 Distribution of the five Philistine capitals and of Tel Qasile

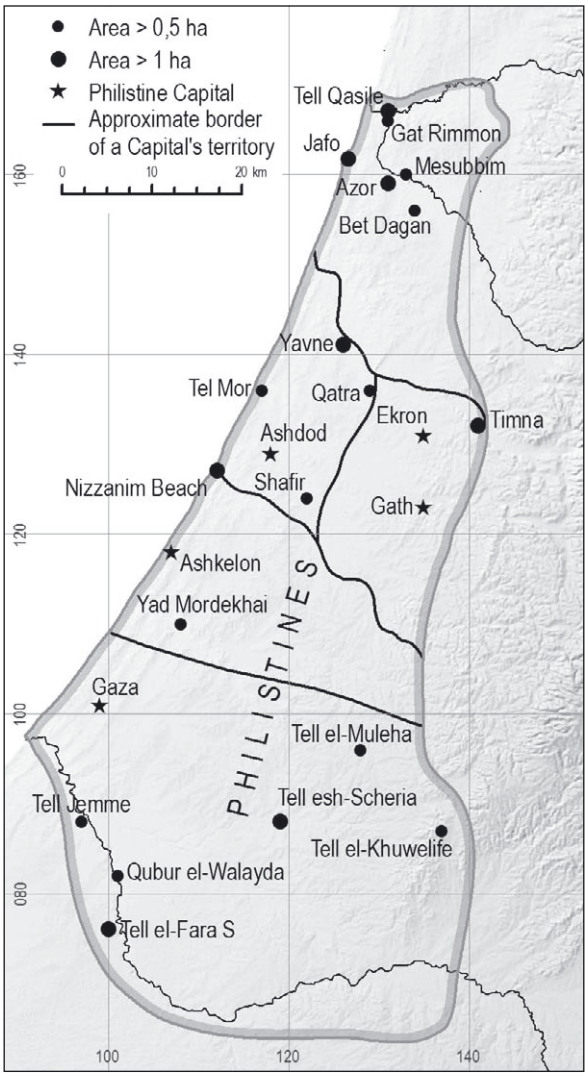

Fig. 2 Distribution of major sites in the Philistine territory

Before discussing the northern part of the so-called Philistine region, we must deal with some general considerations pertaining to this area. The site of Gaza remains mostly unexcavated (cf. Phythian-Adams 1923; Ovadiah 1993), in spite of the fact that the tell is very large (750 m × 750 m). As the area under consideration was inhabited also during later periods, it is impossible to tell how large its size would have been during the Late Bronze and Iron Age periods. Also Ashkelon (Stager 1993) is an enormous site (1000 m × 600 m), while Ashdod possessed an acropolis measuring some 8 and its lower city some 28 ha (Dothan 1993b). The size of Ekron and Gath varied during their settlement history (Maeir and Uziel 2007). Whenever one of them was especially dominant, the other tended to be rather insignificant. Moreover, both sites covered an area of approximately 30 ha during the Middle Bronze (Ekron some 20; Gath some 8) and Late Bronze Ages (4 and 27) respectively. During the Iron Age the settled area of both sites was considerably larger: some more than 40 ha during Iron Age I (20 and 23) and more than 50 ha during Iron Age IIA (4 and 50). During Iron Age IIB its size expanded to a little over 40 ha (20 and 24), while during the Iron Age IIC period its size decreased to c. 30 ha (30/very small).

As for the term 'Sea Peoples' (for a list of 'Sea Peoples' in ancient sources see Killebrew and Lehmann 2013: 2–5; Adams and Cohen 2013: 645–664),

it seems safe to suggest that these settlers had originally descended from areas within the coastal Mediterranean world and that their main income was based on maritime trade, but sometimes also on piracy. Their engagement in piracy is indeed attested in a number of ancient Near Eastern sources (Lehmann 1985). We lack information about most of the Sea Peoples groups and even the inscriptions of Ramesses III remain silent about their whereabouts. This is different with the Philistines as the annals tell us clearly that the Egyptians based them on the southern Palestinian shore. Moreover, according to the Wen-Amon story the Tjekker lived in Dor and its surroundings. Despite their Mediterranean origin, only three out of five Philistine capitals were located near the shore, while Gath and Ekron were located further inland. It is therefore quite reasonable to assume that those who dwelt in Gath and Ekron had originally had no connections with maritime trade and it is equally possible that they also had lived further inland in their original habitats. The term 'Sea Peoples' or 'Philistines' may be a more general term utilised for people who had descended from distant countries, which were situated far away across the sea. Their emigration from these different parts of the Western Mediterranean and other European regions was apparently caused (at least to some extent) by turbulences which befell this part of the world during the 13th/12th centuries BCE.

All in all, the number of newcomers must have been small. While some former inhabitants living near the Mediterranean coast would have fled (as seems to be the case with the Anakites, who during the Late Bronze and Iron Age I dwelt in the hill country; cf. Zwickel 1993: 483–486 = Zwickel 2015: 49–53), most Late Bronze Age kinsmen would have stayed in the region during Iron Age I. Despite the new wave of Sea People settlers, the overall number of inhabitants appears to have stayed approximately the same during the entire period stretching from the Late Bronze to the Iron Age. Consequently, one may assume that the number of new settlers never had been very high (Finkelstein 1996).

To comprehend better the changes which the Philistine area underwent during the transition period from the Late Bronze to Iron Age, as well as the specific geographical circumstances related to the five Philistine capitals, we need to take a closer look at the territory itself and its historical developments.

The historical situation as described in the Amarna Letters and in Papyrus Harris I

Based on our understanding of the Amarna Letters (Knudtzon 1915; Moran 1992), there existed several semi-autonomous city states in the southern Levantine coastal area and in the adjacent Shephelah. All of these were placed under Egyptian jurisdiction. Moreover, other towns also referred to in the Letters did not necessarily enjoy semi-autonomy and were not ruled by their own rulers. Yurza, which is located in the far south and which has been identified with Tell Jemmeh (Ben-Shlomo and van Beek 2014), was a prominent town (EA 314:4; 315:3). It was ruled by a mayor named Pu-Baʿlu. The next site located towards the north was Ḫazzata/Gaza, which has been identified with Tell Haruba in modern Gazze (EA 289:17.33.40; 296:32). Gaza was the hometown of an Egyptian commissioner (EA 289:32–33) and was one of the main centers to house an Egyptian military contingent. Gaza and Jaffa together were governed by a ruler named Yahtiru, who had his own troops and who sent a letter to Pharaoh (EA 297:32–33; Zwickel 2013: 86). It is likely that the Egyptian commissioner was also the mayor of that town. Ashkelon (EA 287:14; 320:6; 321:6; 322:5; 370:1) was the next city-state, ruled by a person called Yidya or Idiya. Lachish (EA 287:15; 288:43; 328:5; 329:6; 335:10.16), identified with Tell ed-Duwer, was a prominent site that was excavated during pre-Israeli and modern Israeli expeditions (Ussishkin 2004). It too was autonomous and was ruled by Zimredda and Yabni-Ilu. Muchrashtu (EA 335:17), which may be identical with biblical Moreshet-Gath, is probably to be identified with modern Tell Birnat (for the ongoing excavations at this site see McKinny and Dagan 2013). It is not certain whether or not it was a city-state in its own right or merely a town placed under the jurisdiction of another city-state. This site is referred to only once in the Amarna Letters in association with the city-states of Lachish and Jerusalem. The history of Kiltu (EA 279:12; 280:11.18; 289:28; 290:10.18), biblical Kegila and identified with the unexcavated site of Khirbet Qila, remains mostly in the dark. Shuwardata (EA 271; 279–284; 290; 366) may have been its ruler, even if this is not completely certain. EA 290:10 seems to support this thesis. Yet also Tell es-Safi must be taken into consideration as hometown of Shuwardata (cf. Goren *et al.* 2004: 279–286). Tell es-Safi has been identified with Gimtu/Gath (EA 290:9), but this site is only mentioned once in the Amarna Letters, while its status remains uncertain (see Maeir 2012).

The same holds true for Rubutu (EA 289:13; 290:11), which is likely to be identified with Khirbet Bir el-Hilu, as well as for Ajalon (EA 273:20; 287:57), identified with Yalu, both of which remain mostly unexcavated. Gezer (EA 253:22; 254:22; 287:14; 290:8; 292:43; 298:5; 299:4; 300:5; 369:1; 378:4), identified with Tell Jezer (cf. the excavations by Dever *et al.*

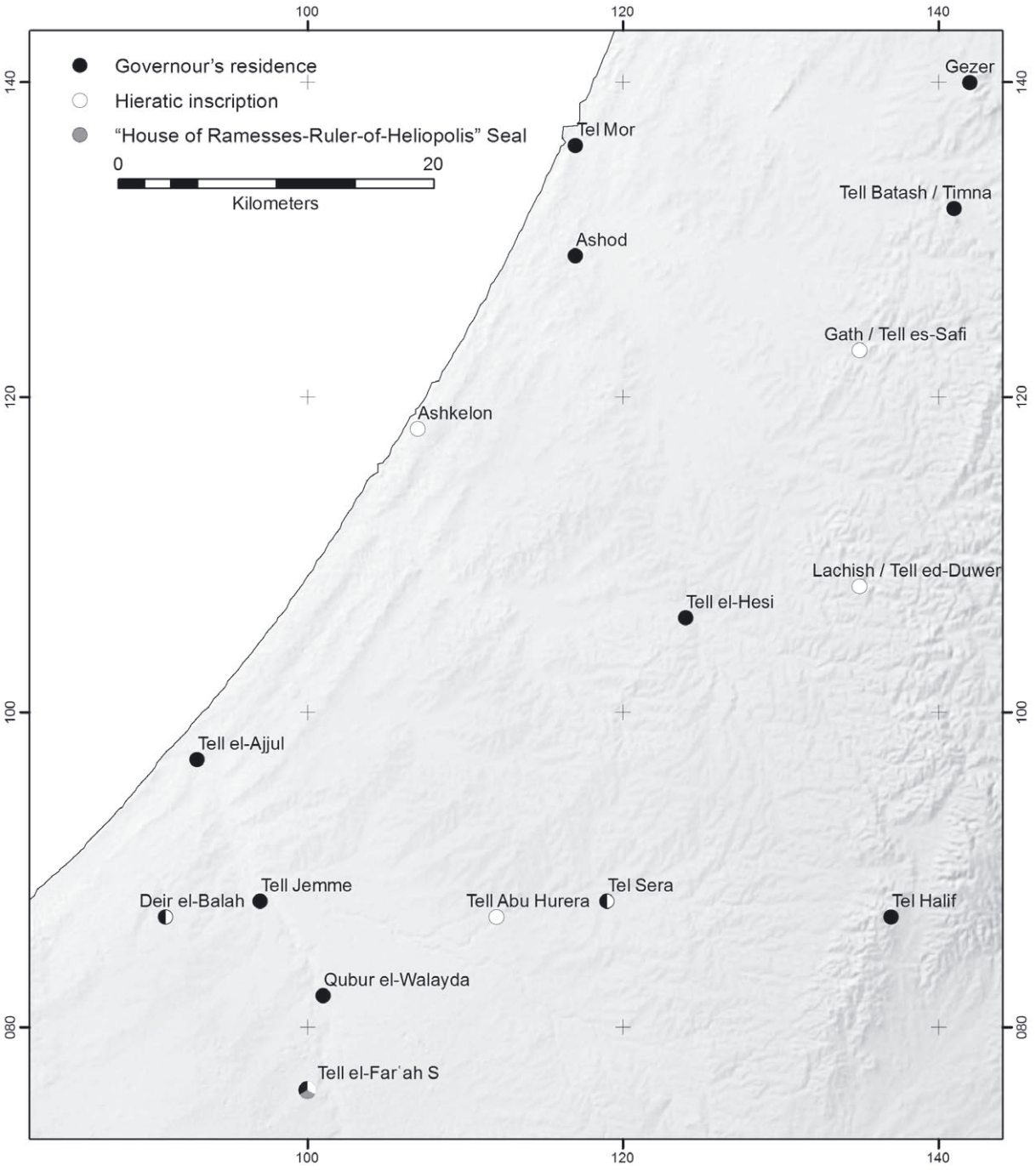

Fig. 3 Late Bronze Age temple estate of Gaza

1970 and subsequent volumes within the series of the Gezer excavations), was a very prominent city-state during the Amarna Period and as the Letters reveal it was ruled by Milkilu and subsequently by a certain Yapahu. Yapu (EA 138:6.85; 294:20; 296:33; 365:26), biblical Jaffa/Joppe, was an Egyptian fortress and port during the Amarna period (Peilstöcker and Burke 2011). Like Gaza it was controlled by Egyptian military commanders. According to EA 296:33 Yapu seems to have been in close contact with Azzatu/Gaza,

which was also under Egyptian control. The last site belonging to this area is Gittirimmunima/Gath-Rimmon (EA 250:46), which has been identified with Tell el-Jerishe (Herzog 1993a). It was evidently considered part of Pharaoh's Land. If this interpretation of the relevant Amarna text is justified, Gath-Rimmon must have been a town placed under the direct jurisdiction of Jaffa. Therefore the southern coastal area and the Shephelah was controlled by two city-states, Gaza and Jaffa, which appear to have been governed by Egyptians directly. The area in between would have included semi-autonomous city-states.

The situation in Gaza changed at least to some extent during the early 12th century BCE. During the reign of Ramesses III (1187–1156 BCE) the area was under Egyptian control (Papyrus Harris 500: 9,1–3; cf. Uehlinger 1988; 1993; Zwickel 2012). Hieratic inscriptions demonstrate that the surrounding areas had to pay taxes to the Egyptian temple at Gaza. The southern part of the Levantine coastal region may therefore be considered a temple-state economy belonging to Gaza (cf. Fig. 3). Hieratic inscriptions are attested at Tell esh-Sheriʿa/Tel Seraʿ, Lachish/Tell ed-Duwer, Tell es-Safi/Gath, Tell el-Farʿah South, Deir el-Balah, Ashkelon and Tell Abu Hurera (Wimmer 2008). One of these inscriptions is dated to the 22nd year of the reign of Ramesses III, which in absolute terms is 1165 BCE. This demonstrates that at least during this particular year, i.e. some years after the arrival of the Philistines in Palestine, the Egyptian temple economy system was still operating while the Egyptian temple itself still existed within the Philistine territory. Moreover, in Beth Shemesh and Tell el-Farʿah South seals have been found with the inscription "House of Ramesses-Ruler-of-Heliopolis", which may have belonged to an Egyptian commissioner, who would have been in charge of the area belonging to the temple estate of Gaza (but see also Brandl 2004: 59). The find spots of these inscriptions, as well as of the seals, give us an overall impression of the very scope of the area, which was under direct influence of the temple of Gaza.

This territory would have been squarely identical with the area, which also housed most of the so-called governor residencies (see Nigro 1996; Weinstein 1981; Oren 1984; Kafafi 2002; Fischer 2011: 57–75 and others; cf. Fig. 3). Even if we cannot be absolutely certain that all these indeed were true governor residencies, this region still contains a high concentration of structures, which seem to have been influenced by Egyptian architecture, at least to some extent. Fischer lists some 38 buildings, which have been interpreted as prominent structures atypical of Palestinian architecture. Only 10 (Tel Masos, Tel Jericho, Bet-El, Aphek, Tananir, Tell es-Saʿidiye Residence and the West-Palace, Pella and Taanach) are located outside the Philistine boundaries, whilst some 21 (Tell el-Farʿah South, Qubur el-Walayda, Tell Jemme, Tel Halif, Tel Sera X and IX, Deir el-Balah IX and VII, Tell el-ʿAjjul Palaces II, III, IV and V, Tell el-Hesi public and pilastered building, Ashod XVII, XVI/XV, XVI/XIV, Tell Batash/Timna IX and VIII/VII, Gezer IV and IIIa, Tel Mor IX and VII/VII) are located within or at least near its borders. To this number we must add five other buildings, namely those at Beth Shean (Beth Shean VIII, VII House of the Commander and House 1247, Q–2, VI House 1500 and House 1700), which was also a prominent Egyptian administrative centre in northern Palestine. Even if the identification of some of these buildings as governor residencies has been debated, their distribution is nevertheless striking. The high concentration of Egyptian architectural remains may therefore be considered as proof of a strong Egyptian administrative influence at this particular time in history.

The historical situation at the end of the Late Bronze Age and the Philistine capitals

What happened to these city-states during the subsequent 12th and 11th centuries BCE? The southern area was occupied by Sea Peoples, probably mainly by Philistines. Since no destruction levels have been found from this period, the settlement of the Sea Peoples must have been mainly a peaceful one, even if the architectural layout of the houses changed. According to Ramesses III's inscriptions at Medinet Habu (dated to 1176 BCE) small groups of Sea Peoples' soldiers with their families arrived at the Egyptian frontier and were defeated by the Egyptians. This struggle is depicted on the temple wall. During the aftermath of the war the Egyptians sought to employ Sea Peoples' soldiers as mercenaries within their own army, as they had done previously during the 13th century BCE (Lehmann 1985). The territory belonging to the Egyptian temple economy of Gaza basically encompassed the territories of the five Philistine capitals Gaza, Ashkelon, Ashdod, Gath and Ekron (cf. Fig. 2 and 3). Therefore we must assume that the Egyptians were responsible for settling the Philistines within this particular region. This assumption is supported by the fact that – according to one hieratic inscription – the Egyptian temple in Gaza indeed still existed at least until 1165 BCE, i.e. some years after the arrival of the Philistines. Evidently Egypt still maintained a number of strongholds in Palestine, while the Philistines served as mercenaries in a country that was con-

trolled by the Egyptian administration. Some 10 seals bearing the names of Ramesses IV were uncovered at various sites throughout Palestine (Brandl 2004). It demonstrates that during his reign Palestine continued to be controlled by Egypt, in spite of the fact that the Philistines were already there. It should be noted that at Tel Mor Stratum V Egyptianized pottery was found, while at contemporary Ashdod Stratum XIII this type of pottery is absent (Barako 2013). Moreover, the harbour was still utilised for Egyptian military purposes. At the same time the newly arrived Sea Peoples had begun to manufacture a completely different type of pottery within their own hometowns. We may therefore assume that at least between 1176 and 1165 southern Palestine continued to be under Egyptian sovereignty, whilst the Philistines had begun to occupy the region.

Scholars have suggested that there were two waves of Philistine invasions in the area along the southern Levantine coast (cf. Finkelstein 1995 for an overview of the history of research). The first wave may be connected with the settlement of Sea Peoples groups dated to after their battle against Ramesses III, while the second wave would have been a subsequent migration of Mediterranean folk, once the first group had safely settled down in the area. Permanent migration demands stabile political conditions, which can only be established by a first group of military aggressors. To the second wave of settlers probably also belonged a family of potters, who were responsible for the production of bichrome ware. For economic reasons no serious potter would have even considered settling in a foreign country where life conditions would still have been insecure. While specialising in pottery manufacture, he certainly was not a trained soldier.

We may consider a further development within the history of settlement of this area, namely the constitution of its particular Philistine culture as a necessary result of multiple Aegean peoples groups living in southern Palestine. This material culture only commenced during the second wave of migration and would not have been possible until the Sea Peoples had finally delivered themselves from the Egyptian yoke. The expulsion of the Egyptians from the region would have occurred c. 1150 BCE (Zwickel 2012). And naturally so, culture is characterized by more than simply the production of a new pottery type. Freedom and cultural independence are necessary factors for its very development. Had the Sea Peoples still been controlled by the Egyptians their culture would still have been strongly influenced by that of Egypt.

We need to consider yet another issue: the potters, artists and craftsmen, who settled in the area under discussion during the second wave, must not necessarily have migrated from the same region as the mercenaries, who had settled here during the first wave. Undoubtedly, the 12th century BCE witnessed turbulences within the entire eastern Mediterranean zone, which were especially caused by climatic changes, Hittite expansionist policy, social problems (including the Habiru!) and the ongoing decline of Egyptian power within the Levant. This indeed generated a massive migration throughout the Mediterranean and ancient Near Eastern world, whilst the area at the southern Levantine coast provided attractive living conditions for homeless folk. As for these upheavals, all existing settlement models are probably much too simplistic as the interregional population drift was considerably more multifaceted than has hitherto been considered.

According to the Amarna Letters at least three of the later five Philistine capitals had been Late Bronze Age city-states, namely Gaza, Ashkelon and Gath. Unfortunately the site of Gaza has hardly been excavated (Phythian-Adams 1923) and we know almost nothing about it other than that there had been a Late Bronze Age settlement here. The excavations at Ashkelon have revealed the remains of a flourishing city during the Late Bronze Age, even if these Late Bronze remains have hitherto only been partly published (Stager 2008). So far only layers from the 13th century have been thoroughly excavated at Gath/Tell es-Safi. Some 14th century pottery was also found in some squares (Maeir 2012; personal communication with A. Maeir). Ashdod (Dothan and Freedman 1967; Dothan 1971; Dothan and Porath 1982, 1993; Dothan and Ben-Shlomo 2005) and its harbour Tel Mor (Barako 2007) were prominent Late Bronze Age towns. Although Ashdod is not mentioned in the Amarna Letters, this may simply be mere coincidence. Indeed, several Amarna Letters are only poorly preserved and due to their sad state of preservation it may be assumed that the name of its ruler and hometown were simply lost. As for Ekron, it was only an insignificant town during the Late Bronze Age, even if some remains have been excavated within a limited area in Field I, located on the north-eastern acropolis (Dothan and Gitin 1993: 1052f.).

As soon as the Egyptians had been expelled from Palestine, the Philistines made these five cities their new capitals. This being so, the four sites of Gaza, Ashkelon, Gath and Ashdod represented continuity of the former Egyptian hegemony with only one exception, i.e. that they now were securely controlled by the Philistines.

But what happened to the other Late Bronze Age towns in the southern region? Yurza/Tell Jemmeh had

been a flourishing city-state during the Middle and Late Bronze Ages. Although the final excavation report has only been published very recently (Ben-Shlomo and Van Beek 2014), little is known about its fate during the Late Bronze to Iron Age transition. An Iron Age I settlement is attested, but the number of relevant excavation areas for this period is limited. Lachish was probably conquered by the Philistines in about 1150 BCE (Zwickel 2012; Ussishkin 2014: 198–201). The Philistines not only expelled the Egyptians from the Levantine coastal region, but also sought to expand their territory towards the east. Tell Burna (identified with Muchrashtu/Moreshet-Gath), another site within the Philistine territory, was abandoned after the 13th century BCE and remained unoccupied for some four centuries (McKinny and Dagan 2013). Consequently, except for the capitals (and perhaps also for Tell Jemmeh) no prominent site within the southern region appears to have maintained its previous dominance during Iron Age I.

The historical development during the Late Bronze and Iron Age I periods within the area between Ekron and Tel Qasile

The northern territory between Ekron and Tel Qasile did not, as far as we know, belong to the Gaza temple estate. No hieratic texts have been discovered so far within this area. It appears that the Egyptian administration in this region was connected with the Late Bronze Age Egyptian fortress at Jaffa. If so, we have a completely different situation as compared to the territory further south. In Jaffa a military base controlled the area by force (Peilstöcker and Burke 2011; Peilstöcker *et al*. 2013), whilst in Gaza a religious economy system administered the area.

As for the development of Late Bronze Age cities and city-states in this region, we do not possess any inscribed or archaeological evidence from excavations for the existence of Rubutu (likely to be identified with Khirbet Bir el-Hilu) and Ajalon (identified with Yalu) during Iron Age I. Yet based on survey work, Khirbet Bir el-Hilu (Aharoni 1969) and Yalu (Albright 1924: 10) were occupied both during the Late Bronze Age, as well as during Iron Age I. Hence, some settlement continuity must have existed.

The unexcavated site of Kegila (= Khirbet Qila) remained a Canaanite city-state into the 10th century according to 1 Sam 23. There is no reason to query this biblical information. Indeed it seems that David assisted its inhabitants in their military struggle against the Philistines (for a literary critical analysis of the text, see Veijola 1984).

The history of Gezer during Iron Age I is rather confusing. While the excavators attribute Stratum XIV to a pre-Philistine phase during the 13th/12th centuries BCE, Strata XIII–XI (early/mid-12th – early/mid-11th century BCE) are taken to be Philistine. Frankly, the character of the settlement during Iron Age I is not clear at all. All three layers XIII–XI ended with destruction (for the most recent chronological outline, see Seger 2013: 10f.). Although the Israelites were unable to conquer Gezer according to the biblical tradition as found in Josh 16:10 and Jdg 1:29, archaeology has shown that the site must have suffered from several military conflicts. Neither by historical texts nor by archaeology, are we able to identify the combatants of Iron Age I. Philistine pottery is rare at the site. Generally the evidence of Philistine pottery cannot be taken as proof of Philistine presence at a site. Philistine ware was regarded as high-quality pottery in the region. Therefore the presence of this ware is rather to be understood as a luxury and not as an ethnic marker.

Also Stratum IX, which has been dated to the early 10th century BCE, was destroyed during a heavy conflagration. This destruction layer is generally associated with the story in 1 Kgs 9:16, which refers to an anonymous Pharaoh, who may be identified with either Siamun or his predecessor Osorkon (21st Dynasty), who had conquered Gezer, burned it with fire and given it as a dowry to his daughter during her wedding to King Solomon. It seems that Gezer had remained Canaanite (and therefore was not a Philistine city) till the early 10th century when it came under Egyptian control. At this point Gezer experienced a similar fate to that of Kegila, which too had remained an independent Canaanite town. Undoubtedly Gezer was a geographically strategic city, which controlled the very access to the highland sites Jerusalem and Bethlehem.

If Gezer and Kegila had indeed remained independent until at least the late 11th century, we must assume that this also holds true for Beth-Shemesh, which was the most important town located between these two sites. It was located in a similar geographical area and had the same status. Unfortunately Beth-Shemesh, which appears to have been a prominent Late Bronze Age city, is not mentioned in the Amarn1a Letters. Yet some scholars seek to identify it with Bit-^{d}NIN.URTA (EA 290:16), whose location is nevertheless disputed. The old excavations conducted by D. Mackenzie (1911–1912) and by E. Grant and G.E. Wright (1928–1933) at Beth-Shemesh have revealed a massive amount of material. Unfortunately their techniques lacked precision and were not quite up to today's standards. Hence, any historical reconstruction based on their material will remain problematic by definition. The new excavations conducted by S. Bunimovitz and Z. Lederman have so

Former excavations	Current Excavations
V: MB B–C, 17th/16th century BCE	
IVa: LB I, 15th century BCE	
IVb: LB II, 14th/13th century BCE	
III: IA I: mid-11th century BCE	Level 6: IA I, 1150–1100 BCE
	Level 5: IA I, 1100–1050 BCE
IIa: IA II, 1000–950 BCE	Level 4: IA I, 1050–950 BCE
IIb/c: IA II, 950 – 8th century BCE	Level 3: IA IIA, 950–750 BCE
IIc: IA II, 8th century – 586 BCE	Level 2: IA IIB, 750–701 BCE
	Level 1: IA IIC, 650–635 BCE
I: Hellenistic to Medieval Periods	

Table 2 Synchronization of the levels at Beth-Shemesh (based on Bunimovitz and Lederman 1993, 2008)

far only been published in part. Table 2 presents a synchronization of the levels as excavated by the former and current excavators.

As Bunimovitz and Lederman have emphasized "relying on architecture and pottery, the material culture of Beth-Shemesh certainly reflects a continuation of Canaanite cultural traditions until the end of the twelfth century BCE and beyond" (Bunimovitz and Lederman 2008: 1645; for a different view see Münnich 2013). Unfortunately it has not been one of the aims of the new expedition to clarify the situation at the transition from the Late Bronze to Iron Age. Yet as may be surmised from the data that have now been published, it appears likely that also Beth-Shemesh had survived as a Canaanite town in the area to the northeast of the Philistine territory. Gath and Ekron therefore had eastern borders with the still surviving Canaanite city-states Kegila, Beth-Shemesh and Gezer. Also located in the hill country is Jerusalem. It too may be considered as a city which had maintained its Late Bronze Age societal system. The tribe of Judah dwelt to the west of Kegila, Beth-Shemesh and Gezer and south of Jerusalem (Fig. 4).

The excavations at Beth-Shemesh and Gezer demonstrate that some dramatic changes must have occurred here during the 10th century BCE. During that century their territory, as well as that of Jerusalem (2 Sam 5:6–10) is likely to have been integrated into the Judahite Kingdom. As for Gezer it would be wrong to view the information in 1 Kgs 9:15 as mere fiction. At Beth-Shemesh remarkable changes can be observed at the transition from Levels 4 to 3. While no evidence of destruction has been found at the end of Level 4, the layout of the city changed completely. The excavators believe that the occupants of Level 3 now belonged to Judah. Maybe this is best understood in the light of the historical events known from the time of Solomon. When Gezer became Judahite, Beth-Shemesh, the only surviving city-state which had maintained its Late Bronze Age tradition, was no longer able to maintain its independence and consequently also joined the Judahite kingdom (Fig. 5).

Further research will be needed to refine the reconstruction of the historical developments during Iron Age I and IIA within this particular area. Nevertheless, biblical information adds weight to ascribing these changes to Solomon rather than to David. David's main strategic interest was in the area south of Gezer and Beth-Shemesh (cf. Fig. 4). Ekron (Khirbet el-Muqanna; 1 Sam 17:52; 2 Kgs 1:2,3,6,16), Gath (Tell es-Safi; 1 Sam 7:14; 17:4,23,52; 21:11,13; 27:2–4,11; 2 Sam 1:20; 6:10,11; 15:18,19,22; 18:2; 21:19,20,22; 1 Kgs 2:39–41), Azekah (Tell Zakariye; 1 Sam 17:1), Efes-Dammim (Khirbet Qeyafa; 1 Sam 17:1), Socho (Khirbet Abbad; 1 Sam 17:1), Adullam (Khirbet esh-Shekh Madkur; 1 Sam 22:1; 2 Sam 23:13) and Kegila (Khirbet Qila; 1 Sam 23:1–13) are all located within a restricted area of less than 25 km (cf. the map of David's activities in Zwickel *et al.* 2013: 127). Nearby Adullam was a military base of David, which was aimed at controlling the area under consideration.

Except Aphek, where the Philistines assembled their armies, no other sites north of this territory are mentioned in the stories about David (1 Sam 29:1). The lack of place names such as Beth-Shemesh, Gezer or even Jaffa/Tell Qasile/Tell Jemme seems to confirm that David showed little interest in this area. Of course, it is also possible that he was unable to control it. Even though several archaeologists have sought to associate these sites with David, we actually do not possess any straightforward evidence, which would indeed support the association of the destruction layers within this region with David's military campaigns.

Jaffa lost its role as Egyptian center during the transition from the Late Bronze to the Iron Age. Unfortunately the editing of Kaplan's excavation results is still

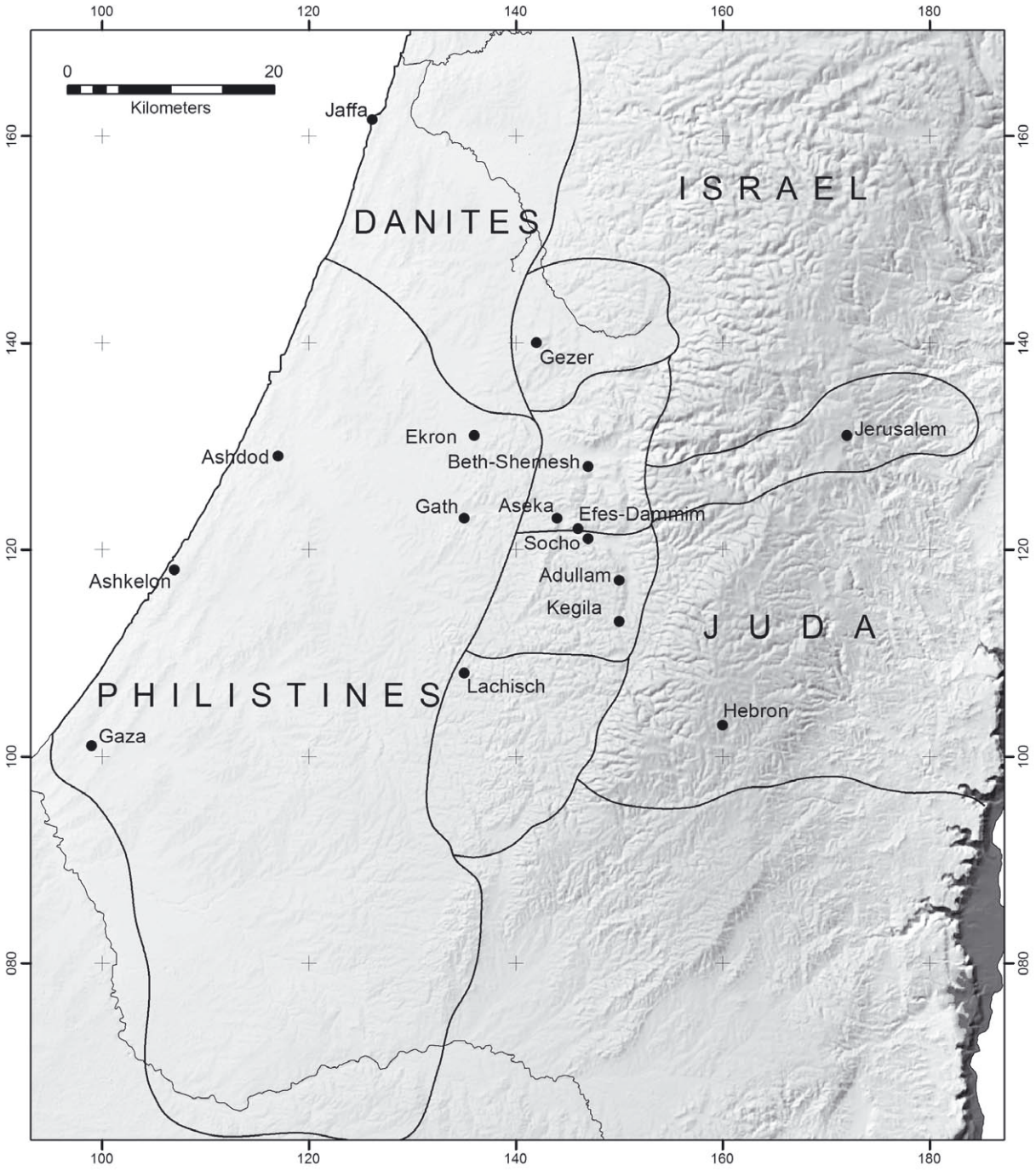

Fig. 4 Iron Age I city-states in the area of Judah and the remaining northern realm of the Sea Peoples

in a premature stage. There can be no doubt, however, that Jaffa lost its central role as an Egyptian fortress and administrative center at the end of the Late Bronze Age. The new excavations at Jaffa have happily clarified some of the trickier chronological problems. The final publication of the site will undoubtedly yield further data. The area around the Late Bronze Age gate was restored by Ramesses II, who built a newly inscribed facade. Some decades later, possibly under Merneptah, the walls were refortified and the passage-

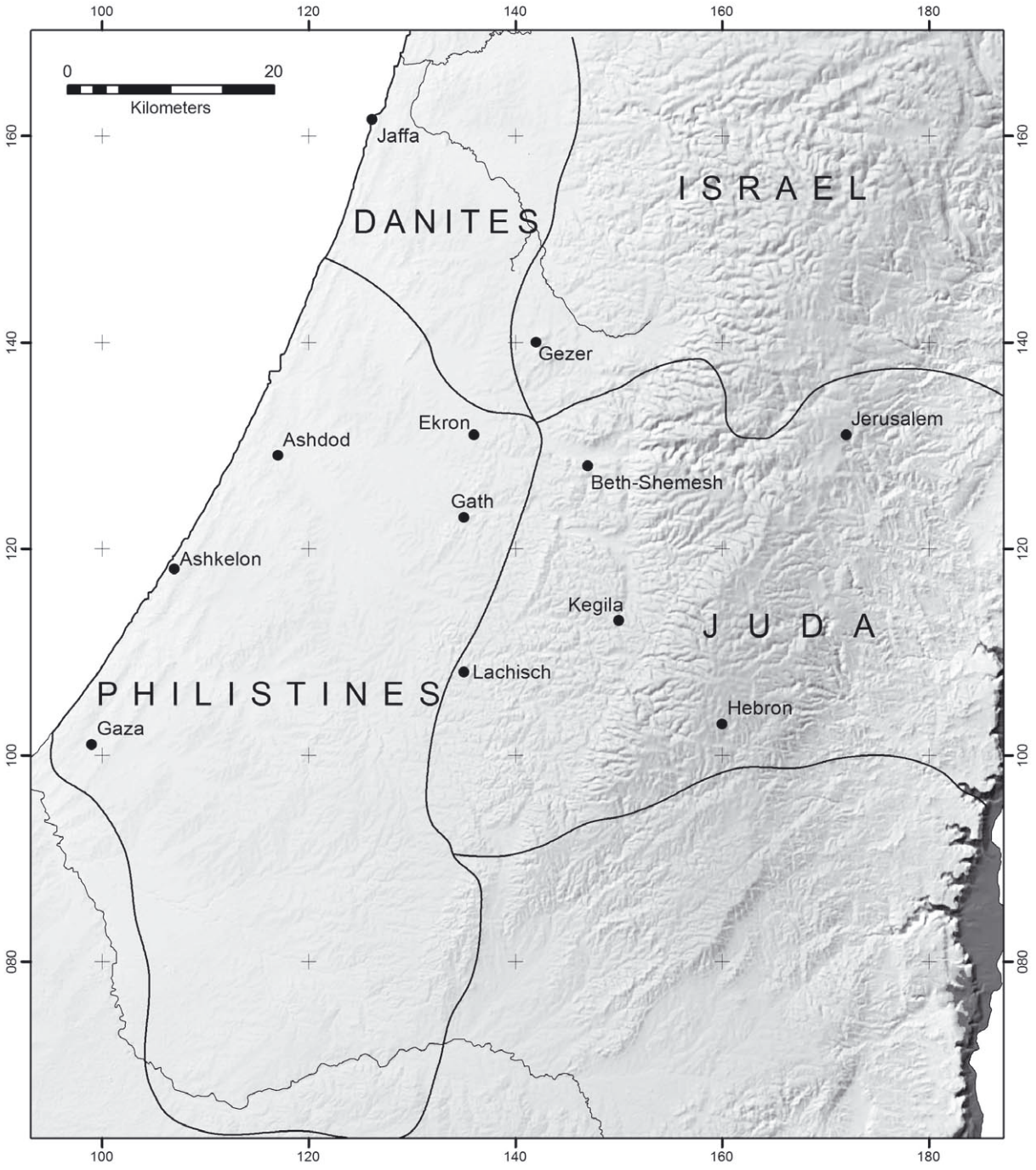

Fig. 5 Circumstances after the termination of the city-states towards the end of the 10th century BCE

way became smaller. Sometime later the fortress was destroyed in a conflagration (Burke and Peilstöcker 2012). The main question that remains concerns the absolute date when the Egyptian fortress came finally to an end. Burke and Peilstöcker suggest that it was destroyed during a Canaanite revolt during the reign of Merneptah. But I would suggest a later date. The cities of Gaza, Beth Shean, Kamid el-Loz/Kumidi and Jaffa were all major Late Bronze Age Egyptian military and administrative outposts in the southern Le-

vant. Gaza certainly could not have survived if nearby Jaffa had already ceased to exist as an Egyptian outpost some decades earlier. Hence, a date as late as the reign of Ramesses III or IV should be considered (cf. Zwickel 2012). Consequently, Jaffa would have been destroyed c. 1150 BCE, when finally the Egyptian hegemony ceased over southern Palestine. The so-called lion temple, often regarded as an Early Iron Age structure, may preferably be re-ascribed to Late Bronze IIA (Miller 2012). The settlement pattern of the Iron Age I town remains unclear, but what seems obvious is that it must have been insignificant (Burke 2011: 71). Evidently, the Egyptians no longer controlled the harbor during Iron Age I.

Gath-Rimmon/Tell Jerishe lost the dominant role it had enjoyed during the Late Bronze Age and its layout changed completely. Late Bronze Age remains were found in Area C as well as in the center of the mound, while Iron Age remains were only discovered in Areas B and D (Herzog 1993a). Although the settlement continued to exist, the layout of the village as well as of the center of the settlement changed. Moreover, nearby Tel Qasile, situated on the opposite bank of the Yarkon river, became the new trading center of the region.

Consequently, according to the historical sources, the situation in the northern part of the territory was completely different from that in the south. In the southern part of the traditional Philistine territory some Philistine capitals (Gaza, Ashkelon, Ashdod and Gath) had been former Late Bronze Age city-states. In the northeastern part some of the Late Bronze Age cities even survived as independent city-states until the 10th century BCE (e.g. Kegila, Beth-Shemesh, Gezer), while in the northwestern part the role of cities such as Jaffa or Tell Jemmeh was drastically degraded.

The sites in the north of the territory and their history of settlement

So far relatively few sites from the coastal region north of Ekron are known, but definitely no important site has been missed by archaeology. Evidently at least during the Iron Age II we find a significantly different settlement pattern in the coastal region, which was occupied by the Sea Peoples, and the hill country, which was inhabited by Judeans. The Judean territory counts many more settlements than the Philistine territory (cf. Zwickel 2011). The border was probably located at Aphek, Mazor, Lod and Gezer.

Table 3 (cf. Fig. 6) presents a list of settlements, which are so far attested (mainly based on Finkelstein 1996; for a list of the sites including the hill country, which was likely Judean, see Zwickel 2011: 87–89 and fig. 7.2):

Name of the site	Ancient name	Coordinates	Size	Late Bronze	Iron I	Iron II	
12/14							
Tel Shalaf	Elteke	128.144	S	X	X	X	Kaplan 1956/1957: 199–205; Fischer and Taxel 2007a; cf. Gorzalczany and Teksell 2001: 73*
Tell es-Sultan, Tel Mahoz	Muhazi	1259.1475	S	X	X	X	Dothan 1952: 104–117; Fischer and Taxel 2007a
"Yavneh dunes"		124.145	S	X		X	NN 1983: 50
Yavneh Yam		1212.1479	S	X		X	Kaplan 1993a: 1504–1506; Dothan 1952: 111; Fischer 2005: 173–208; Fischer and Taxel 2007a
Tel Yavneh	Jabneel	1262.1415	M		X	X	Fischer and Taxel 2007b; Kletter 2004: 45*f.
Yavneh "Favissa Hill"		1263.1419	S			X	Ziffer and Kletter 2007; Kletter *et al.* 2010; Kletter *et al.* 2015
Mesad Hashavyahu		1215.1475	S			X	Naveh 1993: 585f.; Fantalkin 2001; Fischer and Taxel 2007a
"Triangulation point 49"		1261.1406	S			X	Fischer and Taxel 2007a
13/14							
Tel Malot/Tell Malat		137.140	S	X	X	X	Shavit 1993: 49–50; Weksler-Bdolah and Golani 2000: 70*f.; Ory and Shmueli 2007; Parnos 2007
Ras Abu Hamid	Gibbeton	1397.1456	M		X	X	Wolff and Shavit 1999: 68*–70*; Wolff 1999: 55*f.
14/14							
Yad Rambam		140.145	S	X		X	Survey Shavit (unpublished)

Table 3 List of settlements so far attested

12/15							
Holon		1288.1588	S	X			Thompson 1979: 298
Rishon le Ziyyon		c. 129.152	S	X		X	NN 1968: 15
Rishon le Ziyyon Dunes		c. 126.156	S	X		X	Unpublished
Rishon le Ziyyon		1278.1535	S			X	Installation only; Segal 2000: 66*–67*
Rishon le Ziyyon		c. 128.153	S			X	Segal 2000: 67* (Assyrian fortress, unpublished)
–		1279.1552	S	X			Thompson 1979: 299
–		1278.1552	S	X			Thompson 1979: 299
Ramat Eliyahu		1287.1545	S	X			Thompson 1979: 299
13/15							
Azor	Azor	131.159	M	X	X	X	Dothan 1993a: 127–129; Gophna 1967: 7; van den Brink 2005; Ben-Shlomo 2012
Beth-Dagon	Bet Dagon	1338.1566	S		X	X	NN 1966: 10; Peilstöcker and Kapitaikin 2000: 59*–60*
Beth-Dagon junction		133.156	S	X		X	Unpublished
el-Yehudiya		1397.1596	S	X (?)		X	Dorsey 1991: 61; Jakoel 2014
Ono/Kfar Ana	Ono	1377.1590	M	X			Thompson 1979: 301
14/15							
Lod	Reten/Lod	1404.1516	M	X		X	Gophna and Beit-Arieh 1997: 66*–68*; van den Brink 1999: 49*–50*; Kogan-Zehavi 2000: 65*; Yannai and Marder 2000: 63*–66*; Segal 2012; Nagorsky 2013
12/16							
Jaffa	Jaffa/Joppe	126.162129.169	M	X	X	X	Kaplan and Ritter-Kaplan 1993: 655–659; Kaplan 1972; Peilstöcker 2000: 47*–49*; Fantalkin 2005; Peilstöcker 2007; Burke 2011; Peilstöcker and Burke (eds.) 2011; Peilstöcker *et al.* 2013; Arbel *et al.* 2012
Tell Kudadi			S			X	Avigad 1993a: 882
13/16							
Tell Abu Zetun		1347.1673	S			X	Kaplan 1993b: 186
Tell Jerishe	Gath-Rimmon	1319.1665	M	X	X	X	Herzog 1993a: 482–484
Kheiriya/Ibn Ibreq	Bene Beraq	1338.1604	M	X	X	X	Finkelstein 1990: 29–40
Tell Qasile	Me-Jarkon?	1309.1678	M		X	X	Mazar 1993: 1204–1212
Bene Beraq/el-Waqf		1334.1658	S	X	X	X	Kletter 2000: 37*–38*
Ramat Gan		1325.1662	S	X			Thompson 1979: 286
14/16							
Tell Aphek	Afek	1438.1682	S	X	X	X	Beck and Kochavi 1993: 62–72; Kochavi and Beit-Arieh 1994: 32*; Gadot 2005
Mazor		144.162	S	X	X	X	Kochavi and Beit-Arieh 1994: 63*
Petah Tiqwa		1412.1664	S			X	Elisha 2011
13/17							
Tel Qana/Tell Hassan as-Sala		1397.1707	M		X	X	Gophna and Kochavi 1966: 143f.; Gophna and Ayalon 1998: no. 97
Tel Michal		1310.1743	M	X		X	Herzog 1993b: 1036–1041; Muhly and Herzog 1982: 72–74; Gophna and Ayalon 1998: no. 55
Tell Makmish		1314.1744	M			X	Avigad 1993b: 932–934; Gophna and Ayalon 1998: no. 44
Tell Arshaf		1318.1777	S			X	Gophna and Ayalon 1998: no. 11
Kfar Shemaryahu		1332.1771	S			X	Gophna and Ayalon 1998: no. 23
Herfeliyat		1316.1737	S			X	Gophna and Ayalon 1989: no. 57
Hiltamiya		1394.1701	S			X	Gophna and Ayalon 1998: no. 98
"North of Kfar Shemaryahu"		133.177	S			X	NN 1962: 24

Table 3 List of settlements so far attested

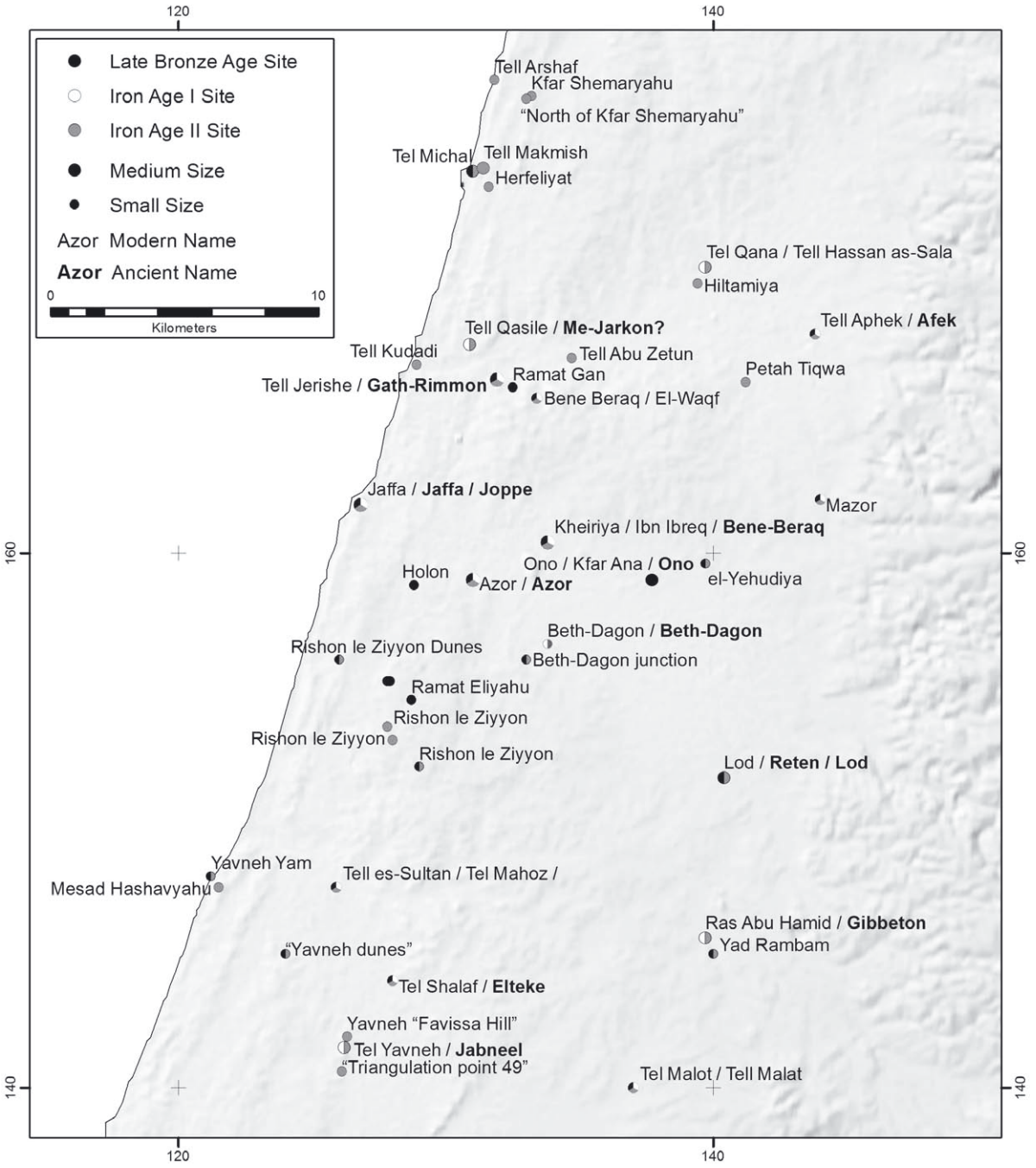

Fig. 6 Late Bronze and Iron Age Sites north of Ekron

Only 10 out of 24 Late Bronze Age sites within this area were continuously occupied during Iron Age I (12/14: Tel Shalaf; Tell es-Sultan; 13/14: Tel Malot; 13/15: Azor; 12/16: Jaffa; 13/16: Tell Jerishe; Kheiriya; el-Waqf; 14/16: Tell Aphek; Mazor), while 14 sites were abandoned. Five sites were newly founded during Iron Age I (12/14: Tel Yavne; 13/14: Ras Abu Hamid; 13/15: Beth-Dagon; 13/16: Tell Qasile; 13/17: Tel Qana). This settlement history indicates dramatic changes in the area at the end of the Late Bronze Age.

The actual circumstances must have been more dramatic than statistics could ever demonstrate. Fortunately nearly all sites, which witnessed continuity from the Late Bronze to the Iron Age, were excavated, some carefully and others rather superficially. They give us a fair grasp of what had happened. At Tell Aphek, the Egyptian governor's palace was completely destroyed at the end of the Late Bronze Age and remained in ruins thereafter. After a settlement gap new simpler houses were built, which were likely occupied by fishermen (Stratum X11; cf. Gadot and Yadin 2009: 599). The subsequent Strata X10 and X9 were even less developed. At Tel Jerishe the Late Bronze Age settlement situated on the acropolis also experienced its sudden demise, while Iron Age I remains were only found at the northern and southern ends of the mount. While this prominent Late Bronze Age town became a very small village, the nearby newly founded site of Tell Qasile (located on the northern bank of the Yarkon river) became the new regional center during the Iron Age I period (Herzog 1993a). In Bene-Beraq/el-Waqf excavated finds are scarce and yield too little information to be helpful. At Kheiriya Late Bronze Age and Iron Age I remains were retrieved in different areas. It seems that there was indeed settlement continuity, but this site witnessed a dramatic change in its overall settlement layout, too.

Tel Azor with its Crusader fortress was partly explored by M. Dothan. But Dothan mentions nothing about his research on the tell. Another small excavation was conducted here by R. Gophna and M. Busheri back in 1966. Its finds remain unpublished, while another excavation, that of H. Torge, only touched later levels. Nonetheless, based on information found in the archives Ben-Shlomo (2012: 3) states that Gophna and Busheri did find Early Bronze Age I, Late Bronze Age, Iron I and early Islamic strata. Consequently, it seems safe to suggest that an ancient settlement had existed here long before the crusaders built their fortress on the site. Another small-scale excavation was conducted by van den Brink (2005). The excavator refers to Iron I/II shards, which were found in Area B. But none date back as far as the Late Bronze Age. It seems apparent, however, that some settlement change did occur during the Late Bronze to the Iron Age period.

More interesting than the excavations on the tell are those which were carried out in the cemeteries of Azor. Although the preliminary publication (Dothan 1993a) yields little information, Ben-Shlomo has subsequently published a brilliant report on Dothan's excavations (Ben-Shlomo 2012). While Dothan's Area B contained only Chalcolithic, Early Bronze Age I and Middle Bronze Age IIC material, the tombs in Areas C and D confirm that they had been continuously in use from the Late Bronze Age to the Iron Age. Unfortunately the excavations and documentation in Area C did not yield sufficient data (Ben-Shlomo 2012: 15–26). The most important area of study is Area D. Some Iron Age IB skeletons (tombs D63 and D62 and possibly D9) were clearly cremated (Dothan 1993a: 129; Ben-Shlomo 2012: 32, 69–74). While cremation was not practised by the indigenous inhabitants and is absent from the Late Bronze Age tombs at the site, some parallels do exist from Late Bronze Age Palestine. Even in the Aegean cremation appears to have been only rarely practiced. The situation is, however, different in northern Syria (Alalakh, Hama, Rasm et-Tanjara, Tell el-Khanzoura and Tell Sukas) and in the Hittite realm, where such evidence does exist (Gilmour 1995; but cf. Ben-Shlomo 2012: 207–208). Gilmour suggests that this type of burial practice found its origin in the Hittite empire and was first adopted in northern Syria and only later in Palestine (for Iron Age I cremation burials in Palestine, see Bloch-Smith 1992: 52–55). If this theory holds true, we may assume that at least some Hittite or Hittite-influenced people settled at Azor during the Iron Age I period, despite the relatively vast amount of Philistine luxury ware, which was also found in the tombs.

Based on survey results from Tell Shalaf it has been surmised that an Egyptian fortress or administrative post stood here during the Late Bronze Age (for Iron Age I cremation burials in Palestine, see Bloch-Smith 1992: 52–55). This site controlled the Via Maris in this region. Goldwasser has published two Egyptian slabs, which were found near Tell Shalaf. Although they were found in secondary use, they may have originated from an Egyptian building at Tell Shalaf (Goldwasser 1992). She dated them to the 19th Dynasty. This Egyptian administrative post would have been closely related to the large fortress at Jaffa. It seems therefore likely that Tell Shalaf was given up at the same time as the Egyptian presence at Jaffa ceased to exist. No Iron Age I building remains have been reported, but pottery shards from this period have been collected. Hence, settlement at the site continued during Iron Age I, when the Egyptian post was apparently abandoned.

Tell es-Sultan and Tel Malot are known only from surveys or scarce excavation work. Nothing more can be said. The fortress of Jaffa, the main site within this territory, was burned to the ground c. 1150 BCE. Architectural structures from the Iron Age I period are limited, although Iron Age I pottery has frequently come to light (oral communication with M. Peilstöcker).

In our current outline we have shown that dramatic changes must have been responsible for the termination

of sites in the region at the end of the Late Bronze Age. The Egyptians probably left the area about 1150 BCE, while new settlers arrived perhaps some decades earlier in 1187 BCE. They destroyed some sites but continued to dwell in a restricted number of Late Bronze Age settlements (with a modified layout). They also founded new sites. The cremation burials at Azor may relate the new settlers to the Hittite homeland or at least to the Hittite realm. Moreover, the very sophisticated production of cultic paraphernalia at Tell Qasile (Mazar 1980, 1985) demonstrates that their manufacturers were highly skilled potters, even if their origin also remains unknown. No typical Philistine figurines of the so-called 'Ashdoda' and 'Mourning Woman' types have been found at Tell Qasile (but they existed in Tel Aphek, see Guzowska and Yasur-Landau 2009: 392f.). Mazar (1980: 119) argues in favour of some pottery connections with Cyprus. Even so, although a significant number of Cypriote sites have been thoroughly excavated, no truly convincing parallels exist between the Tell Qasile corpus and the cultic items found in Cyprus. An inscription found at Tel Aphek (Singer 2009) is written in unknown language and remains undeciphered. Unfortunately archaeology has only been able to yield some hints at the possible origins of the new settlers. But below I shall suggest an origin for these settlers based on written tradition.

Later historical data related to the northern part of the southern Maritime coast of Palestine

The reconstruction of the historical events spanning the period from the 12th to the 9th centuries BCE in the region under discussion is faced with many problems. We do not possess records from Iron Age I, which may be considered truly reliable historical sources. Even in Iron Age II, for which period more biblical texts exist, this region is hardly ever described in the relevant Old Testament passages. The people in Jerusalem, who were responsible for writing the majority of biblical texts, do not seem to have been very interested in the history of this relevant region. Most of its sites are briefly referred to in the topographical lists of Josh 15 (v. 11: Jabneel; v. 41: Bet-Dagon) and especially so of Josh 19.

According to biblical tradition, the area was definitely under Philistine control at the end of the 10th and during the early 9th century BCE (cf. 1 Kgs 15:27; 16:15,17). There is no reason to doubt the historicity of these biblical verses. We may therefore surmise that Gibbeton (likely the same as modern Ras Abu Hamid) was a Philistine border town, which came under siege by the Israelites. Moreover, these biblical texts demonstrate the extent of the Israelite territory during the early 9th century, while the Judahite area was located further south.

Additional data come from the end of the 8th century BCE. The Taylor Prism (ANET 287; Tropper and Vita 2004: 389; Weippert 2010) refers to the wars of the Assyrian monarch Sennacherib, who fought against Phoenician and Philistine towns and finally besieged Jerusalem. The area ruled by Sidqa, the king of Ashkelon, is of special interest:

In the continuation of my campaign I besieged Beth-Dagon, Joppe, Bene-Beraq, Azor, cities belonging to Sidqa who did not bow to my feet quickly; I conquered them and carried their spoils away (II, 68–72).

The attribution of Beth-Dagon, Joppe, Bene-Beraq and Azor to the territory of Ashkelon may come as a surprise, as Ashdod is much near than Ashkelon (cf. Figs. 1 and 2). As mentioned in 1 Kgs 15:27; 16:15,17 this area was considered Philistine territory. This clearly shows that the area had been continuously occupied by Philistines from the late 10th down to the 8th centuries BCE. We possess no data concerning battles in this area apart from the boundary dispute between Israel and Philistia on the one hand and the wars fought by Sennacherib on the other. The possibility exists, however, that some battles were never reported in the Old Testament.

Regardless of missing textual information, destruction levels at excavated sites may help to reconstruct historical events. The most thoroughly excavated site by far is Tell Qasile (for a summary, see Mazar 1980: 9–12). Strata XII–X, which cover the Iron Age I period, represent an ongoing cultural development uninterrupted by destructions. Stratum X was destroyed by heavy conflagration. This event is dated by Mazar to c. 980 BCE, while Finkelstein dates it later in accordance with his 'Low Chronology' (a scheme which I do not support). This destruction level is usually assigned to David's activities, although there exists no positive proof that Judahites or Israelites had come this far west to reach the Mediterranean shore at this time. Another violent destruction, represented by an ashy layer, is attested at the end of Stratum IX, which has been dated to the first half of the 10th century. Also Stratum VIII, which is attributed to the second half of that century, was destroyed. Subsequently, the site remained unoccupied for some 300 years.

Similar results can be retrieved from Tel Aphek and Tell Jerishe. Tel Aphek Stratum X10/X9 also contains an ashy layer, which has been dated to c. 1150–1100 BCE. Strata X8–X6 can hardly be divided. Its settlement ended with Stratum X6, likely at the end of the 10th century BCE. The occupational evidence at Tell Jerishe is much more complicated, except that this site

also seems to have been abandoned at the end of the 10th century BCE. The stratigraphical correspondence between Tell Qasile, Tel Aphek and Tell Jerishe is presented in Table 4 (cf. Gadot and Yadin 2009: 88–108, 587f.; these dates follow the 'High Chronology' scheme):

	Tell Qasile	Tel Aphek	Tel Jerishe
1200	Unsettled	Hiatus	Settlement
1175			
1150	Stratum XIIB/XII	X10/X9	
1125			
1100	Stratum XI	X8–X6	
1075			
1050	Stratum X		
1025			
1000			
980/975	Stratum IX		
950	Stratum VIII		
925			
900	Abandoned		

Table 4 Stratigraphical correspondence between Tell Qasile, Tel Aphek and Tell Jerishe

It seems that all three sites were destroyed during a battle towards the end of the 10th century. Scholars usually attribute their abandonment to the military campaign of Pharaoh Shishak. Nevertheless, according to the latter's topographical list at Karnak, this monarch bypassed the region. Evidently he seems not to have been much interested in the Philistine territory at all, except for Gaza (no. 11), which was Egypt's traditional doorway to the Levant. As would be expected, this site is referred to in the campaign list (on Shishak's campaign, see Zwickel *et al.* 2013: 145). According to our sources neither David nor Shishak conquered the area around Jaffa and Tel Qasile. Our stratigraphical observations seem rather to suggest that it was the kingdom of Ashkelon that had conquered the area north of Ekron either c. 1100 BCE or c. 925 BCE when it was incorporated into its territory. From this point on, the area became Philistine. Another important question relates to the ethnic origin of the people who lived in the area prior to its annexation by Ashkelon.

We do not possess any specific information that allows us to date this event more precisely. Yet with some confidence the date of c. 1100 BCE may be preferable. Whilst in c. 925 BCE civilization in the area of Tell Qasile came to a sudden end, this region remained occupied c. 1100 BCE. Hence, Ashkelonite expansion was not aimed at destroying the settlements within this territory, but simply at incorporating them into Ashkelon's realm. Control over the harbours of Tell Qasile and Jaffa must have improved Ashkelon's economic welfare, while mere destruction of sites would have rather harmed it.

We must reexamine the story of the ark of the covenant in 1 Sam 4 within this context. It is difficult to tell when it was composed, but in general the basic text of this chapter is considered to be a relatively ancient one (Dietrich 2010: 195–248). 1 Sam 4:1b mentions a battle between Philistine and Israelite troops. The Philistines camped at Aphek while the Israelites were stationed at Eben Ezer (Izbet Sarta?). If this tradition is of a pre-Davidic origin, the date of the Ashkelonite conquest of this region around 1100 BCE finds further support. Aphek was the northernmost outpost within the Danite region. The story would make little sense if the inhabitants of Aphek had been part of Israel's tribal system. We therefore consider this battle to be an early attempt by a Philistine state to expand its own territory. This would then have occurred during the 11th century BCE, after the conquest of the northern territory by the Ashkelonites and before the time of David.

The original occupants of the area north of Ekron

Some biblical texts may provide some further clue as to who were the original settlers in this particular area. In the texts concerning land distribution in Josh 15–19, the region north of Ekron is considered a separate entity. The traditional Philistine territory to the south is, despite its real historicity, regarded as Judahite. Josh 15:45–47 mentions the area of Ekron, Ashdod and Gaza as one of the Judahite subareas (district V; cf. the map Zwickel *et al.* 2013: 111). This corresponds precisely to the traditional Philistine territory including the five Philistine capitals. De Vos (2003) has suggested that this text may have been a secondary editorial addition incorporated into the original Judahite town list. This area would then have been considered Judahite simply because of the general scope of the book of Joshua, which seeks to prove that all the land was conquered by Israel. In this case we must consider this text as pure fiction without any relation to reality as district V never had been considered as being under Judahite control. However, could it be that this so-called fictive material in fact contains an old tradition? Evidently this passage mentions only the traditional Philistine area in the south, while the northern part is considered as a separate entity belonging to the tribe of Dan. The borderline of district V seems to recall original circumstances representative of the Iron Age I period.

The area north of Ekron is mentioned in Josh 19:41–46 as being the territory of the tribe of the Danites (cf. Fig. 6):

41 The territory of its inheritance included Zorah, Eshtaol, Ir-Shemesh,
42 Shaalbim, Ajalon, Ithlah,
43 Elon, Timnah, Ekron,
44 Eltekeh, Gibbeton, Baalat,
45 Jehud, Bene-Berak, Gath-Rimmon,
46 Me-Jarkon, and Rakkon at the border opposite Joppa

This territory (see the map in Zwickel *et al.* 2013: 110) is viewed as an Israelite tribal region, which was to be clearly distinguished from the traditional Philistine area. Yet this is not the only territory assigned to the tribe of Dan. There also exists a city-state called Dan located in northern Palestine, which was called Lajish or Leshem during the Bronze Age (Josh 19:47; Judg 18). Biblical texts contain the tradition that both Danite areas belonged to the Danites and that the latter had left their original habitat in the south in order to conquer the northern city. Nevertheless, it cannot be excluded that, as with North-Syrian and Southern Levantine Walistin/Palistin/Philistine territory (Hawkins 2009; Harrison 2009; Galil 2014), parts of a Danite tribe had originally lived in two different regions caused by the mass migrations at the end of the Late Bronze Age.

Another possibly ancient text in the Old Testament (and in my opinion this may be one of the most ancient ones concerning the Danites) adds further weight to the theory. In Jdg 5:17 we are being told that the tribe of Dan, together with other tribes, was accused of not having joined Deborah's military coalition during the so-called Deborah-war:

Gilead stayed beyond the Jordan;
and Dan, why did he abide with the ships?
Asher sat still at the coast of the sea, settling down by his landings.

Dan is connected here with ships. It is therefore quite clear that the author is speaking here about the southern Danites, whose territory was situated near the Mediterranean shore. Northern Dan was located in the foothills of Mount Hermon and is therefore situated far away from any sailing activity. Asher is also mentioned in this verse. Its territory is located in the northern coastal plain near the Carmel ridge and northwards towards Phoenicia (Josh 19:24–31; cf. the map Zwickel *et al.* 2013: 110). It seems likely that dominant Asherite harbors such as Acco, Tyre or Sidon never actually belonged to Israel. After the mid-10th century the tribal territory of Asher (squarely identical with the biblical land of Cabul) never was part of Israel again (see 1 Kgs 9:10–14). It seems safe to suggest that both Dan and Asher were Israelite tribes and that this information must not be seen as a fictional invention of a later biblical redactor. The stories in Genesis, which mention the sons of Jacob, were written to demonstrate which tribes belonged to Israel and Judah, and which kindreds (such as the Moabites and the Ammonites in Gen 19) were merely distant Semitic relatives and traditional enemies. The description of Jacob's family reveals clear evidence of a conscious national identity within Israel and Judah. Such relations were not simply forged. They must have possessed a historical nucleus, which remained part of Israel's cultural heritage. Since we cannot find any connection between Asher and Israel after Solomon's reign, it must be assumed that this relationship originated during the Iron Age I period.

The same is likely true for the southern area belonging to the Danites. They too must have been considered an Israelite tribe, and the historical nucleus for this relationship must be sought during the same period. This supports our stratigraphic views that the Danite territory was indeed conquered by Ashkelonites either around 1100 or (less probably) 925 BCE. The excavations at the Azor cemeteries demonstrate that people living here originated at least in part from elsewhere, possibly from areas influenced by Hittite culture. Since they had settled by the Mediterranean shore and were, according to Jdg 5:17 (also during Iron Age I), still active sailors, they may be considered part of the Sea Peoples' groups. If justified, the complete Mediterranean shore had been occupied by people who had originally joined the Sea Peoples' movement during Iron Age I. Their geographical sequence from south to north may therefore have been as follows: Philistines, Danites, Tjekker and Ashurites.

These new settlers followed different strategies in establishing their own ways of living in their new homelands. While the Philistines (and probably also the Tjekker) sought to establish an independent territory separated from both Judah and Egypt, the Danites and Ashurites evidently integrated themselves and assimilated with the new tribal society, which developed during the Iron Age I period within the Southern Levant. The Philistines remained foreigners in the eyes of the indigenous people of the ancient Near East. The Danites, however, sought to be integrated into the society of the southern Levant and would become an integral part of the Israelite alliance.

Where did the Danites originate from?

In order to answer the question concerning the origins of the Danites, I wish to refresh an old theory, which has been mostly forgotten. Already C.F. Gordon argued in favour of a linguistic parallel between the Sea Peoples' group of the Dananu/Danaoi and the biblical Danites (Gordon 1963; cf. Astour 1967; Yadin 1968; for a summary see Niemann 1985; Lehmann 1991).

The Dananu are mentioned in texts from the time of Amenhotep III and IV (Amarna Letters), Ramesses III and in the so-called Onomasticon of Amenemope spanning the period between the 18th and at least the late 20th Dynasties (cf. Adams and Cohen 2013: 658–660). The Dananu may likely be connected with the site of Adana, which is located in Cilicia and its surrounding plain. Unfortunately so far no extensive research has been undertaken to find archaeological evidence, which links the material culture of Cilicia (cf. the overview by Jean 2010; cf. also French 2013) with that of the Danite territory. Thorough research in the future may however establish connections (cf. the preliminary observations by Killebrew 2013 concerning the pottery; Cohen-Weinberger 2013 concerning a petrographic analysis of the pottery; Meiberg 2013 concerning lion-shaped cups). The arguments presented in this article therefore add fresh support to the Cilician theory concerning the origins of the Danites. Cilicia was heavily influenced by Hittite culture during the 14th/13th century BCE. This then would nicely explain the crematory burial activities at Azor, and also the sailing activities of the Danites in Jdg 5:17. The old Cilician theory linking the Dananu with the Biblical Danites is therefore worthy of further investigation.

Summary

The reconstruction of the history of the area to the north of Ekron is based on circumstantial evidence. The combination of several observations helps to present the following historical scenario of the settlement of Sea Peoples in the area of the Southern Levant:

In 1179 BCE several Sea Peoples' groups fought at the famous battle against the Egyptians located near the Nile delta. These Sea Peoples were composed of groups from very different origins: Philistines, Tjekker, Shekelesh, Dananu and Washashu. After their victory, the Egyptians settled the Philistines as mercenaries to their own advantage in the area of the Gaza temple economy. The Philistines with their four or five capitals Gaza, Ashkelon, Ashdod and Gath/Ekron adopted the Late Bronze Age city-state system; there exist only a few sites in this region besides these capitals.

Other Sea Peoples groups would not join the Egyptian army, as the Philistines had originally done. They adopted different ways of establishing their new ways of living. The Tjekker, mentioned in the Wen-Amun-story, conquered the area around Dor. They evidently sought to remain independent and abstained from any close connections with the Israelite tribes for several centuries to come. Indeed originally they were able to maintain their own traditional material culture (Stern 2013). Their territory was probably not integrated into the Northern Kingdom of Israel prior to the reign of Omri (Stratum 2a late; cf. Gilboa and Sharon 2008).

Parts of the Dananu settled in the area north of Ekron, while other descendants of the same group settled in the area of Dan and chose the very north of the southern Levant as their homeland; hence the biblical text calls them Danites in accordance with their true original name. After their land appropriation, they evidently joined the native people and integrated themselves into indigenous society. When time passed, they were finally considered one of the tribes of the Israelite tribal confederacy. Nevertheless, as the finds from Tell Qasile and later from the Yavne temple hill (cf. Kletter *et al.* 2010; Kletter *et al.* 2015) demonstrate, they preserved parts of their traditional material heritage, which is predominantly visible through their religion. The material culture of Tell Qasile clearly shows that no 'Israelite' culture existed here before the late 10th century BCE. It seems safe to assume therefore that each tribe preserved its own heritage.

Other Sea Peoples groups left the shore and moved further inland. Some Danites conquered the town of Lajish in northern Israel and settled there. In the Bible this northern Danite tribe is also understood as an Israelite tribe. They were likewise integrated into the Israelite confederation, although they still continued to adhere to a traditional city-state system. Hardly any other sites are accounted for in the Danite territory of this northern tribe during the Iron Age.

It is likely that other small Sea Peoples groups settled in the Jordan Valley. Tubb has suggested this interpretation to explain his excavations at Tell es-Saʿidiye (Tubb 2005), likewise Fischer for his dig at Tell Abu Kharaz (Fischer and Bürge 2013; cf. Fischer 2013; see also Bürge, this volume). Other sites may also show evidence of the same phenomenon. At Pella a cult stand was discovered, which shows close similarities with one unearthed at Tell Qasile (Elkowicz 2012: Tf. 45a/b). Nissinen and Münger (2009) have demonstrated that there exist close cultic connections between several sites in the Jordan Valley north and south of the Sea of Galilee. According to our current knowledge, all these groups became part of society in the region and became after some time part of Israel's tribal society. The main aim of the Sea Peoples' movement was to find new ways of survival, while each group chose different means of establishing themselves within their new home country.

After some time and certainly after around 1150 BCE, the Philistines freed themselves from the Egyptian yoke. As a result Egyptian control over Palestine finally ended, after hegemony lasting for several centuries during almost all of the Middle and Late Bronze

Ages. The area of the five Philistine city-states now fell under Philistine jurisdiction. When the Philistines delivered themselves they expanded their territory and destroyed Lachish, the southernmost Levantine town outside the Egyptian temple-state area.

Reports about any further military activities by the Philistines during the subsequent century are lacking. Circumstances were therefore presumably stable. At this time also the Israelite tribes including Judah developed and established their own society.

At the end of the 11th century BCE, during the reign of Saul and the early days of David, the Philistine territory expanded once more. The books of Samuel mention several battles with the Philistines. Although some of the texts may be later editorial or even fictional additions, they contain some reliable historical evidence (cf. Dietrich 2010, 2012, 2015). One Philistine attack is located to the north in the area of Beth-Shean and in the Gilboah hills (1 Sam 28:1,4–5; 29; 31; 2 Sam 1:1–16). Very likely this military campaign may be connected with Sea Peoples' groups living in the Jordan Valley (Tell es-Saʿidiye, Tell Abu Kharaz and Pella). It may be assumed that all these foreign non-integrated Sea Peoples' groups were simply labelled 'Philistines' by the writers of the Old Testament. Their separate histories had been lost and could no longer be distinguished. Other attacks are connected with the area north and south of Jerusalem, the very heartland of Judah and Benjamin (1 Sam 7:7–13; 10:5; 13; 14; see also, without any precise localizations in 1 Sam 18:17–30; 19:8; 2 Sam 5:17–25) and in the Elah-Valley (1 Sam 17). The Philistines had established their strongholds in the hill country of Gibeah (1 Sam 10:5; 13:3), Wadi es-Suwenit (1 Sam 14) and Bethlehem (2 Sam 23:14–16). The attacks in the Elah Valley would have been instigated by the Philistines of Gath, whose capital was located nearby. This Sea Peoples' group was likely also responsible for the wars against Kegila (1 Sam 23:1–14). Through the valley of Elah they had direct access to Bethlehem, Jerusalem, Gibeah and the Wadi es-Suwenit. Consequently, the Gathites (Gittites) must have been the culprits of these battles also, but may have been assisted by other Philistine capitals as well. No other Philistine capital showed the same particular interest and had access to the hill country as did the Philistines of Gath. Therefore they evidently expanded their territory towards the hill country of Judah and Jerusalem during the later decades of the 11th century BCE.

Also the citizens of Ashkelon expanded their area when they conquered the territory of the southern Danites and integrated it into their dominion. It is hard to date this particular attack. Based on destruction levels, this must have either happened c. 1100 or (less likely so) around 925 BCE. Their jurisdiction over the Danite area became the very economical basis of Ashkelonite welfare.

The city-states of Gezer, Beth-Shemesh and Kegila lost their independence during the 10th century. Gezer was handed over to Solomon during the latter's reign, and also Beth-Shemesh may have switched allegiance at this time, when Judah's power had become sufficiently strong to ward off the Philistines. The same may be true of Kegila, but perhaps the connections between the citizens of Kegila and David made an earlier annexation during the time of David possible.

At the end of the Davidic-Salomonic dominion, the borders between Philistine and Judahite/Israelite areas remained relatively stable, except for some smaller disputes which occurred at Gibbeton.

Certainly, the scenario presented in this article is based on insufficient evidence. Since we have hardly any historical records from the Iron Age I period at our disposal, we can only seek to combine these scattered pieces of the jigsaw puzzle. If at least some of the ideas presented in this article stand up to serious testing and are anywhere near historical reality and compatible with the historical developments pertaining to the question of the Sea Peoples' settlement in Palestine, Syria and Lebanon, we may draw the following conclusions: The settlement history and the acculturation of the Sea Peoples in the Levant certainly was extremely multifaceted and it must therefore be taken into account that the process was far more complex than has hitherto been recognized.

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The Sea Peoples: A View from the Pottery

Penelope A. Mountjoy

Abstract

The shapes and motifs of the Philistine pottery from Ekron, Ashdod and Ashkelon are considered in relation to the pottery from the Aegean and from other East Mediterranean areas in order to pinpoint possible origins for some of the groups of Sea Peoples. The shapes and motifs demonstrate contacts between Philistia and the East Aegean-West Anatolian Interface, Crete and Cyprus, the Cretan connection being over Cyprus. The results of Neutron Activation Analysis of 12th century BCE pottery from Cyprus highlight trading routes which would also have been used by migrating peoples. The question arises as to whether the Cypriot influence on the Philistine pottery was the result of movement of peoples or simply of increased trade, when the Philistine cities had already been established.

The collapse of the Mycenaean Mainland palaces at the end of LH IIIB has long been taken as responsible for movement of peoples at this time in the Aegean and around the eastern Mediterranean, one view in particular seeing the Philistines as coming from somewhere in the Aegean. An examination of the Philistine pottery from Ekron, Ashkelon and Ashdod, especially of the motifs used on it, offers information as to the genesis of the motifs and possibly to the origins of its users.

The sources of some of the Philistine motifs

The East Aegean-West Anatolian Interface connection (Figs. 1–3)

A link between a spiral krater workshop at Ekron and the East Aegean-West Anatolian Interface has already been pointed out (Mountjoy 2010: 1–7). The Ekron examples from this workshop have been found in Fields IV and X. Similar spirals to the double-stemmed spirals on the Ekron vases (Fig. 1) are found at sites in the Lower Interface in the East Aegean Koine (Fig. 2). This Koine is a pottery koine which existed in the southern Interface in LH IIIC Early and Middle. It covered the area of the islands of Kos, Kalymnos, Astypalaia, Miletos and Chios, and, on the Anatolian Mainland, Liman Tepe, Bakla Tepe, Bademgediği Tepe, Kadikalesi, Pilavtepe and, possibly, Çine Tepecik. It does not include Rhodes (see Mountjoy 2015a: fig. 1). Sites which have the double-stemmed spirals include Chios (Mountjoy 1999: Chios no.2), Miletus (Schiering 1959–60: pl.14 bottom row left; Heilmeyer 1988: 25 cat.no.3 illustration no.24 in group bottom left) and Bademgediği Tepe (Mountjoy 2009: 68, fig. 4.1). These spirals are not found elsewhere on the Greek Mainland or on Crete in LH IIIC Early. The linking of the right-hand spiral on the Ekron piece by cross bars to the stem of the next spiral (Fig. 1:2) is uncannily reminiscent of the syntax on the Bademgediği deep bowl (Fig. 2:4), which also has links consisting of three cross bars. The fact that some groups of Sea Peoples came to Philistia from south-west Anatolia is known from the texts (Singer 1988: 239–250). The appearance at Ekron of a motif particular to this area might support this idea.

Another Interface connection, although not directly to Philistia, is suggested by multiple-looped spirals (Fig. 3), that is spirals with a double-looped stem. This unusual version of the antithetic spiral may have gone from the East Aegean Koine, from sites such as Armenochori on Astypalaia (Fig. 3:5), to Tarsus and Cyprus and then gone from Cyprus to Philistia. A connection over Cyprus rather than directly from the east Aegean to Philistia is suggested by the fact that the Tarsus examples (Fig. 3:3–4) are close to the Aegean version, whereas the Enkomi version (Fig. 3:2) is more removed, but close to that at Ekron (Fig. 3:1); it is possible the motif came to Enkomi from Tarsus.

The Cyprus connection (Figs. 4–9)

A number of the motifs appearing on Philistine 1 (Monochrome) pottery (see Meehl *et al*. 2006: 71–72 for the terminology) have come from Cyprus, where they were used at sites such as Enkomi, Sinda, Hala Sultan Tekke and Maa-Palaeokastro. There is a quirk workshop at Ekron (Fig. 4). The quirks, which are a variant of FM 48 (Furumark 1941: fig. 61), flank a main motif, such as chevrons, barred streamers, or a bird. There are no parallels for this syntax on Crete

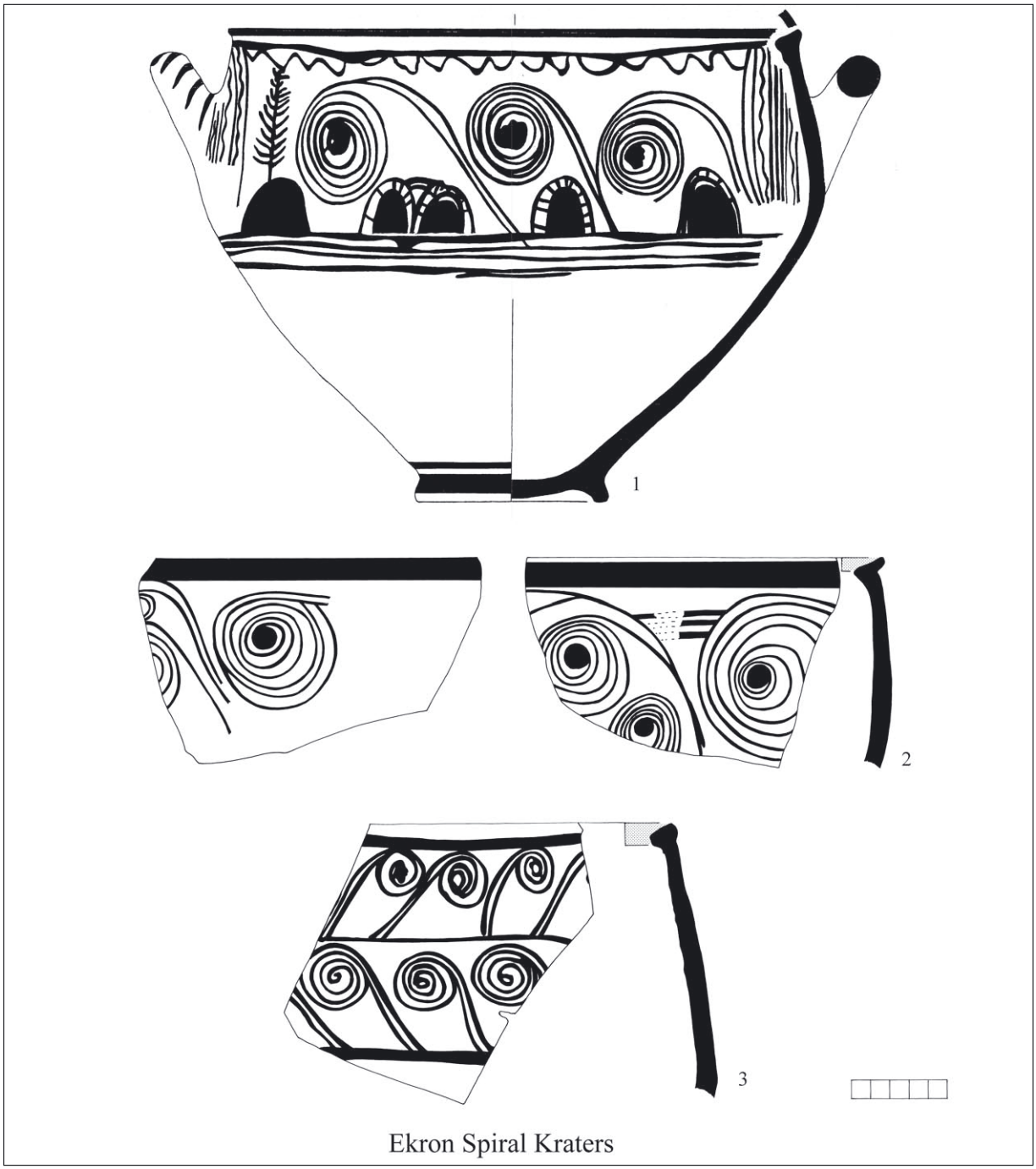

Fig. 1 1. Dothan 1998: pl. 2.2, 2. Dothan *et al*. in press: fig. 5.20.6, 3. Dothan 1998: pl. 3.5. Scale 1:3

or the Greek Mainland, but there are parallels in west Cyprus at Maa (Fig. 4:5–6), where similar quirks appear with chevrons. There is a loop workshop at Ashdod (Fig. 5). Loops sit on bars, which either link stemmed spirals to the rim band (Fig. 5:1–3) or link stemmed spirals or tongues to each other (Fig. 5:4–6). There are parallels on Cyprus at Enkomi to the second variant (Fig. 5:7–8). An unusual version of the tassel motif at Ekron (Fig. 6:1–2) is also present at Enkomi (Fig. 6:3–4). Instead of springing straight from the

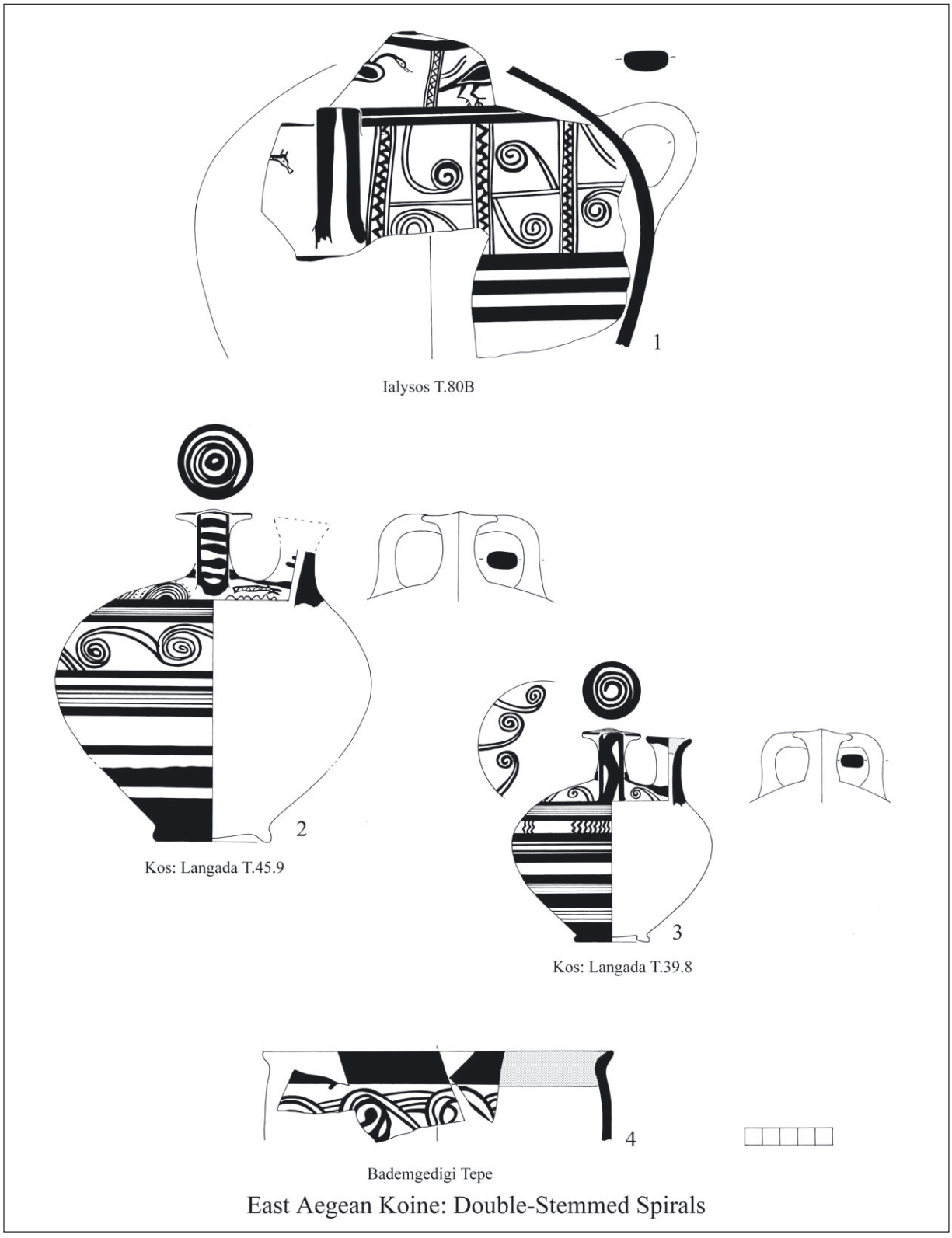

Fig. 2 1–3. Mountjoy 1999: Rhodes no. 255, Kos no. 143, Kos no. 145, 4. Mountjoy 2015a: fig. 20.1. Scale 1:3

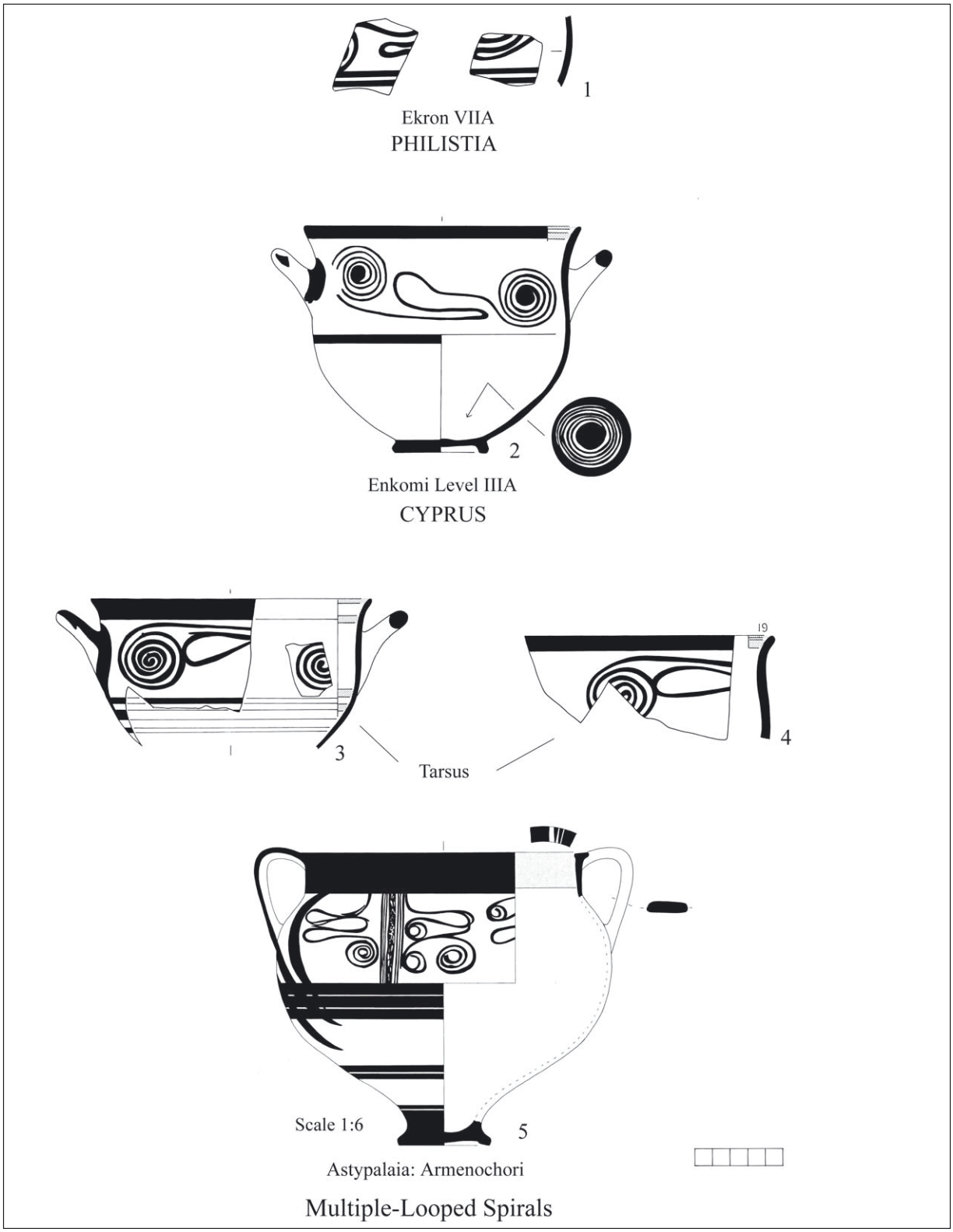

Fig. 3 1. Dothan and Zukerman 2004: fig. 35.3, 2. Dikaios 1969: pl. 109.6, 3–4. Mountjoy 2005a: 117, fig. 10.243, 244, 5. Mountjoy 1999: Astypalaia no. 7. Scale 1:3

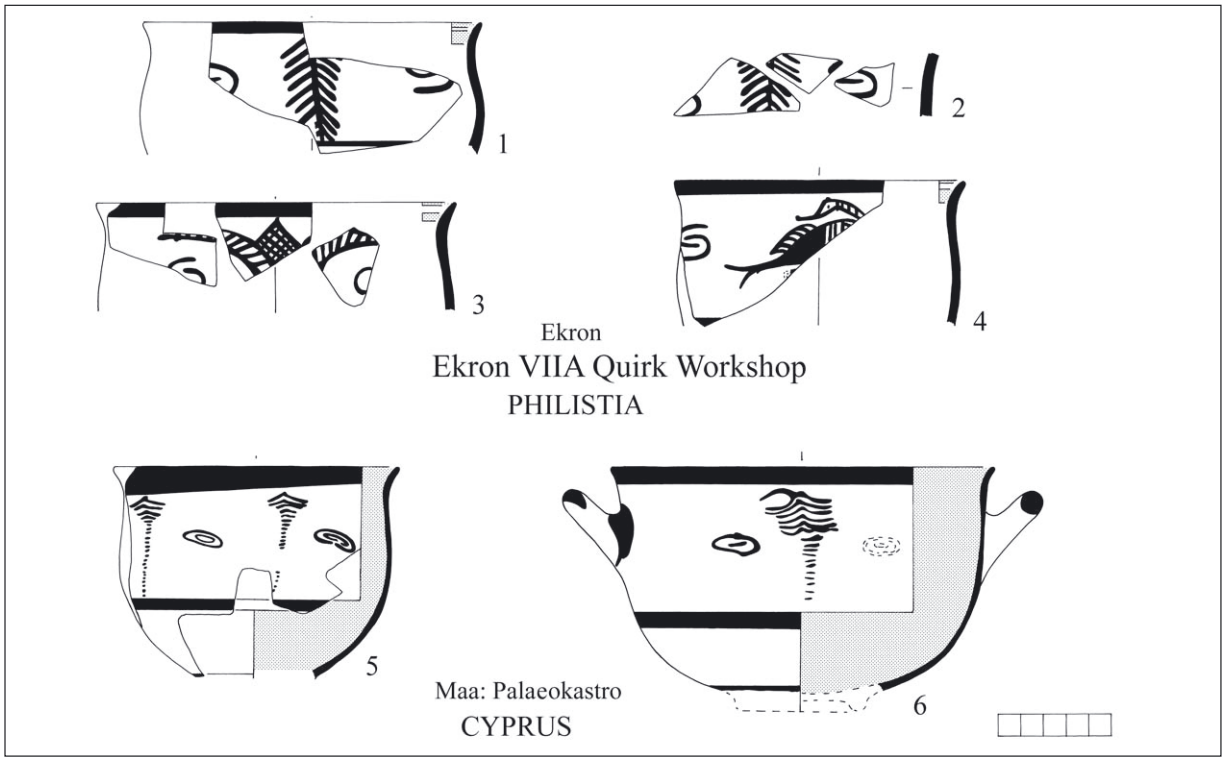

Fig. 4 1. Dothan and Zukerman 2004: fig. 8.15, 2–3. Meehl *et al*. 2006: fig. 3.20.19, fig. 3.16.12, 4. Dothan and Zukerman 2004: fig. 8.14, 5. Karageorghis and Demas 1988: pl. LXXIV. Scale 1:3

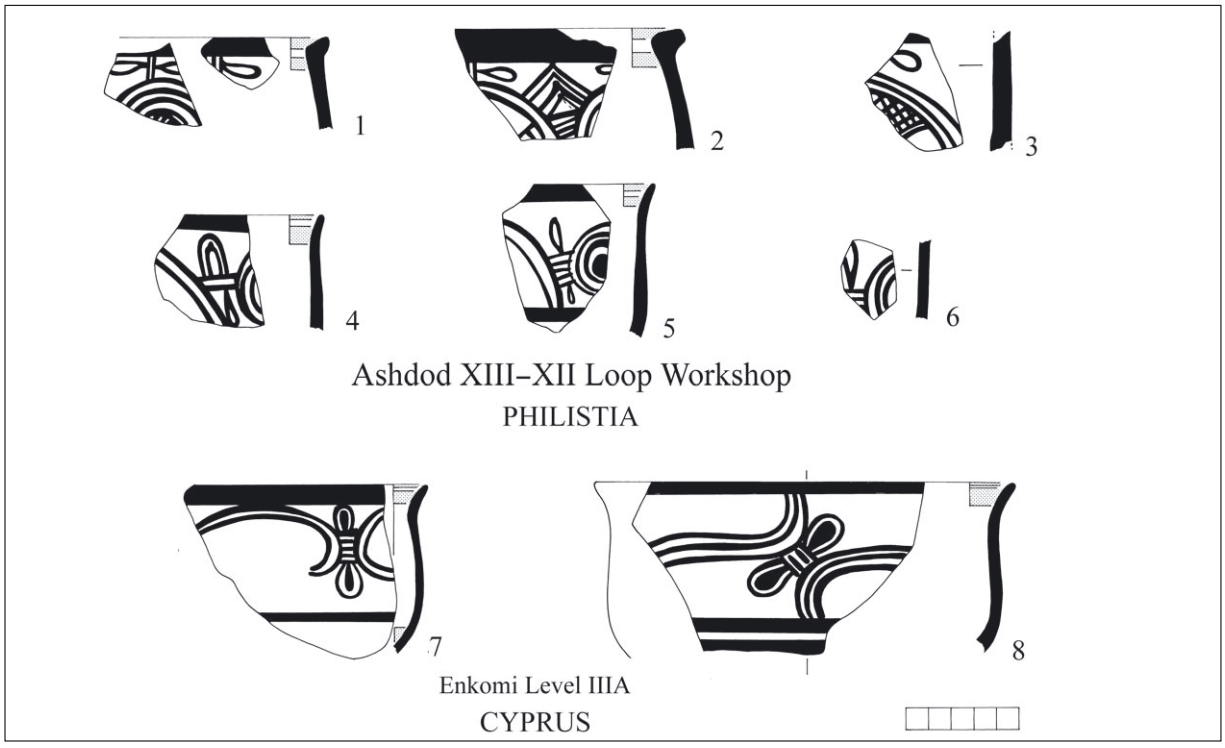

Fig. 5 1–2. Dothan and Ben Shlomo 2005: fig. 3.11.4-5, fig. 3.2.14, 3. Dothan and Porath 1993: fig. 16.9, 4–6. Dothan and Ben Shlomo 2005: fig. 3.2.12, fig. 3.2.13, fig. 3.11.6, 7. Dikaios 1969: pl. 70.19, 8. Enkomi. Scale 1:3

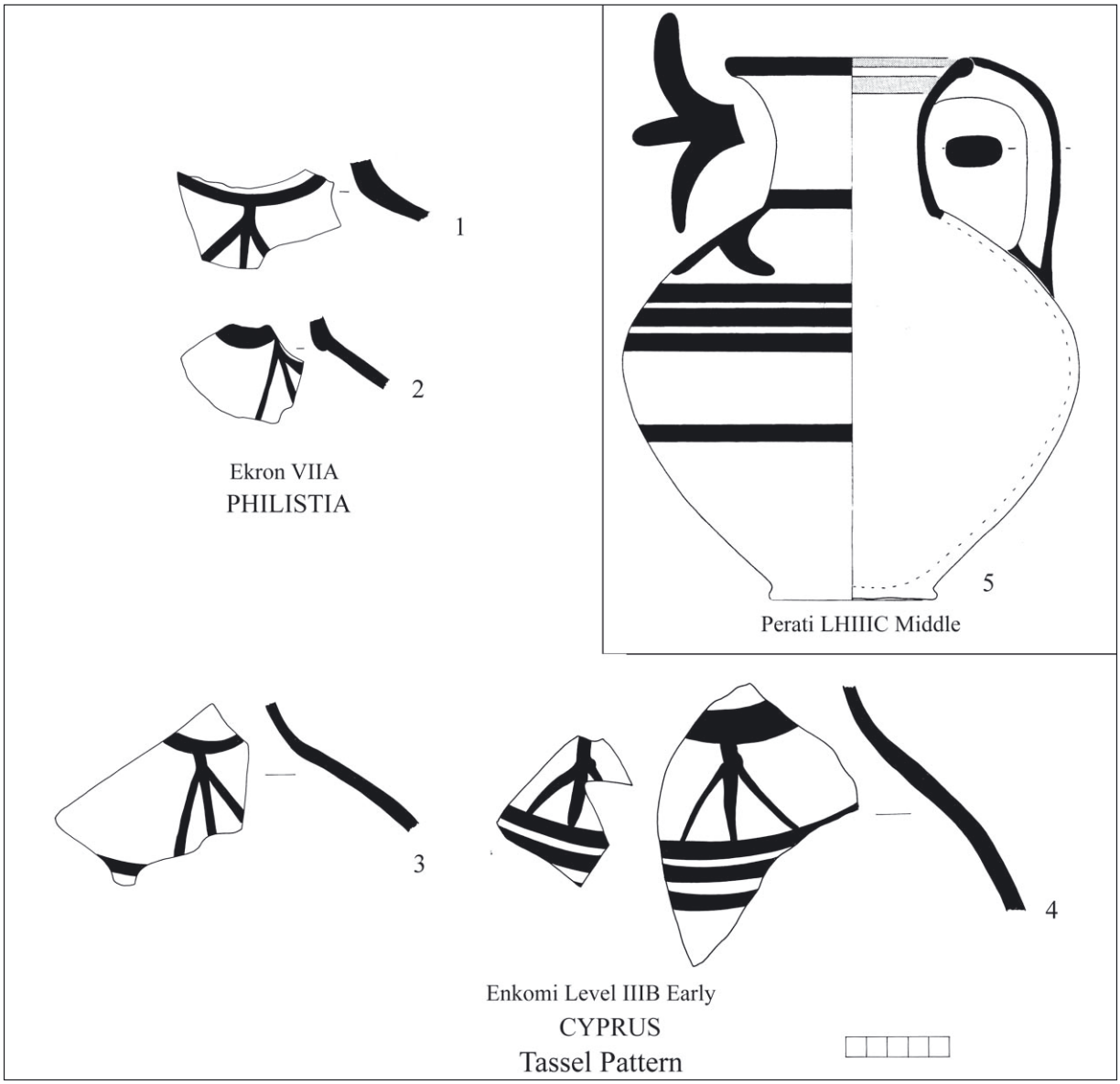

Fig. 6 1. Dothan and Zukerman 2004: fig. 27.15, 2. Ekron, 3–4. Enkomi, 5. Mountjoy 1999: Attica no. 415. Scale 1:3

neck band, as on the Greek Mainland and elsewhere (Fig. 6:5), the tassel is attached by a stem to the neck-band. This unusual representation at Ekron is common at Enkomi, but it is not found elsewhere in Cyprus; this would seem to suggest that it came to Ekron from Enkomi. Another motif which may have come from Enkomi is zigzag in the loops of antithetic spirals (Fig. 7). It appears at all three Philistine sites, but the only Cypriot parallels are at Enkomi, for example (Fig. 7:4). Floating groups of zigzag also appear at Ekron (Fig. 7:5–7). They have a good parallel at Hala Sultan Tekke (Fig. 7:8).

Joining semi-circles pendent from a rim band appear at all three Philistine sites (Fig. 8); they are immensely popular on deep bowls at Enkomi, appear in small numbers at nearby Sinda and are uncommon at other Cypriot sites, suggesting they probably went from Enkomi to Philistia. They are also found at Tarsus (Mountjoy 2005a: 112, fig. 8.171). A decorative syntax also derived from Cyprus (Fig. 9) is the use of two narrow bands

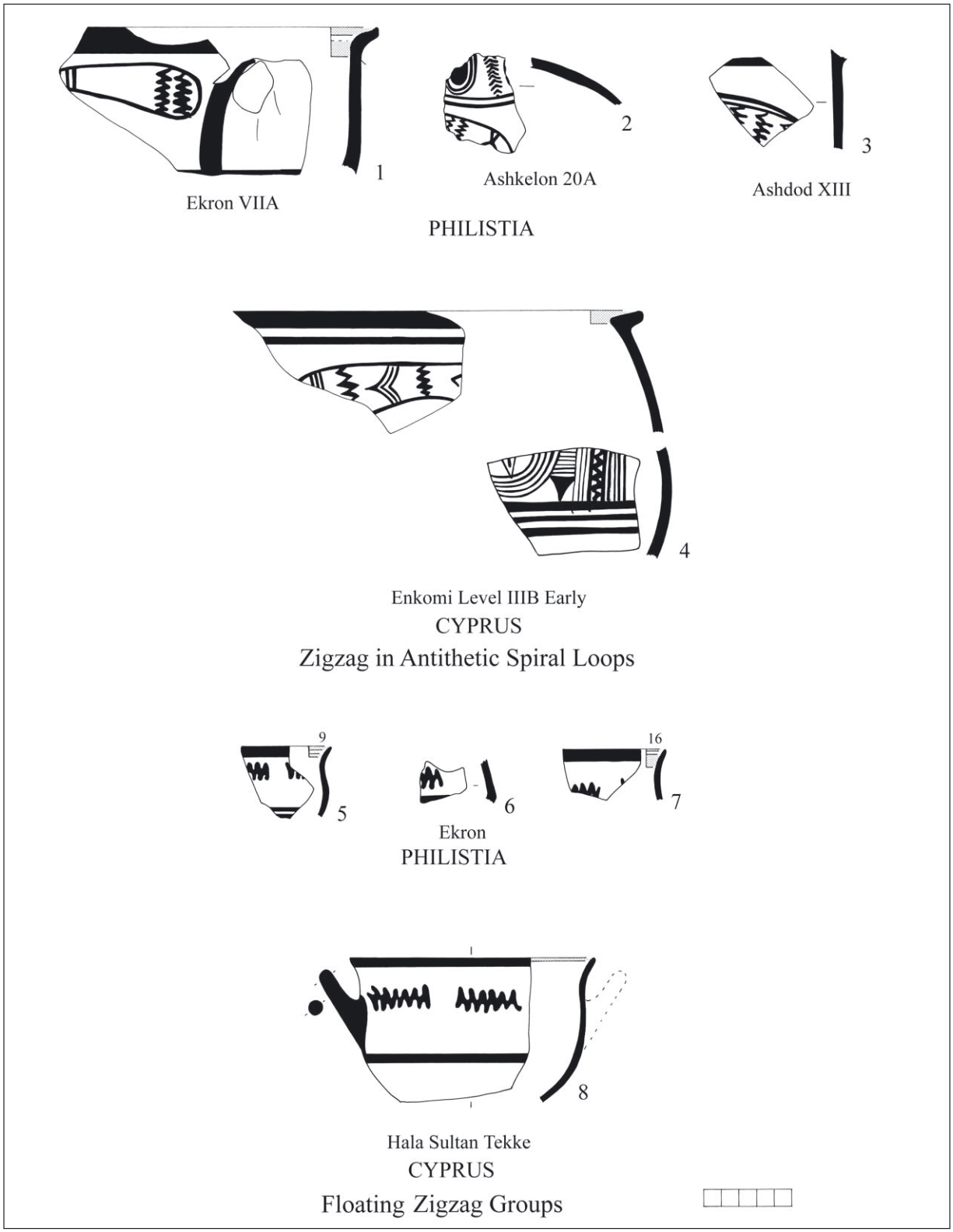

Fig. 7 1. Dothan and Zukerman 2004: 18, fig. 17.5, 2. Ashkelon, 3. Dothan and Zukerman 2004: fig. 17.4, 4. Dikaios 1969: pl. 81.18,21, 5. Dothan and Zukerman 2004: fig. 9.8, 6. Meehl *et al*. 2006: fig. 3.20.20, 7. Ekron, 8. Åström 1998: figs. 16 left, 20. Scale 1:3

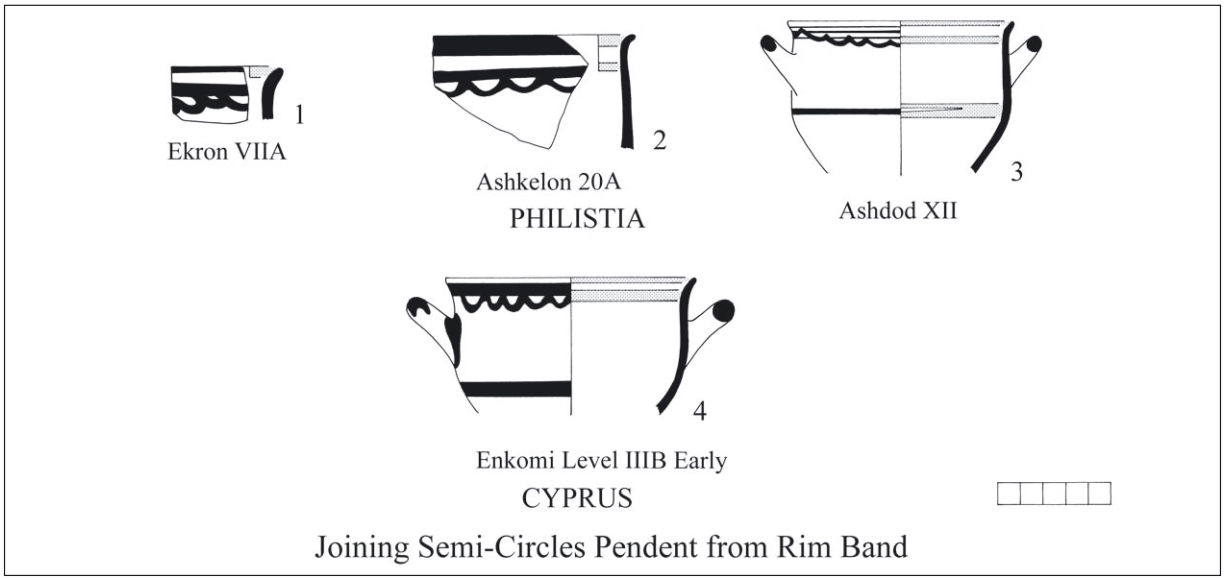

Fig. 8 1. Dothan and Zukerman 2004: fig. 9.2, 2. Ashkelon, 3. Dothan and Ben Shlomo 2005: fig. 3.10.21, 4. Dikaios 1969: pl. 95.13. Scale 1:3

limiting the shoulder zone and belly zone on strainer jugs. On Cyprus this is a common banding system on strainer jugs, but not the only one used. In Philistia this banding seems to appear on all strainer jugs. Moreover, it is taken a step further appearing also on other shapes, such as deep bowls (Fig. 9:6), small jugs (Fig. 9:7), and the hydria (Fig. 9:8–9). Neutron Activation Analysis (NAA) has shown that the Beth-Shean hydria (Fig. 9:9) is in fact an import from Sinda (Mountjoy 2011a: 184, fig.4 top right). Thus, this brief overview highlights a number of Philistine motifs, which are derived from Cyprus. Most can be assigned to Enkomi, but this may be due to the fact that Enkomi is the most extensively excavated IIIC site, rather than that it had a special connection to Philistia.

The Cretan connection
(Figs. 10–13)

Another set of Philistine motifs is also Cypriot derived, but came to Cyprus from Crete. Floating semi-circles found at Ekron and Ashdod (Fig. 10:1–3) have parallels at Hala Sultan Tekke and Maa (Fig. 10:4–5) and further afield at Tarsus (Fig. 10:6); ultimately they appear at Khania-Kastelli (Fig. 10:7). Thread chevrons at Ashkelon (Fig. 10:8), that is chevrons composed of very finely-drawn elements, have parallels at Hala Sultan Tekke and Maa and again at Khania-Kastelli (Fig. 10:10–12). The Beth-Shean example (Fig. 10:9) is actually a Cypriot import from Sinda (Mountjoy 2011a: 184 top left). A bird with dot fill in an outlined solid almond body found at Kition (Fig. 11:3), Enkomi (Fig. 9:1) and Maa (Stager and Mountjoy 2007: 58, fig.12) also appears at Ashdod (Fig. 11:1). A later bird with similar body on a bichrome krater from Ashkelon (Fig. 11:2) also has a parallel on Crete to a bird on a LM IIIC Early krater from Khamalevri (Fig. 11:4). It may be a stork; the similarity of the bird legs on both vessels is striking. Streamers appear at Ekron and at Sinda (Fig. 12) and Enkomi (Mountjoy 2007: 585, fig. 2.8); they derive from Crete (Fig. 12:4), where the motif developed from the octopus, as can be seen on the kylix from Vronda (Fig. 12:3). A particular type of palm with dots in the leaves found at Ashkelon (Fig. 13:1–2) has parallels at Enkomi, Hala Sultan Tekke and Kition (Fig. 13:3–6) and again at Khania-Kastelli (Fig. 13:7). NAA of the Kition piece assigns it to Enkomi. A Minoan shape, the carinated kylix, is copied at Hala Sultan Tekke (Fig. 13:9; see discussion Mountjoy 2011b). It is quite distinct from Mycenaean kylikes, since the conical bowl has a carination just below the rim giving rise to a very short upper body (Fig. 13:10). A locally made example has been found at Ekron (Fig. 13:8); the decoration is fugitive, but the fringe preserved on the central triglyph is typically Minoan; it can also be seen on the Hala Sultan Tekke and Kavousi examples; the shape should have gone to Philistia from Cyprus. There are a number of other Minoan motifs in use on IIIC pottery in Cyprus, but they are not found in Philistia. Three spe-

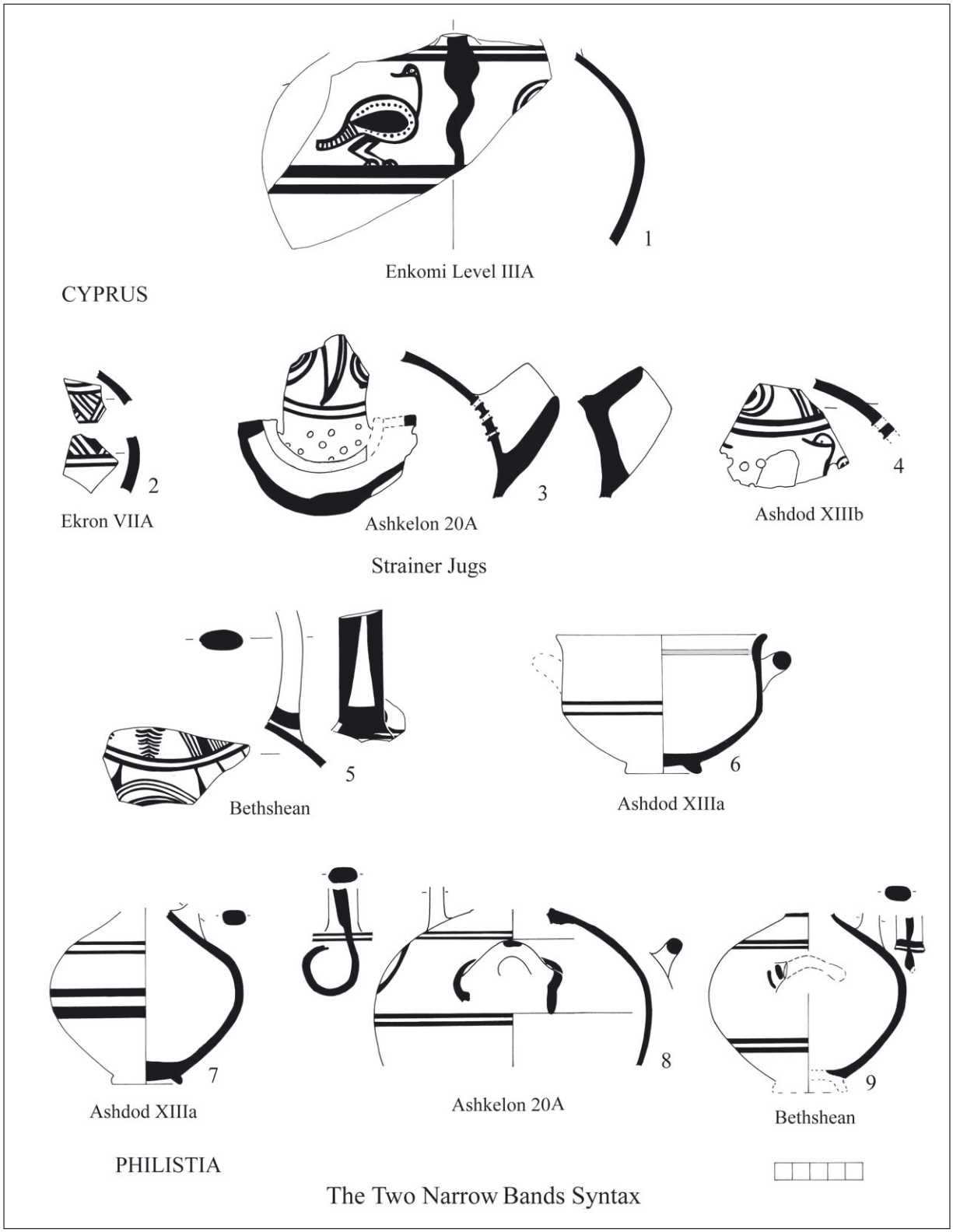

Fig. 9 1. Dikaios 1969: pl. 98.3, 2. Meehl *et al*. 2006: fig. 3.21.8, 3. Ashkelon, 4. Dothan and Porath 1993: fig. 17.10, 5. Sherratt 2009: cat. 13,14, 6-7. Dothan and Porath 1993: fig. 20.3,4, 8. Ashkelon, 9. Sherratt 2009: cat. 11,18,21. Scale 1:3

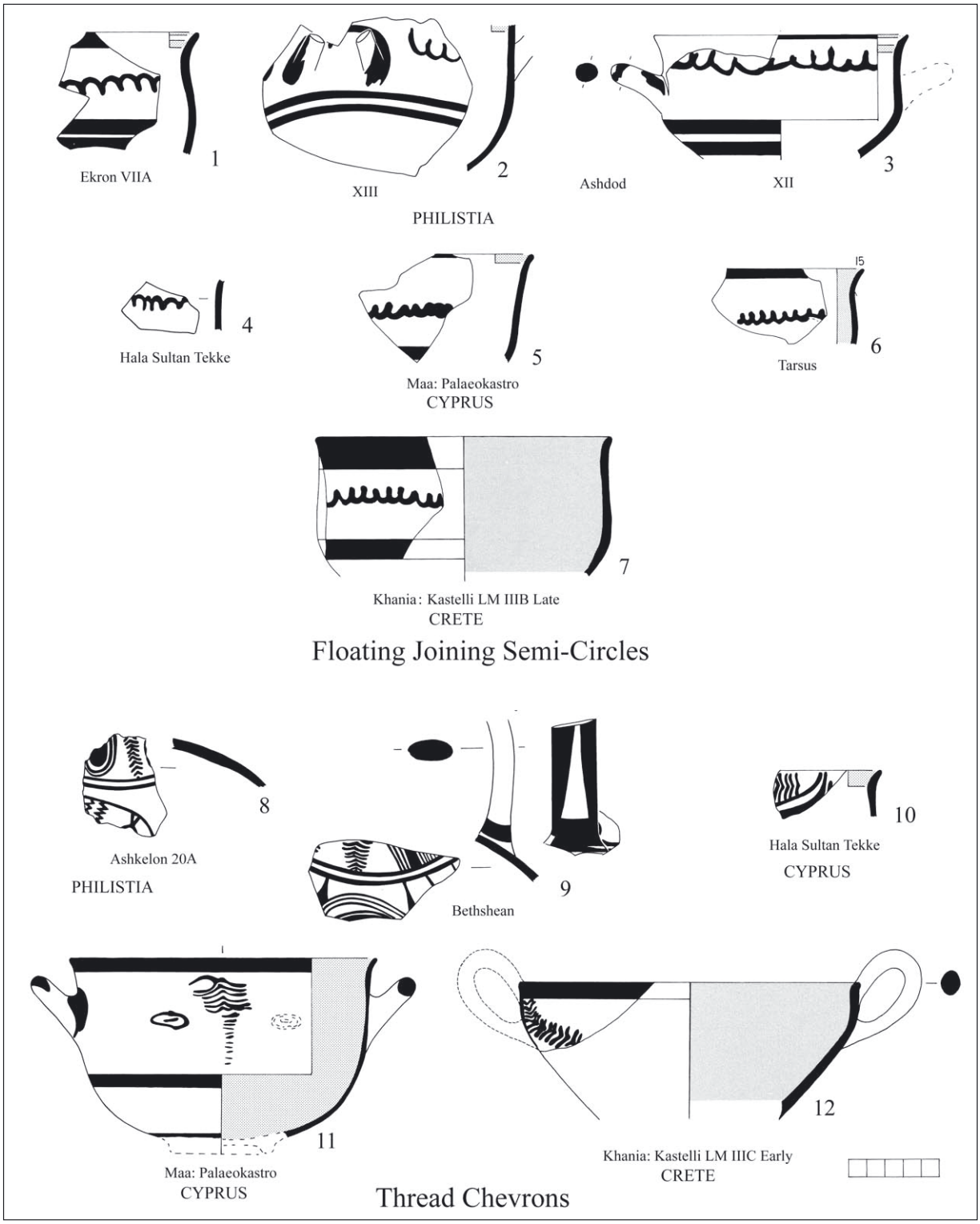

Fig. 10 1. Dothan and Zukerman 2004: fig. 9.5, 2–3. Dothan and Ben Shlomo 2005: fig. 3.2.10, fig. 3.10.22, 4. Hala Sultan Tekke, 5. Karageorghis and Demas 1988: pl. LIX, 6. Mountjoy 2005a: 112, fig. 8.172, 7. After Hallager and Hallager 2003: pl. 51.84-P0823, 8. Ashkelon, 9. Sherratt 2009: cat. 13,14, 10. Hala Sultan Tekke, 11. Karageorghis and Demas 1988: pl. LXXVIII, 12. After Hallager and Hallager 2000: pl. 37. 70-P0253/0238. Scale 1:3

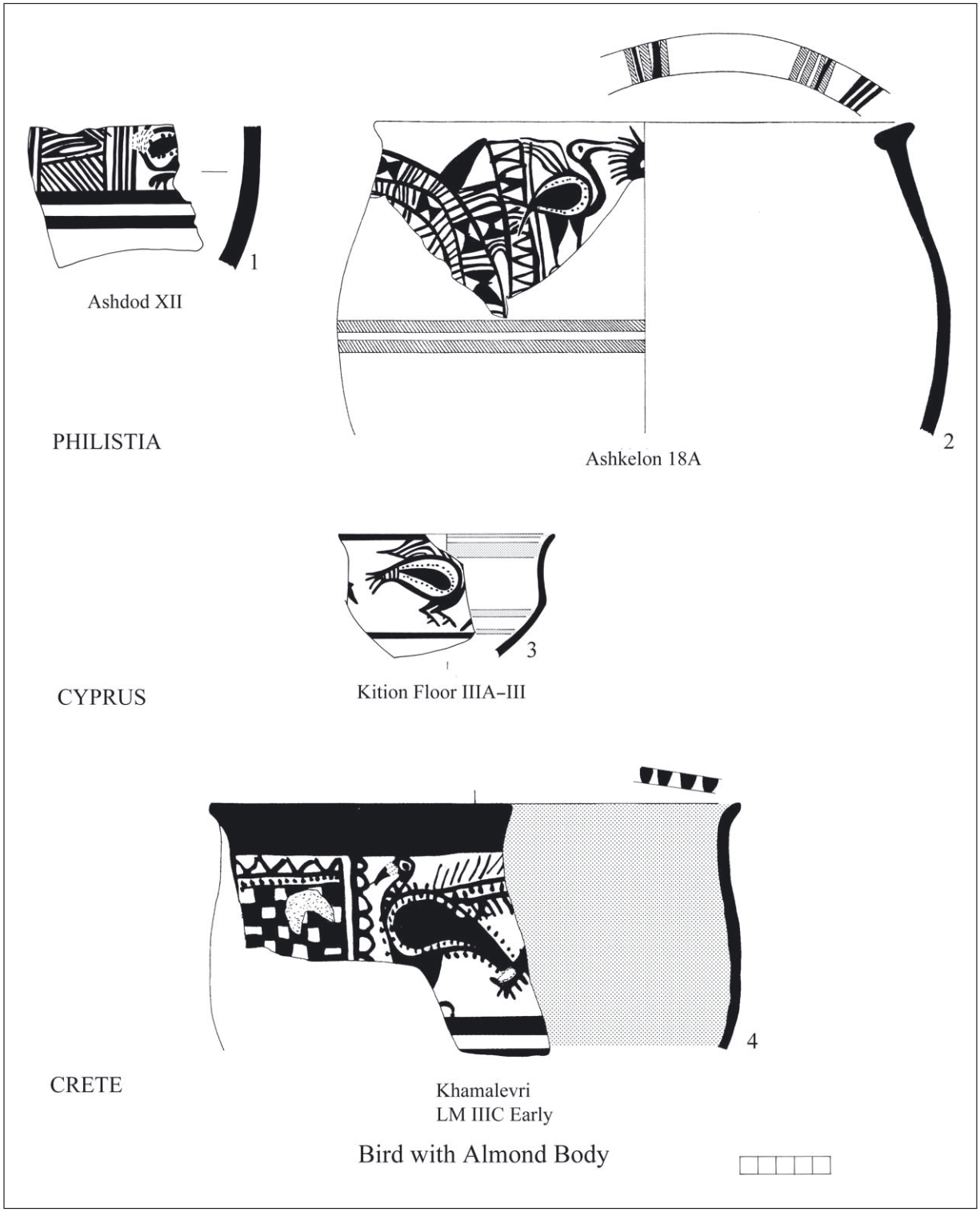

Fig. 11 1. Dothan and Porath 1993: fig. 29.7, 2. Stager and Mountjoy 2007: 52, fig. 2, 3. Karageorghis *et al*. 1981: pl. IX.12, 4. After Andreadaki-Vlazaki and Papadopoulou 2007: 47, fig.4.14. Scale 1:3

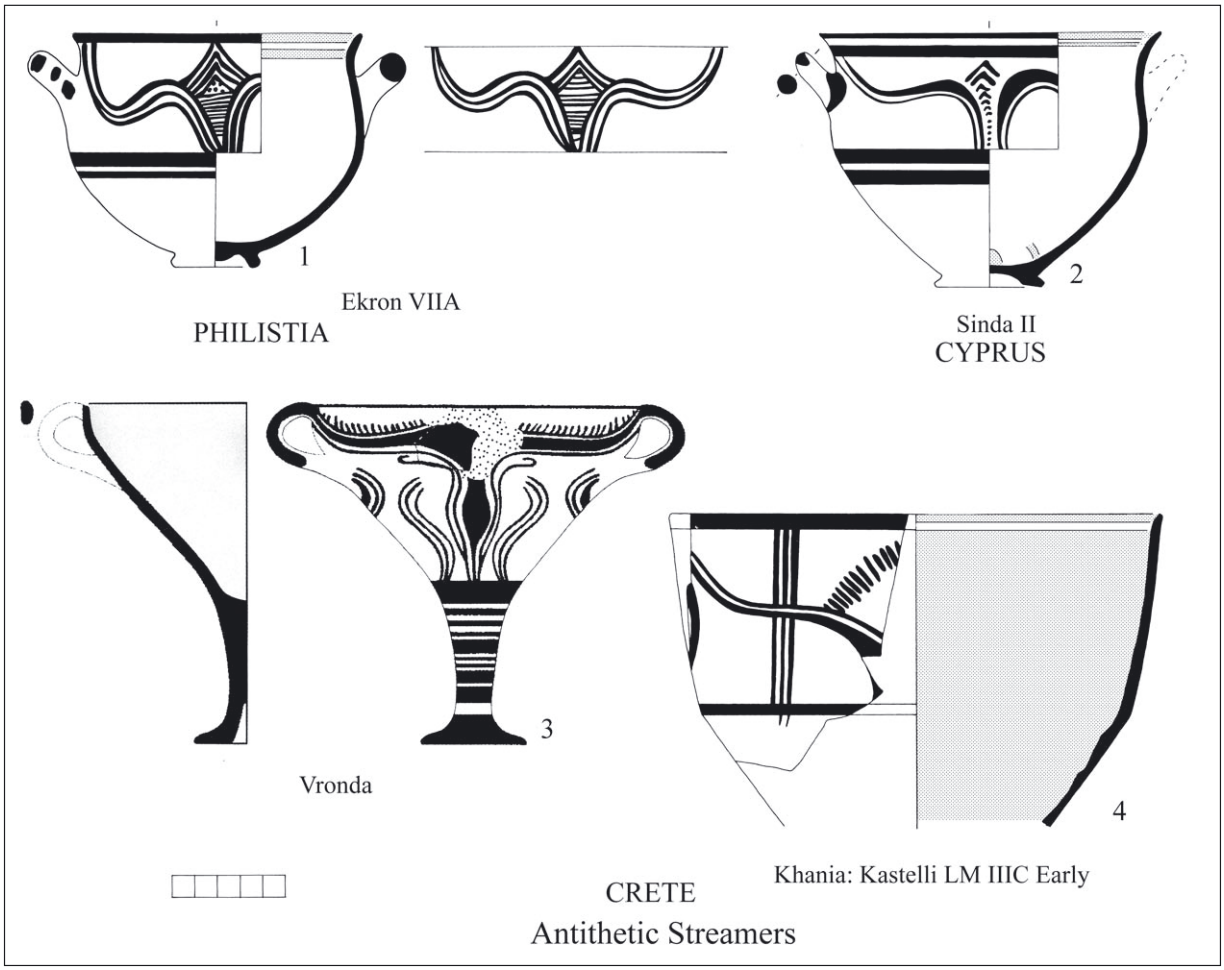

Fig. 12 1. Dothan and Zukerman 2004: fig. 8.7, 2. Furumark and Adelman 2003: pl.11 P27, 3. After Day *et al*. 2009: fig.22 B3 P3, 4. After Hallager and Hallager 2000: pl.39.71-P0733. Scale 1:3

cific Minoan sites with motifs appearing in Cyprus and Philistia are mentioned here, Khania-Kastelli, Khamalevri and Vronda-Kavousi, with several motifs coming from Khania-Kastelli. However, this should not be taken as suggesting a special Cypriot connection with these sites, since the number of publications of pottery from LM IIIC sites is not large; publication of more LM IIIC pottery will surely give rise to parallels from other sites.

The Greek Mainland connection
(Figs. 14–16)

In contrast to Cyprus direct Greek Mainland-Philistia connections are slight. Only one vessel shape may have gone directly from one area to the other, the small feeding bottle (Fig. 14). Examples from all three Philistine sites have the small Mainland shape, the distinctive ray pattern down the spout and the circle on top of the basket handle. On Cyprus the feeding bottle with basket handle is not common (Fig. 15:4) being replaced by the feeding jug (Fig. 15:5); both shapes have the Mainland rays down the spout. The Cypriot feeding bottle is a large ovoid type; the wide collar-neck is close to the Minoan shape (Fig. 15:3). This large ovoid Cypriot shape seems to have been copied at Ashdod in the Potter's Shop (Fig. 15:1–2), but with the narrow neck of the Mainland type, or of the Cypriot feeding jug. Thus the Mainland feeding bottle is one shape that did not reach Philistia over Cyprus. It may have gone directly, but it could equally well have gone via another site, perhaps in the north Levant. A motif which derived from the Greek Mainland and went over Cyprus to Philistia is the antithetic spiral (Fig. 16), either framing a lozenge, as the Figure 16 examples, or with open centre, instead of the usual version flanking a

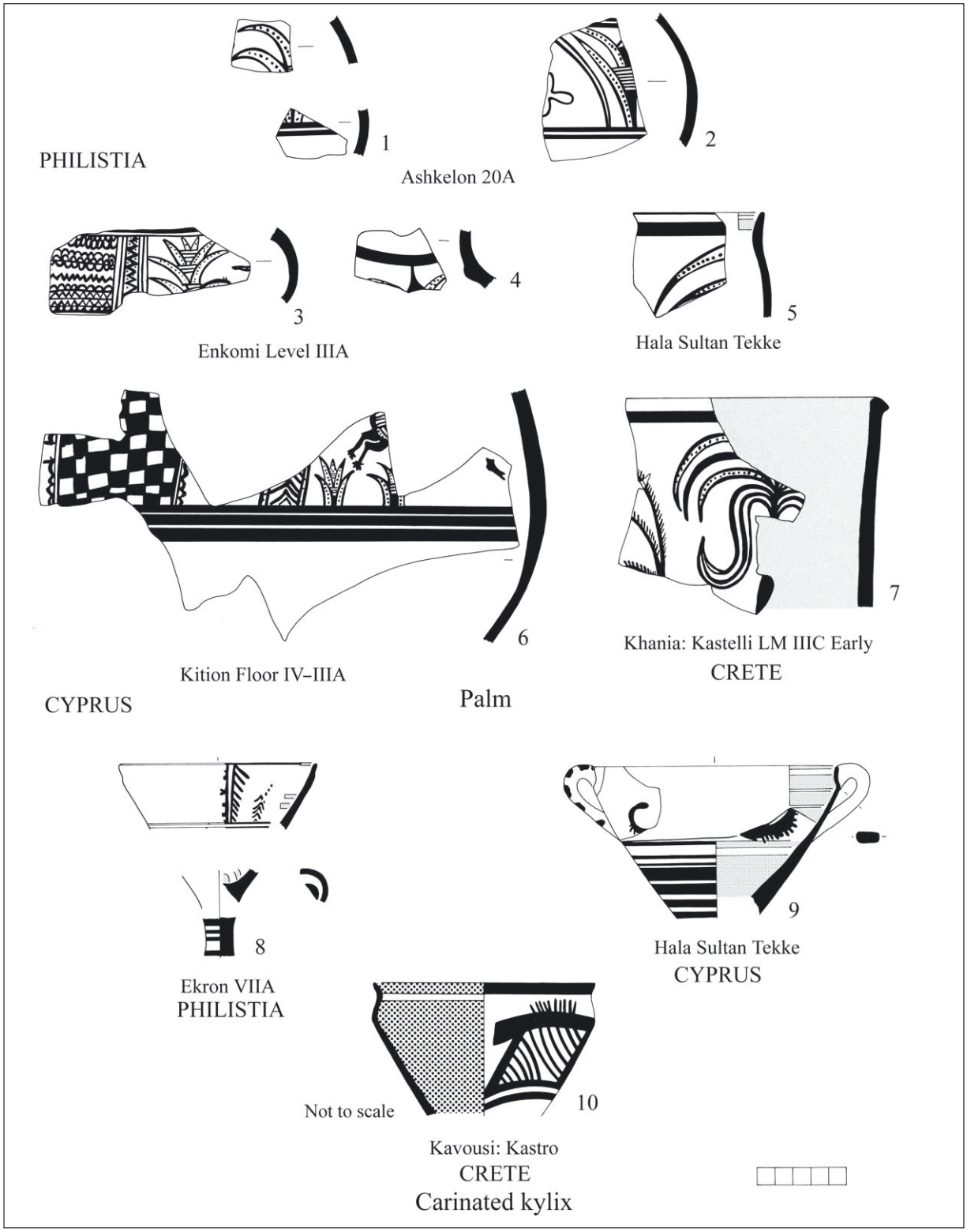

Fig. 13 1–2. Ashkelon, 3. Dikaios 1969: pl. 75.32, 4. Enkomi, 5. Haziantoniou 1983: fig. 349a, 6. Karageorghis *et al*. 1981: pl. IX.23, 7. After Hallager and Hallager 2000: pl.53 77-P0147, 8. Dothan and Zukerman 2004: fig. 27.2, 9. Åström 1998: fig. 36, 10. After Mook and Coulson 1997: 344, fig. 8.1. Scale 1:3

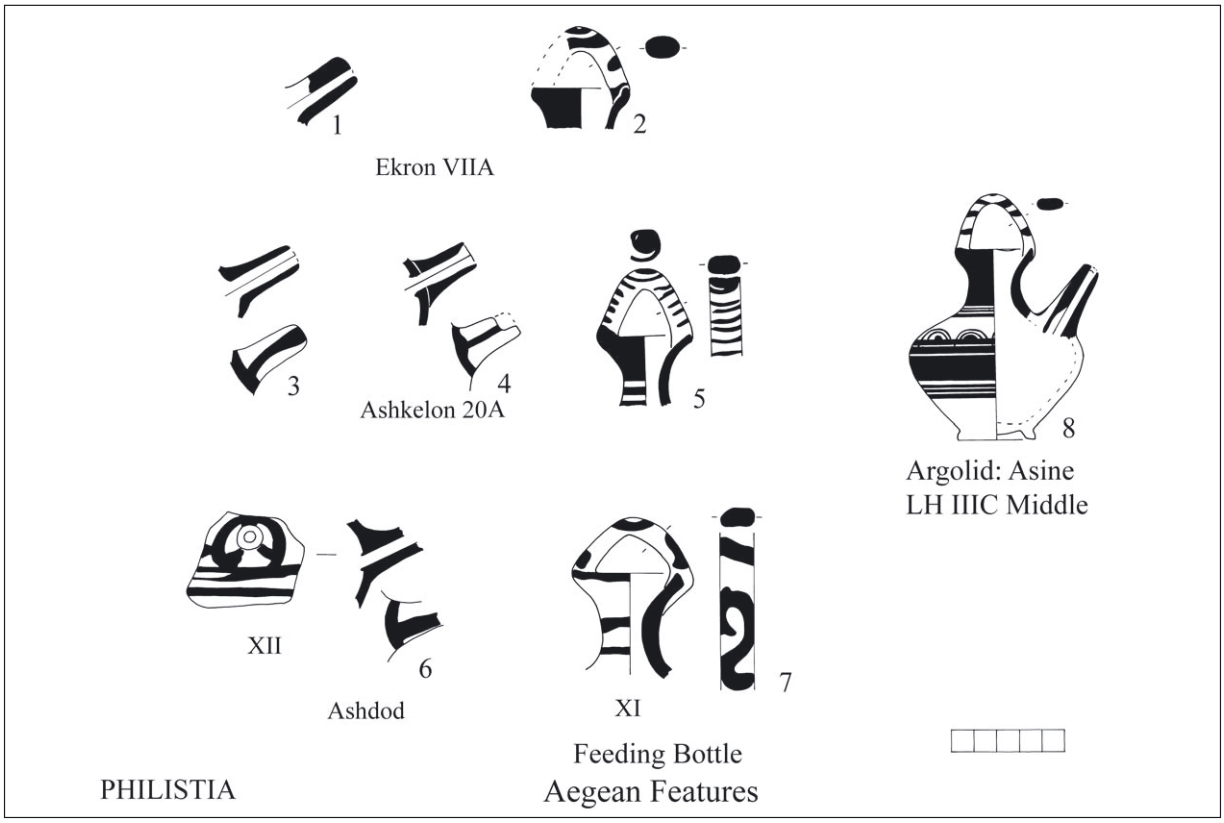

Fig. 14 1. Dothan *et al*. in press: fig. 5.22.9, 2. Killebrew 1998: 390, fig. 10.20, 3-5. Ashkelon, 6–7. Dothan and Ben Shlomo 2005: fig. 3.14.5, fig. 3.45.8, 8. Mountjoy 1999: Argolid no.339. Scale 1:3

triglyph. This syntax appears at Mycenae at the transition from LH IIIC Early 1 to LH IIIC Early 2 (French 2007: 531, fig. 4 bottom row).

The Philistine pottery thus has a large amount of Cypriot in-put, some of which originated on Crete. On Cyprus itself the Aegean-style IIIC pottery was also a new phenomenon. It is a hybrid style with shapes derived from the Aegean and from Base Ring and Levanto-Helladic wares; the corpus of motifs, which is small, is derived from the local White Slip and Rude/Pastoral Style and from Minoan Crete; there is also in-put from the Greek Mainland. This style evolved on Cyprus in late LH IIIC Early Phase 1 to Phase 2 in Greek Mainland terms.

The Philistine shapes
(Figs. 17–18)

The range of Aegean shapes used in Philistia is small and ultimately derives from the Aegean area. A non-Aegean shape, which is local to Cyprus and went to Philistia is the basin (Fig. 17); it has horizontal handles in Philistia and vertical handles on Cyprus. It is misnamed kalathos in Israel; the Aegean kalathos has concave sides (Fig. 17:5), not the straight or convex sides of the basins. A rare shape in Cyprus, which also appears in Philistia, is the tray. This shape (Fig. 18), which has a flat base, flaring sides and a double or triple roll handle, is found in Mainland Greece, but also appears in the East Aegean-West Anatolian Interface, for example at Bademgediği Tepe, and may have come from this area to Cyprus and Philistia. The shallow angular bowl (Fig. 18) is present at Ekron in the earliest Philistine layers. It also appears at Ashdod and Ashkelon. It is a very common bowl type on Cyprus. However, there is so much variety in the shapes of these bowls that inter-site comparisons are difficult. It is unclear if the shape reached Philistia from Cyprus or from Tarsus and the north Levant.

The earliest stratified Philistine pottery belongs to a IIIC Early 1 linear phase, which is most clear at Ashkelon in Phase 20B. The evidence is minimal, but it demonstrates that groups of people with new cultural elements began to come to Philistia during IIIC Early 1. However, the Cypriot motifs on the patterned Philistine pottery of Ashkelon 20A, Ashdod XII and Ekron VII

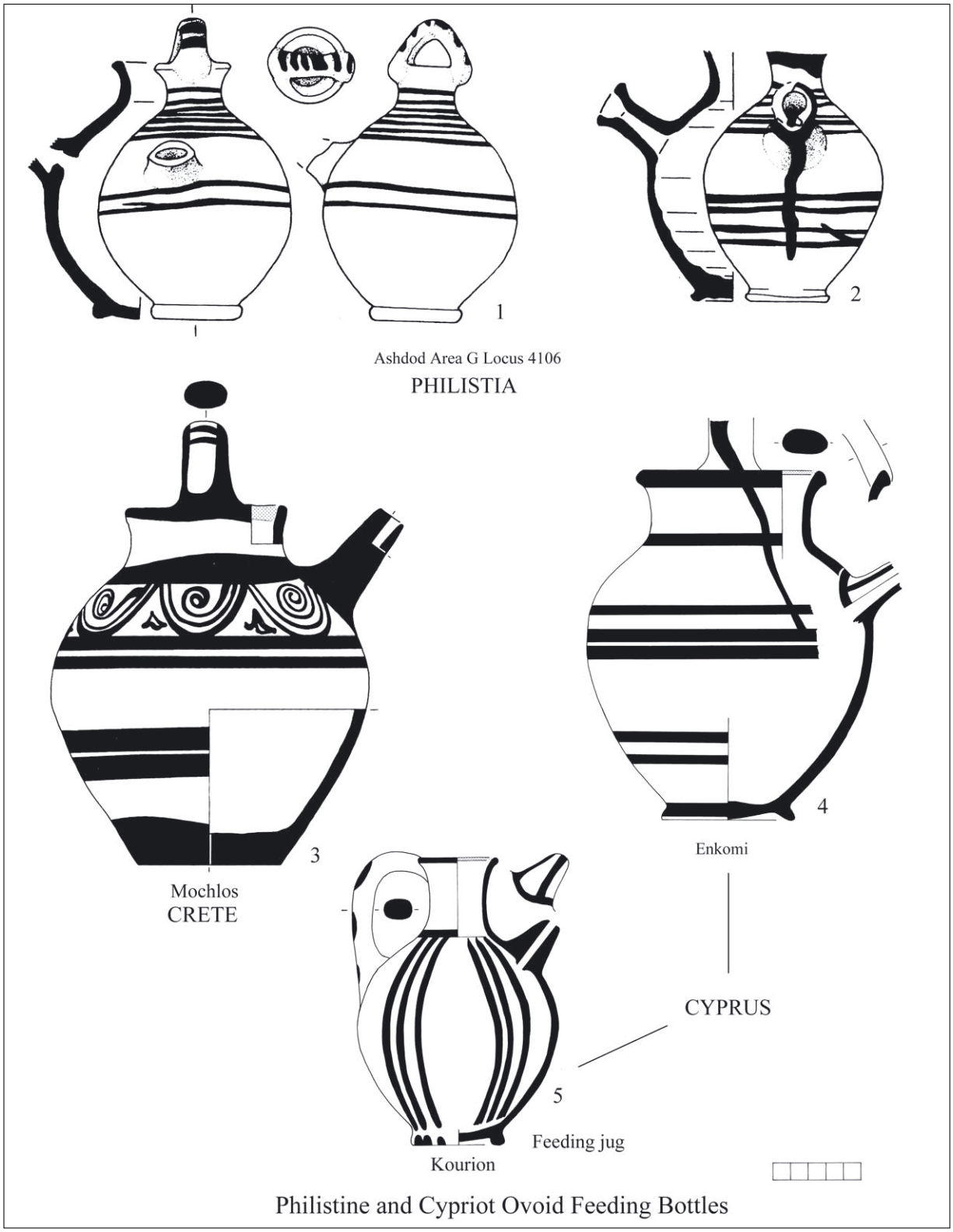

Fig. 15 1–2. After Dothan and Porath 1993:175, fig. 15.4,10, 3. After Smith 2010: fig. 43.IIB.666, 4. Dikaios 1969: pl. 109.16, 5. Benson 1972: pl. 59 T.40.31. Scale 1:3

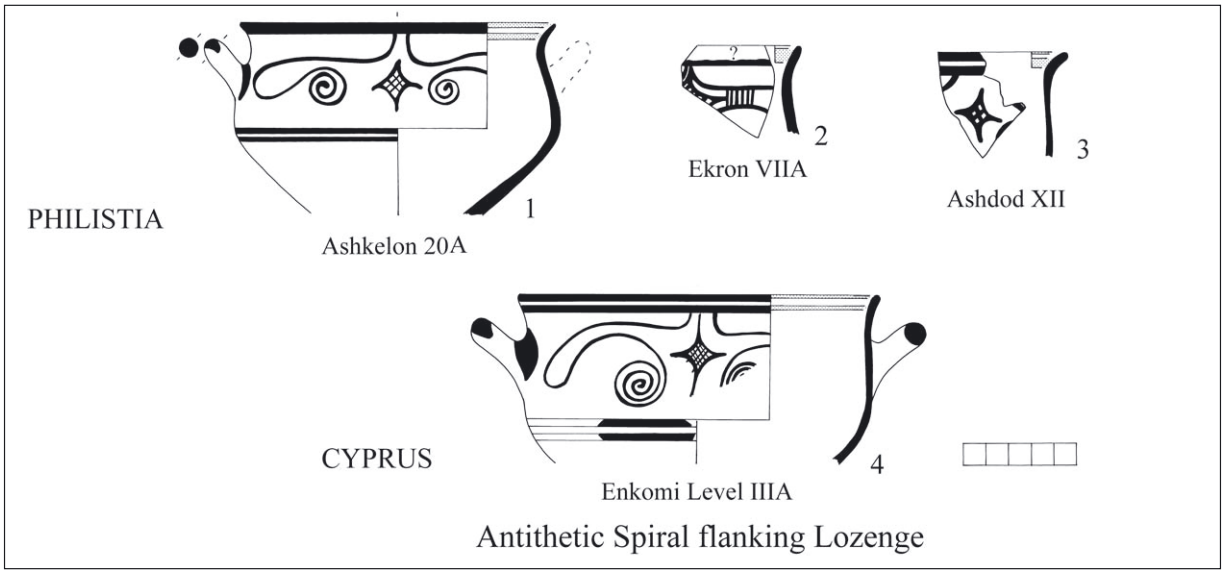

Fig. 16 1. Ashkelon, 2. Meehl *et al*. 2006: fig. 3.16.15, 3. Dothan and Ben Shlomo 2005: fig. 3.10.29, 4. Dikaios 1969: pl. 101.13. Scale 1:3

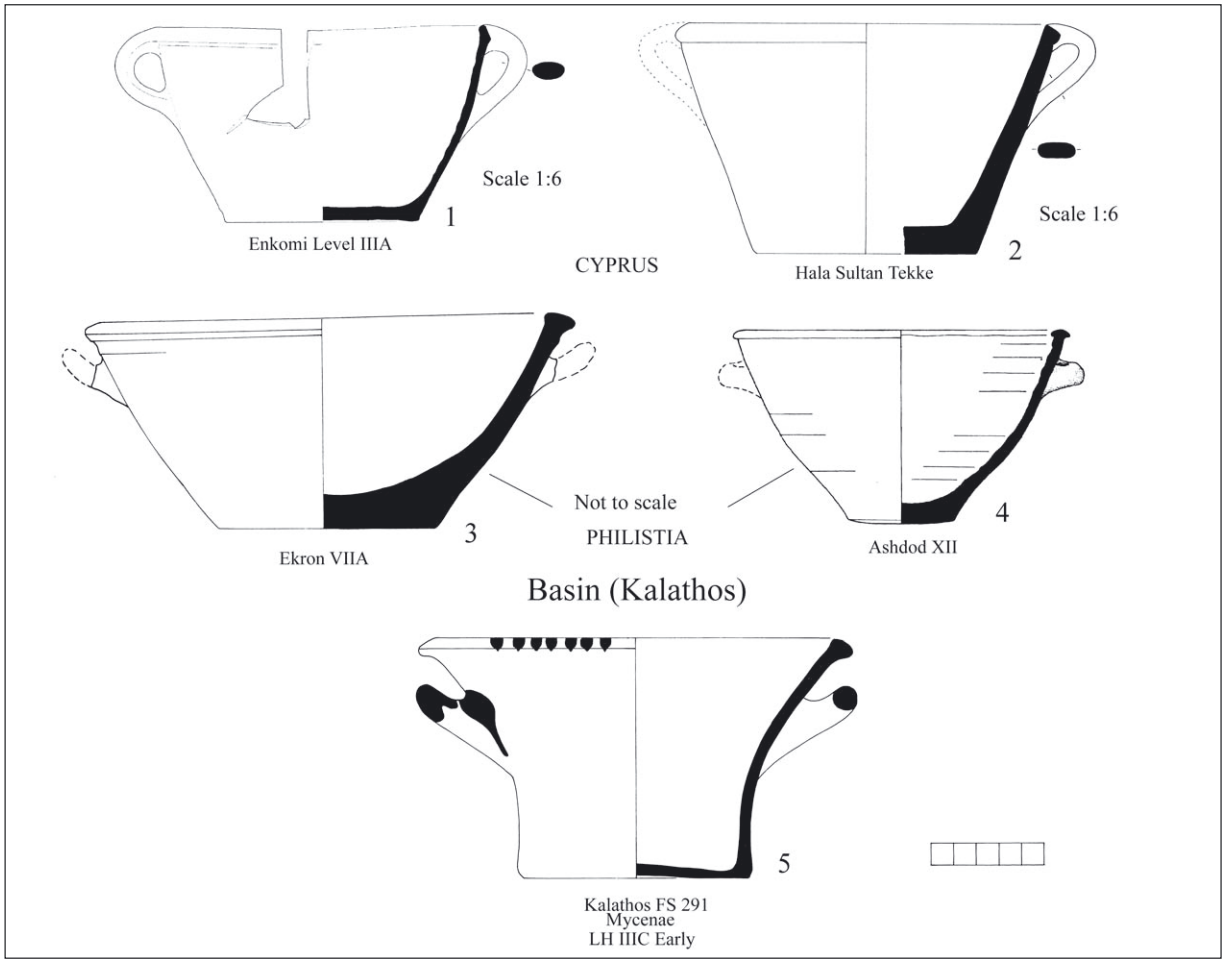

Fig. 17 1. After Jung 2011: 194, fig. 5.1, 2. Öbrink 1979: fig. 176, 3–4. After Dothan and Zukerman 2004: fig. 25.2, fig. 25.1, 5. Mountjoy 1986: fig. 195. Scale 1:3 unless otherwise stated

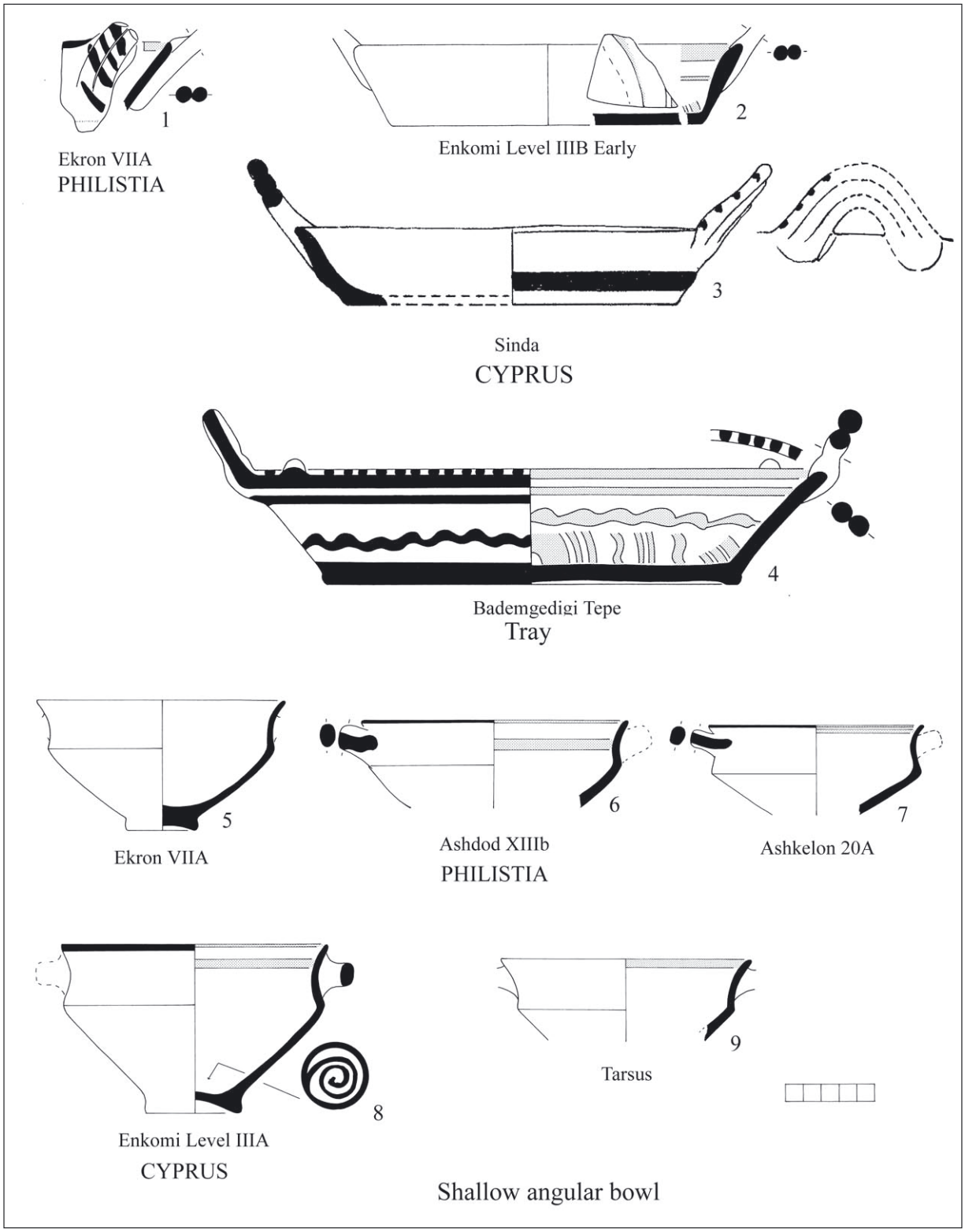

Fig. 18 1. Dothan and Zukerman 2004: fig. 27.4, 2. Enkomi, 3. After Furumark and Adelman 2003: pl. 12 P45, 4. Mountjoy 2009: 312, fig. 17.4, 5. Dothan and Zukerman 2004: fig. 31.6, 6. Dothan and Porath 1993: fig. 16.11, 7. Ashkelon, 8. Dikaios 1969: pl. 98.4, 9. Mountjoy 2005a: 128, fig. 15.388. Scale 1:3

correspond to IIIC Early 2 and IIIC Middle, that is not to the earliest Aegean-style pottery of IIIC Early 1. Indeed the acme of the spread of Cypriot-style pottery into Philistia seems to be in IIIC Early 2, particularly at Ekron, which may have been settled now, slightly later than the coastal settlements, since IIIC Early 2 is already present in the Phase 9B4 Construction in Field I. People from the south-east Aegean may also have arrived now. On the coast the appearance of the Cypriot style pottery at the sites of Ashdod and Ashkelon seems not to be combined with other new cultural elements, so it is open to question whether it came with new people or was the result of intense trade. It is certainly the second installment, so to speak, of pottery types arriving in Philistia. The pots and/or the people, would have followed known trade routes. These can now be highlighted by NAA of the pottery.

The trade routes

As part of a comprehensive analysis of 12th century Aegean-style pottery on Cyprus a large NAA project was carried out with H.Mommsen in Bonn (Mountjoy and Mommsen 2015). We sampled pottery from ten of the IIIC sites and obtained chemical profiles for six of them; profiles for Enkomi, Kition, Hala Sultan Tekke, Alassa, Kourion and Kouklia could be added to that of Sinda, which was defined a few years ago (Mommsen and Sjöberg 2007). A separate profile, CypT, was obtained for Hala Sultan Tekke, but another profile, CypJ, was equally represented at Hala Sultan Tekke and Kition. The profile could well belong to both sites, since they are adjacent. It is clear that the profile belongs to Kition as a Proto-White Painted (PWP) piece from Kition was assigned to Cyp J; PWP began to circulate after Hala Sultan Tekke had been abandoned. Two profiles, CypG and CypS, could be assigned to Kouklia, CypG being the more prominent.

Included in this analysis were Simple Style sherds which date to late LC IIC, when LH IIIC Early pottery was already being produced in the Aegean. Simple Style pottery has proved to be important in the analysis for highlighting the trade routes. The style was particularly used on stirrup jars. The characteristic banding is derived from the banding on Cretan LM IIIB stirrup jars (Koehl and Yellin 1982: 273), a very large number of which were exported to Cyprus (Fig. 19:1). Although long known to have been produced on Cyprus and exported to the Levant, Simple Style pottery was not previously known from Cyprus itself. However, I have now found three pieces in the sherd material from Kition, two stirrup jars (Fig. 19:3–4) and a straight-sided alabastron (Fig. 19:2); there is also a stirrup jar from Hala Sultan Tekke (Fig. 19:5). The latter stirrup jar analysed as a Single, but two of the Kition sherds were CypJ, the local profile, and the third was CypI, that is Enkomi. The NAA results have allowed Simple Style and other exports to the Levant from Cyprus, which have been previously analysed by Mommsen, with others and with myself, to be assigned to the various Cypriot sites. The huge majority of the exports belong to the Kition/Hala Sultan Tekke CypJ chemical profile. Surprisingly our analysis identified only a very small number of exports abroad from Enkomi.

A fair amount of the CypJ Simple Style analysed has been found at Qantir in Egypt. It was originally assigned as CypH (Mountjoy and Mommsen 2001), but our recent work has enabled much CypH material to be reassigned to CypJ (Mountjoy and Mommsen 2015). Simple Style has also been found at Afula, Tell el-Farʿah, Tell Dothan, and Tell Kazel (Fig. 19). There is much Simple Style at Megiddo (for example Fig. 19:12–14). Figure 19:13–14 from the recent excavations were not recognised as Simple Style. Instead of having the usual matt paint these two vessels have semi-lustrous paint, as also a CypJ piriform jar sherd (Yasur-Landau 2013: 472, fig. 11.5.1). It would seem that, in spite of the fact that matt paint was usually used on IIIC pottery on Cyprus, the Kition/Hala Sultan Tekke potters could produce lustrous paint, if they wanted to.

Kouklia, was also a busy pottery exporter to the surrounding littoral with both the CypG and the CypS chemical profiles being represented (Fig. 20). It exported particularly to Tarsus. The CypG stirrup jar (Fig. 20:4) belongs to the Near Eastern group, a group of stirrup jars, usually with a lozenge chain on the belly, produced on Cyprus and exported to the Levant (Mountjoy 2005b). There are also exports to Dor (Fig. 20:10–11) and Akko (Fig. 20:12–13) in north Israel and to Philistine Ashkelon in the south (Master *et al*. 2015). The Kouklia CypS group also includes a Near Eastern group stirrup jar, exported to Tell Kazel (Fig. 20:15). The vase from Megiddo (Fig. 20:16) has the dot-filled triangular patch, which is a Cypriot characteristic.

Exports from Sinda turned up at only two places but it may have exported to the north Levant, for which almost no sampling has been done. Pottery from Sinda has been found at Tell Kazel (Fig. 21:9) and particularly at Beth-Shean (Fig. 21:1–8). Figure 21:1 is a small hydria, Figure 21:2 is a strainer jug; the other vessels comprise small elaborately decorated stirrup jars. The Tell Kazel vessel (Fig. 21:9) has pleonastic decoration. It is published as Proto-White Painted (PWP), a ware which circulated at the time of LH IIIC Late-Submycenaean on the Greek Mainland. However, Sinda was abandoned in IIIC Middle; either the NAA is wrong or the vase is not PWP. The latter seems to me the case. The wide triglyph divided across the middle by a horizontal zone of zigzag is typical of the pleonastic decoration of Enkomi

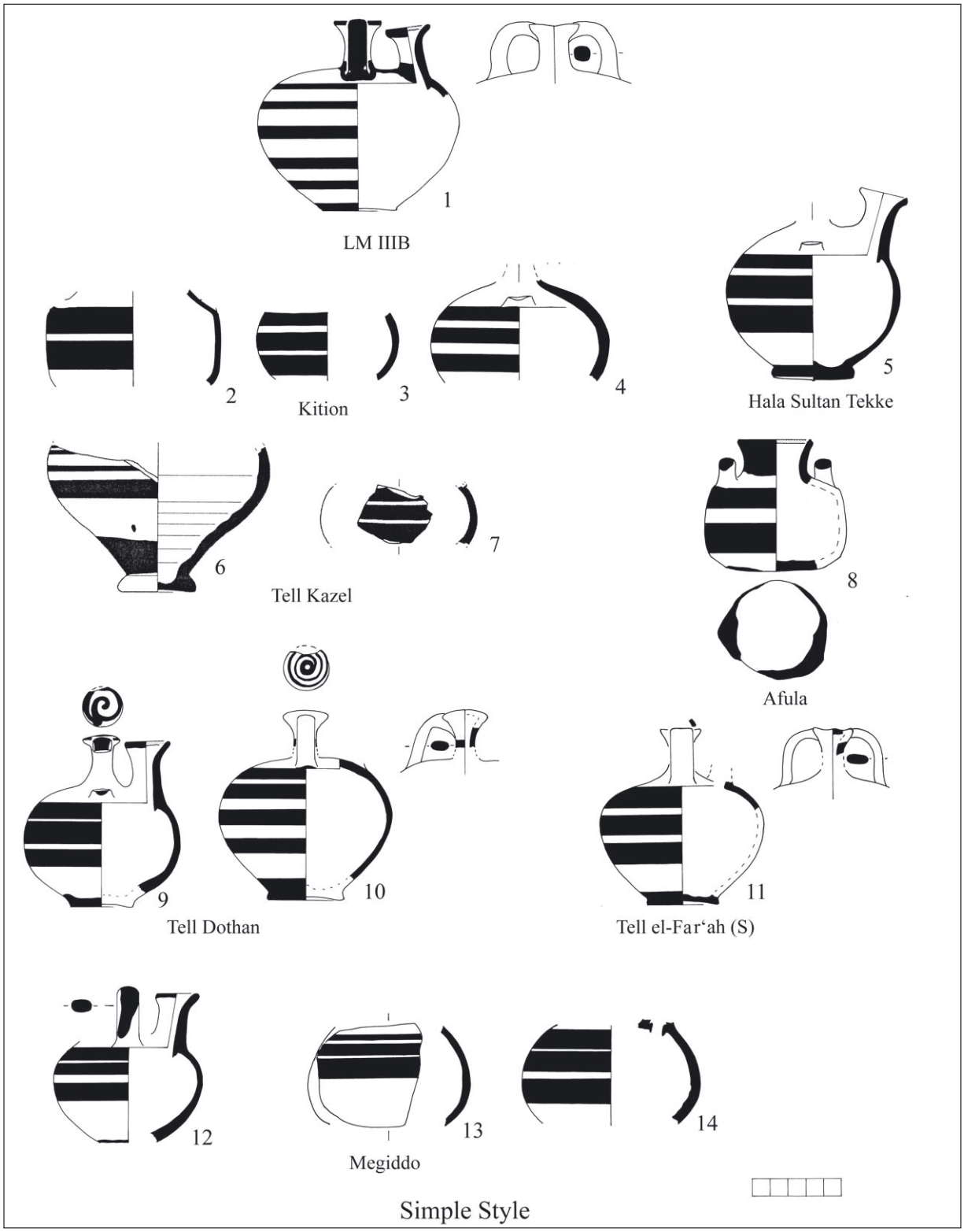

Fig. 19 1. Gjerstad *et al*.1934: T.19.14 pl. XCI, 2-4. Kition, 5. Karageorghis 1976: pl. LXIX.27, 6–7. After Badre *et al*. 2005: 33, fig. 8.4,2, 8 Sukenik 1948: pl. XVII.9, 9-10. Tell Dothan, 11. Mommsen *et al*. 2005: table 1, Sample 26, 12. Guy and Engberg 1938: pl. 124. 13. Inv.34-1864, 13–14. Yasur-Landau 2013: fig. 11.4.4, fig. 11.4.2. Scale 1:3

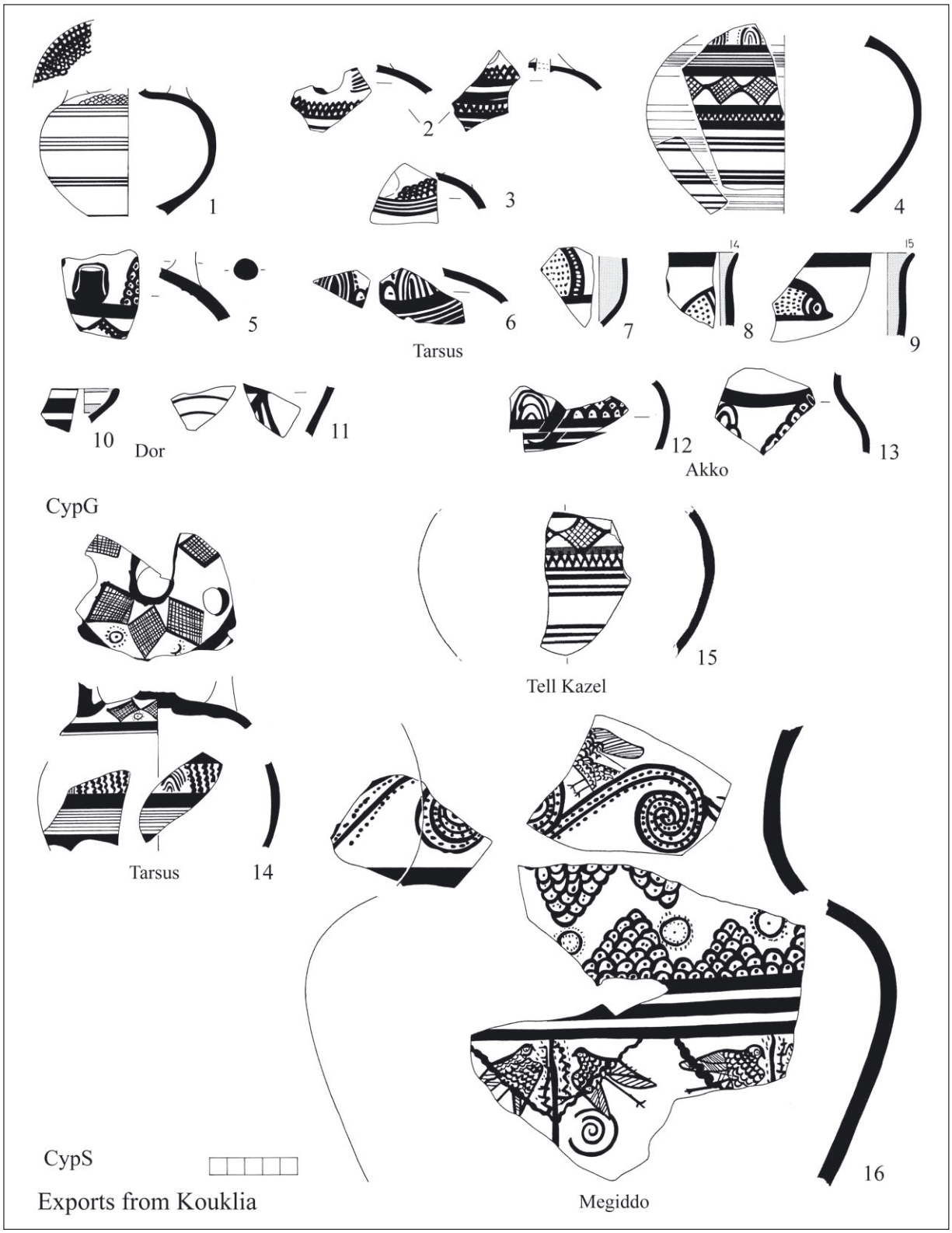

Fig. 20 1–9. Mountjoy 2005a: 95, fig.4.47,48,49,50,52,53; 112, fig. 8.156,157,160, 10–11. Dor, 12–13. Akko, 14. Mountjoy 2005a: 95, fig. 4.51, 15. After Badre *et al*. 2005: 33, fig.8.3, 16. Mountjoy 2008: 16, fig. 3a. Scale 1:3.

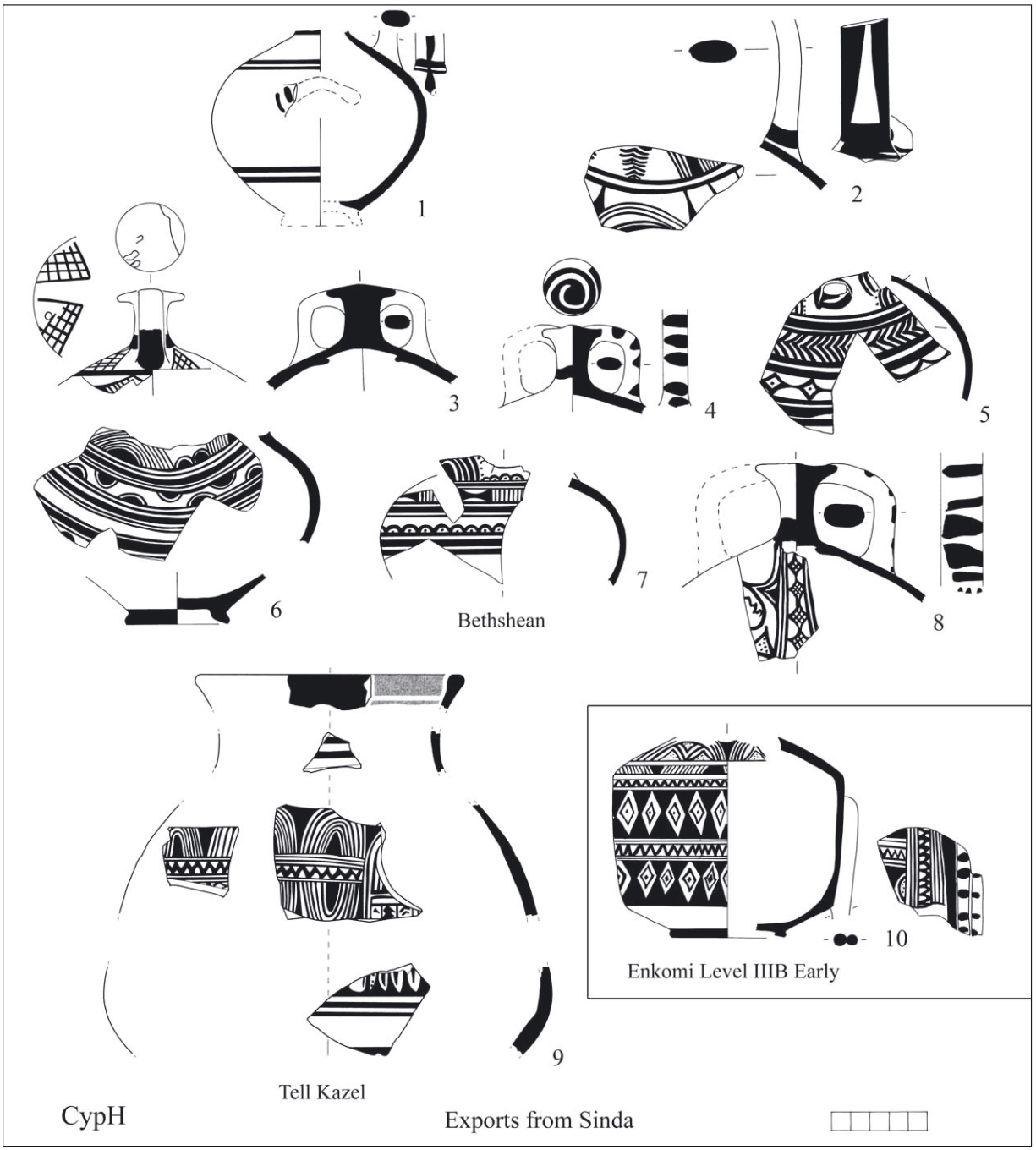

Fig. 21 1–5. Sherratt 2009: cat. 11,18,21, cat. 13–14, cat. 4, cat. 6, cat. 10, 6. Hankey 1967: pl. 29b top, bottom right, 7. Sherratt 2009: cat. 1, 8. Hankey 1967: pls. 29a, 29b bottom left, 9. After Jung 2006: 202, fig. 19.89, 10. Dikaios 1969: pl. 82.27. Scale 1:3

Level IIIB Early (Fig. 21:10) and Sinda III (for example, Furumark and Adelman 2003: 98, pl.48 P33b).

The question arises as to whether the imported pottery at inland non-Philistine sites in Israel arrived as casual trade or whether there was a concrete reason behind its presence. The number of Simple Style stirrup jars at Megiddo suggests there may have been some form of special trade link for whatever oil the pots contained. Such a trade link, if it existed, need not have been directly with Cyprus, but only with the port of arrival, such as Akko, Nami or Dor. Likewise the presence of a number of elaborately decorated stirrup jars from Sinda at Beth-Shean also hints at a connection; Mazar has suggested they were brought by Cypriot mercenaries employed by the Egyptian garrison (Mazar 2007: 573). The imports at Qantir come from the royal stables. They include a number of oil containers, such as stirrup jars and flasks, mostly Simple Style. It is possible the oil was used for the royal horses, either on the tack or on the manes and tails of the horses (Mountjoy and Mommsen 2001: 124). This would surely have been a special order. Apart from highly decorated stirrup jars imported for their oils, the vessels reaching Tarsus were pictorial or pleonastic decorated bowls and kraters, imported as fine table ware. This too may have been an arrangement rather than due to chance.

The NAA project contributes information on the movements of the Sea Peoples in as much as it has high-lighted trade routes between Cyprus and the Levant along which migrating peoples originating from Cyprus might have moved. They would have followed known routes via harbours with possible Cypriot trading enclaves, the large ports of Kition and Hala Sultan Tekke being a starting point. Indeed the emergence of these two ports as the largest exporters of products in ceramic containers on Cyprus during late LC IIC and early LC IIIA, that is IIIC Early 1 and IIIC Early 2, is of particular interest. However, although the pottery just described was being traded in IIIC Early 1–2 at the time the Sea Peoples were also on the move and some of the original settlers in Philistia may have come from Cyprus, it is debatable if the arrival of the later CypIIIC Early 2 stylistic influence on the ceramic decoration is due to new settlers or to trade, since no new cultural markers seem to have arrived with it. Only possibly at Ekron might there have been new settlers now, as it may have been settled slightly later than the coastal cities. Goods, and maybe people, may have moved from Cyprus to the south Levant via Akko, possibly Dor and on down to Ashdod and Ashkelon. Ashkelon did not have a protected harbour, but boats could be pulled up onto the beach, as the presence of later Iron II pottery along the sea on the South Tell suggests.[1]

In conclusion, although the shapes and motifs of the Philistine pottery demonstrate contact with the East Aegean-West Anatolian Interface and with Cyprus, giving rise to the suggestion that people may have migrated from these areas to Philistia, yet the Cypriot connection is difficult to clarify without further evidence.

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[1] I thank D. Master for this information.

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How Aegean is Philistine Pottery? The Use of Aegean-type Pottery in the Early 12th Century BCE Southern Levant

Philipp W. Stockhammer

Abstract

For a long time, early 12th century BCE Aegean-type pottery in the Southern Levant has primarily been interpreted as an indicator of the presence of the 'Sea People' and especially the Philistines. However, in recent years there has been research showing that the use of Aegean-type pottery in the first half of the 12th century was not confined to this supposedly migrant group, but that different actors used Aegean-type pottery shapes for different purposes. Moreover, it has become clear that the Aegean-type repertoire used by the Philistines cannot be understood as a mere imitation of feasting habits in the Aegean, but is the product of the transformative power of intercultural encounters. In my contribution, I want to distinguish different groups of users of Aegean-type pottery and the different purposes it served in the late 13th and early 12th century BCE Southern Levant. I will define different ways in which people interacted with Aegean-type pottery and discuss the extent to which different repertoires and practices relating to Aegean-type pottery reflect contemporaneous material culture and social practices in the Aegean and on Cyprus.

The use of Aegean-type pottery around 1200 BCE

For a long time, there was a rather simple understanding of the way in which people interacted with Aegean-type pottery in the 13th and 12th century BCE Southern Levant. It was generally assumed that during the 13th century BCE a great number of mostly Argolid imports – dominated by small closed vessels and a rather small number of open shapes – were acquired by almost all communities in the Southern Levant. Due to the appearance of the Philistines, the 12th century seemed to be characterised by open vessels of Aegean type inside the Philistia in contrast to surrounding Canaanite communities – now with hardly any Aegean-type pottery. For almost a decade, however, different views have been presented. They are mostly based on findings from sites on the Carmel coast and in the Jordan Valley which obviously do not fit into the general narrative.

As early as 1998, Ann Killebrew (1998b: 161–162) suggested an intermediary phase (her second phase) in the late 13th century BCE between the Argolid imports on the one hand and the Philistine pottery on the other (Fig. 1). In her view, this phase is characterised by stirrup jars and flasks of what she calls 'Mycenaean IIIB late', 'Simple Style' or 'Derivative Mycenaean IIIB'. Killebrew assumes a change of producers as well as consumers and also of related practices of distribution. Following Sue Sherratt (1998, 2000), she argues that the breakdown of palatial trade enabled peripheral groups to take over the distribution of Aegean-type pottery. For Killebrew (1998b: 159; 161–162; 2008: 56–57), the Nami cemetery provides the best evidence of this intermediary phase, of which she also sees evidence at Megiddo, Tel Beth-Shean, and a few other sites. She also attributes the elaborately painted Cypriot stirrup jars from Tell Keisan, Tel Beth-Shean, and Akko to this phase. She assumes that there was a slight overlap with her third phase, i.e. the local production of Philistine pottery which she connects with migrants from Cyprus, Cilicia and the Eastern Aegean (Killebrew 1998a: 401–402; 1998b: 159–166; 2003: 121; 2005; 2006–2007; 2008: 57–59).

Since the excavation of Nami and Killebrew's publication, it has become more and more clear that we must not assume a linear replacement of Argolid imports by locally produced and so-called Philistine pottery. This reworking of the old linear narrative is supported by findings inside and outside the Philistia.

Ongoing excavations outside the Philistia – especially on the Carmel coast, and in the Jezreel Valley and the Jordan Valley – have provided evidence of the use of Aegean-type pottery in the 12th century which contradicts the dominant narrative – unless we are willing to expand the Philistia into a much larger area. The most interesting corpus of deep bowls found at Dor, Tell Keisan and Tel Beth-Shean challenges this shape's status as a hallmark of Philistine settlements. Ayelet Gilboa (2005; cf. also Gilboa 2006–2007, 2009; Gilboa and Sharon 2008: 160) characterised this group of deep bowls as "northern Skyphoi" and interpreted them as evidence of a small group of migrants without a particular status. In her view, these migrants used the skyphoi for their drinking practices – without, however, exerting any influence on local pottery production. Amihai Mazar (1997a: 159; 1997b:

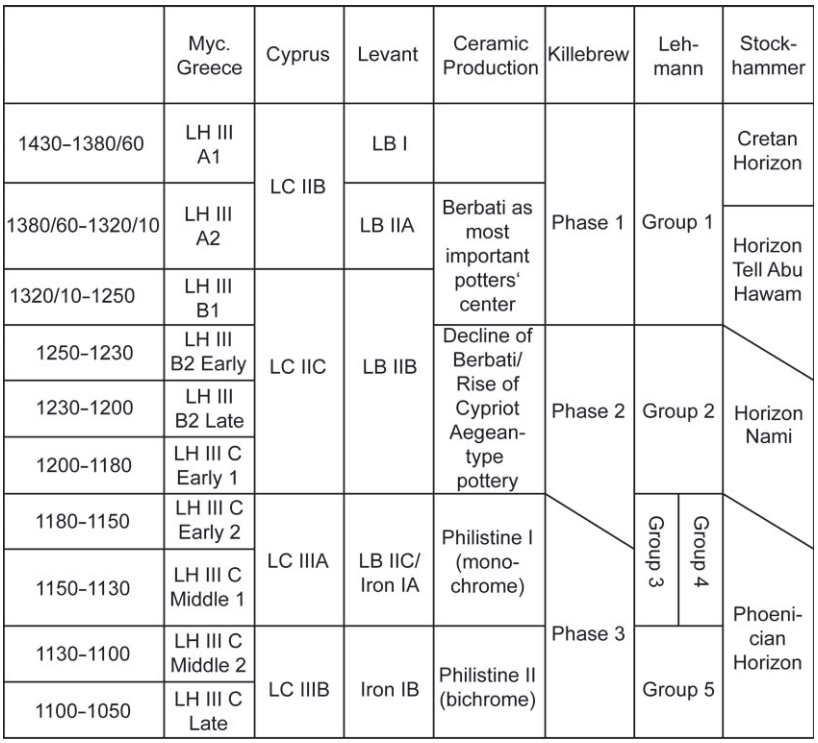


Fig. 1 Correlation of chronological phases with phases/horizons of interaction with Aegean-type pottery at the Southern Levant (© P.W. Stockhammer)

158; 2002: 269–270; 2007: 573–574) and Sue Sherratt (2009) attributed the large number of Aegean-type deep bowls from ordinary non-elite houses in Tel Beth-Shean to households of mercenaries and/or merchants with possible connections to the Aegean (cf. also Stockhammer 2014). Recently, such deep bowls have also been published from Megiddo (Yasur-Landau 2013).

Consequently, in 2007 Gunnar Lehmann published a revised model of the development of the use of Aegean-type pottery in the Southern Levant in the 13th and 12th centuries BCE (Lehmann 2007: esp. 532, table 2). Lehmann defines five successive groups of Aegean-type pottery outside the Philistia (Fig. 1): his first group is equivalent to Killebrew's first phase, i.e. mostly Argolid imports until the late 13th century BCE. He then divides Killebrew's second phase into two different groups. His second group comprises the Simple Style pottery and so-called 'Mycenaean IIIB Late' of mostly Cypriot origin. His third group comprises the Aegean-type pottery outside the Philistia imported during the 12th century from Cyprus and is parallel to his group 4, which can be equated with the so-called Philistine I pottery (Lehmann 2007).

To sum up the current discussion (Fig. 1): it is generally accepted that there was a change in the way in which people interacted with Aegean-type pottery in the late 13th century which led to the appearance, in particular, of the so-called Simple Style pottery – especially stirrup jars – of mostly Cypriot origin. Moreover, it is clear that during the 12th century BCE Aegean-type pottery was also used outside the Philistia – probably in most cases by individuals or groups who were somehow connected to the Aegean or Cyprus (Sherratt 2009; Stockhammer 2011, 2014). Moreover, more and more authors have refrained from calling these actors either 'Philistines' or 'Sea People'.[1] However, the cor-

[1] The recent reluctance to associate supposedly Aegean-related objects outside the Philistia with the label 'Sea Peoples' is very visible at Tel Dor and Tel Beth-Shean (cf. Gilboa 2005; Sherratt 2009; Stockhammer 2014). Regarding Tel Dor, Ephraim Stern (2000, 2006) has always argued for relating the site to the 'Sea Peoples' and taken the Aegean-type pottery as an argument for connecting Tel Dor with the evidence from the Philistine settlements further south.

relation between Aegean-type pottery in the Aegean, on Cyprus and in the Southern Levant in the late 13th and early 12th century BCE is still hard to understand. This is connected to the fact that we still do not understand the chronological position of Aegean-type pottery outside the Philistia very well.

Linking the Aegean and the Southern Levant in the late 13th and early 12th century BCE

The major problem with Aegean-type ceramics in the last decades of the 13th and the first decades of the 12th century BCE is that there seems to be hardly any development. At least the study of the most relevant floor contexts from Mycenae and Tiryns has clearly shown that there was almost no change in the ceramic repertoire within this period in the Argolid (Stockhammer 2008: 50–57; French and Stockhammer 2009). Nevertheless, there are vessels of Aegean type which were obviously distributed during the problematic period between LH IIIB2 and LH IIIC Early and can help us to correlate our local chronologies, i.e. shallow bowls/plates FS (=Furumark Shape) 296 with interior decoration and/or white paint on the interior bands and the Simple Style stirrup jars. The latter also play an important role in the above-mentioned definition of Killebrew's phase 2 and Lehmann's group 2.

Shallow bowls/plates FS 296 are found at Tiryns only in LH IIIB2. There is no evidence of them in LH IIIC and – most interestingly – they are completely missing at Mycenae (French and Stockhammer 2009). It seems that the use of these shallow bowls in late 13th century BCE Tiryns should be connected with a particular part of the local population which was influenced by practices common in Cyprus.

Simple Style vessels were first defined by Furumark (1941: 116–118; cf. also Koehl and Yellin 2007: 200; Mountjoy 2011: 179) on the basis of small piriform jars, globular stirrup jars and lentoid flasks. Following Mountjoy (2011: 179; cf. also Koehl and Yellin 2007: 200), "the vessels are made of slightly coarse fabric and generally decorated with bands of equal width in orange to red paint, which is usually matt but can be semi-lustrous". Neutron Activation Analysis indicates that thee vessels were primarily produced on Cyprus, although some of them seem to have been produced in the Levant (Mountjoy and Mommsen 2001; Mommsen *et al*. 2009; Mountjoy 2011; Artzy and Zagorski 2012). However, no Simple Style vessel has been published from Cyprus to date. Without scientific analysis, Simple Style vessels can only be attributed to a Cypriot or Levantine workshop (e.g. Stockhammer 2011), although a Cypriot origin is much more probable. The relevance of Simple Style stirrup jars for the chronological synchronisation between the Greek mainland and the Levant grew when three stirrup jars from well-stratified post-palatial in situ contexts in Tiryns were attributed, most probably, to the Simple Style.[2] All three vessels are likely to have arrived at the harbour in the aftermath of the catastrophe and were used in LH IIIC Early and, therefore, in the first half of the 12th century BCE. It is even more surprising that Simple Style stirrup jars are missing in the rich LH IIIB2 material from the Epichosis and from the Western Staircase of Tiryns (Voigtländer 2003; Kardamaki 2009). In Ugarit, an almost complete Simple Style stirrup jar was found in situ in House A, Centre Ville (Yon *et al*. 1987: 54, fig. 36: 79/473), while another possible Simple Style stirrup jar and a shallow bowl FS 296 were found in House B (Yon *et al*. 1987: 79, fig. 57:79/499; 88, fig. 68:84/602.). These floor contexts are the result of the destruction of Ugarit which very probably happened in the years after 1186 BCE (cf. Singer 1999: 715; Lehmann 2007: 49).

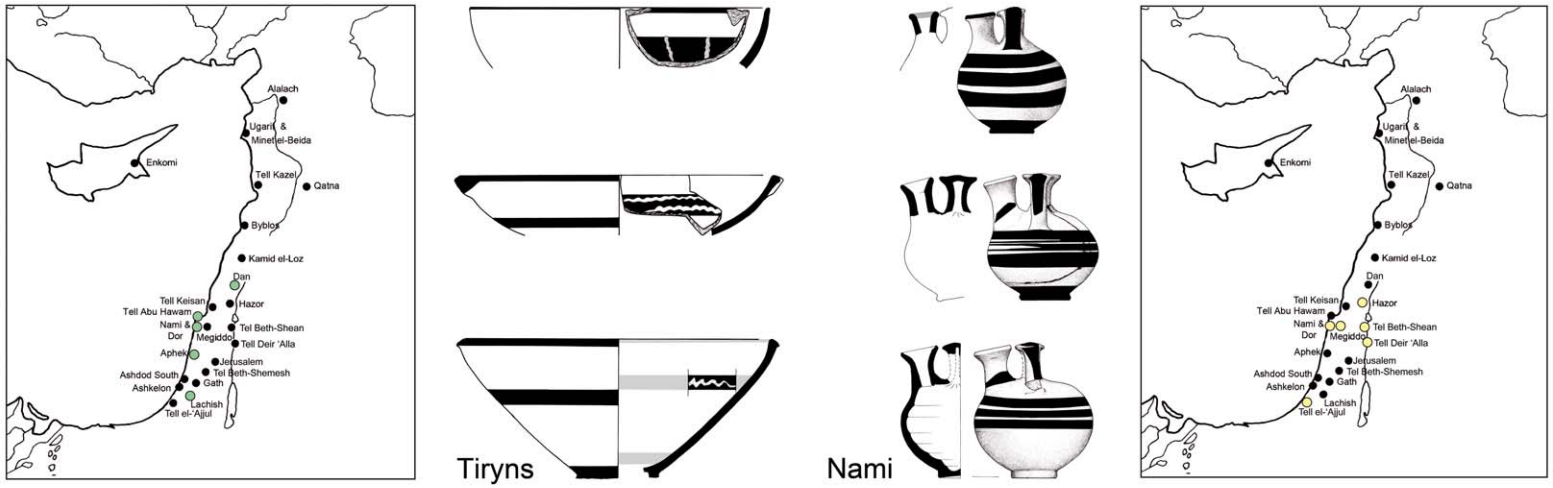
To sum up: the respective shallow open bowls can be taken as an indicator of the second half of the 13th century BCE, i.e. the time after the decline of Mycenae/Berbati imports to the Levant, and seem to continue in small numbers in the first half of the 12th century BCE. The Simple Style stirrup jars appear in the late 13th century BCE, but there is clear evidence of their continuous use in the 12th century BCE Argolid and Northern Levant. In my view, these two shapes give us the best option to link the decades before 1200 BCE and the first half of the 12th century BCE in the Eastern Mediterranean.

Evaluating Southern Levantine contexts

The Carmel Coast, the Jezreel Valley, and the Jordan Valley

In the following section I will discuss sign probably, to the Simple Style ificant contexts with Aegean-type pottery, first from the area outside the Philistia, i.e. es-

[2] Stockhammer 2008: 91; 153; 190; cat. nos. 962, 1219 and 1387. Two of the vessels were well-preserved and found in situ on a LH IIIC Early 2 floor context of the Northeastern Lower Town (Phase 2), whereas the third vessel can only be attributed to either LH IIIC Early 1 or 2 (Northeastern Lower Town, Phase 1).



	Myc. Greece	Cyprus	Levant	Stock-hammer	Hazor	Dan	Lachish		Megiddo			Aphek	Tel Beth-Shean			Nami	Dor
1430–1380/60	LH III A1	LC IIB	LB I	Cretan Horizon	Stratum XIV= 1B	VIII		Fosse Temple I	Stratum IX	K10	H15	X14	IX	R1			
1380/60–1320/10	LH III A2		LB IIA	Horizon Tell Abu Hawam		VIIB		Fosse Temple II	Stratum VIII	K9	H14	X13					
1320/10–1250	LH III B1	LC IIC	LB IIB				VII	Fosse Temple III				X12	VIII				
1250–1230	LH III B2 Early				Stratum XIII= 1A											G/3	G/12
1230–1200	LH III B2 Late			Horizon Nami		VIIA			Stratum VIIB	K8 K7	H13		VII	N4	S5	G/2	G/11
1200–1180	LH III C Early 1						VI					X11	VII Late				
1180–1150	LH III C Early 2	LC IIIA	LB IIC/ Iron IA	Phoeni-cian Horizon	Hiatus	VI			Stratum VIIA	K6			VI Lower	N3	S4		Hiatus
1150–1130	LH III C Middle 1											Hiatus?			S3		G/10
1130–1100	LH III C Middle 2	LC IIIB	Iron IB			V	Hiatus		Stratum VIB	K5		X10	VI Upper	N2	S2		
1100–1050	LH III C Late				Stratum XII							X9					G/9

Fig. 2 Distribution of shallow bowls FS 296 (examples from Tiryns; without scale) and Simple Style stirrup jars (examples from Nami; without scale; with kind permission of Michal Artzy; © Michal Artzy and Ragna Stidsing) in the Southern Levant and synchronization of different sites (© P.W. Stockhammer)

pecially the Carmel Coast, the Jezreel Valley, and the Jordan Valley, and then from the Philistia itself. I will, in doing so, keep my focus on shallow bowls FS 296 with interior decoration and Simple Style stirrup jars.

Shallow bowls FS 296 with interior decoration have so far been documented at Tel Dan within the so-called 'Mycenaean Tomb' (Ben-Dov 2002: 117, fig. 2.85 nos. 105–108) and in the settlement strata (Ben-Dov 2012: 76, no. 43), from Aphek, Stratum X11 (Guzowska and Yasur-Landau 2009: 343, table 9.1, 15) and the third phase of the Fosse temple in Lachish (Tufnell *et al*. 1940: pl. 63.1). Moreover, I also identified them at Tel Nami, Area G/3, Dor, Area G/11 and in Tell Abu Hawam.[3] Although one would wish to have more evidence from the Southern Levant, contexts with this shape cannot be dated earlier than LH IIIB2 and most of them can be equated with LH IIIB2 in the Argolid.

Small Simple Style stirrup jars have so far been published in large numbers from sites on the Carmel coast, and in the Jezreel and Jordan Valleys. They are most numerous in the cemetery of Nami (Artzy 2006: 53, fig. 6.14–17) and in the Northern Cemetery of Tel Beth-Shean (e.g. Oren 1973: 213, nos. 14.1–3; 215, nos. 16–17; 217, nos. 9–10 etc.). Studying the new findings from Megiddo, I could identify 18 further vessels which can clearly or most probably be classified as Simple Style stirrup jars. In Locus 2 in Area K, four complete or largely preserved ones were found together in situ. They belong to level K-8 which can be equated with Stratum VIIB of the Chicago excavation and dated to the late 13th or early 12th century BCE. The Simple Style stirrup jars continue in Megiddo well into the 12th century: one complete stirrup jar and fragments of several others were found in the old excavations in Megiddo in Stratum VIIA (Stockhammer 2011: 285–287) and I identified several fragments from K-7 of the recent excavations. Therefore, there is very clear evidence for the use of this Aegean-type vessel until at least the middle of the 12th century BCE.

It is most interesting to see that the most significant evidence for the Simple Style stirrup jars is found at those sites where shortly afterwards the so-called Northern Skyphoi appear, i.e. at Dor, Megiddo and Tel Beth-Shean (Fig. 2). We have a very clear zone of interaction which links the Carmel region on the one hand to Cyprus and the Northern Levant and on the other hand via the Jezreel Valley with the Jordan Valley, as has already been proposed by Michal Artzy (1990a, 1990b, 1994, 1998). In her view, this route was most important in the aftermath of the breakdown of Eastern Mediterranean palatial trade and was crucial for the transport of incense and scrap metal. The Simple Style stirrup jars, therefore, mirror a group of highly mobile individuals with close connections to Cyprus. However, it would be completely oversimplifying to attach any ethnic or location-dependent name. The evidence from the Nami settlement and other related harbour sites like Dor or Ashdod South shows that this group can best be understood as a transcultural amalgam of highly mobile agents of very different origin – Artzy's 'nomads' (Artzy 1997, 1998) and Sherratt's 'mafiosi' (Sherratt 2000: 88).[4] They defined themselves by their international material culture and related social practices and Simple Style stirrup jars were one of these elements – if only for the transport of precious liquids.

Comparing the evidence, Simple Style stirrup jars and shallow bowls FS 296 appear almost mutually exclusively in the settlements, although both can be seen as a result of close interaction with Cyprus (Fig. 2). This surprising evidence correlates most interestingly with Cyprus, where we have rich evidence for the shallow bowls FS 296 and, so far, none published for Simple Style stirrup jars, although the latter were definitely produced on the island. Only the Carmel harbours with their intense links to Cyprus and the Northern Levant have brought to light both shapes.

There is no doubt also that the evidence for shallow bowls FS 296 in the Southern Levant must be interpreted as the result of close connections with Cyprus. The deposition of shallow bowls and the famous amphoroid krater in tomb 387 from Dan relates the respective burial practices to those of Cyprus and the Northern Levant (esp. Ugarit and Minet el-Beida) where both shapes were frequently used as burial goods (Leonard 1994: 23–33; Ben-Dov 2002: 102).

Taking the interpretation of the skyphoi by Gilboa, Mazar, and Sherratt together with the Simple Style

[3] The relevant vessels from Tel Nami and Dor are unpublished and are part of my forthcoming Habilitation thesis. The bowl from Tell Abu Hawam was identified by me in April 2015 in the Rockefeller Museum in Jerusalem.

[4] One must not confuse Artzy's 'nomads' and Sherratt's 'mafiosi' with the 'pirates' proposed by Hitchcock and Maeir 2014, who associate the phenomenon of the 'Sea Peoples' with piracy. With their pirates, Hitchcock and Maeir 2014 subsume two very different phenomena – my Horizon Nami and the so-called Philistines – into one group of people. However, the phenomena have to be kept separate.

stirrup jars and the shallow bowls, we can conclude that very different groups of actors used Aegean-type pottery in the late 13th and first half of the 12th century BCE outside the Philistia. The use of these vessels of Aegean type was obviously motivated by very different reasons which must not be reduced to creating some kind of 'Heimat' feeling or ethnic delimitation.

The Philistia

It is most interesting to compare the evidence from the Carmel coast and the Jezreel and Jordan Valleys with what we call the Philistia. If we assume that the beginning of the production of Philistine I pottery was contemporary with LH IIIC Early 2, i.e. it started in the early 12th century BCE, we have to ask why the 'Philistines' did not use Simple Style stirrup jars, in view of their connection with Cyprus and their availability all around the Southern Levant. The lack of Simple Style stirrup jars in Philistia (cf. Dothan and Zukerman 2004) comes as an even larger surprise, as a Cypriot or at least partly Cypriot origin of the Philistines has been repeatedly proposed – at least partly based on the ceramic evidence (Killebrew 1998a: 401–402; 1998b: 159–160, 162–166; 2003: 121; 2005; 2006–2007; 2008: 57–59). How can we then explain the evidence? One may either argue

1) that Cypriots only produced Simple Style pottery for export and never used it themselves (so why should they start using it abroad?);

2) that it was a conscious choice of the so-called Philistines not to use these Cypro-Aegean vessels;

3) that the Philistine settlements started later than LH IIIC Early 2 in the Argolid, i.e. after the middle of the 12th century BCE;

4) or that the Philistine ceramic repertoire should not be interpreted as a typically Aegean-style repertoire, where stirrup jars played an important role.

In my view, the last point needs further attention. We have to differentiate more clearly between the Aegean style of the pottery, i.e. its materiality, and the style of the practices connected with it. So far, it has been taken for granted that Aegean-type pottery was used for Aegean-type eating and drinking practices. This has been assumed for the imported Aegean-type pottery as well as for the locally produced pottery of the same type. However, there is very clear evidence that the imported Aegean-type pottery was used for very different practices than those intended by the Aegean potters (Stockhammer 2011, 2012a, 2012b). Moreover, I have already pointed out that the Philistine feasting dishes of Aegean type must not be understood as a copy of the contemporary ceramic inventory in the Aegean, but as the product of transcultural entanglement (Stockhammer 2013). Key vessel shapes of the Aegean are almost completely missing in the Philistine settlements, especially Aegean drinking vessels, like the kylix and the cup, and the stirrup jar. On the other hand, decorated bowl shapes – like the linear shallow carinated bowl FS 295C – are far more common in the Philistia than in the Aegean. I interpret this evidence as the translation of Canaanite practices into the stylistic vocabulary of Aegean-type pottery (Stockhammer 2013). Canaanite feasting dishes are dominated by countless shallow and deep bowls of small and medium size with no particular differentiating shapes for eating and for drinking. This is exactly mirrored by the Philistine feasting dishes.

Summary

My aim was to show the range of ways in which people interacted with Aegean-type pottery in the late 13th and early 12th century Southern Levant. It has become clear that different groups of actors with different relations to the Aegean and Cyprus coexisted in this period and selected different kinds of Aegean-type vessels for their practices – be it the imitation of Canaanite feasting practices in the case of the so-called Philistines and possibly also the northern skyphoi, the imitation of Cypriot or Northern Levantine burial practices or the trade in precious liquids. In the end, it is our choice which groups of actors we want to call 'Sea Peoples' and/or 'Philistines'. In my view, these overarching denominations have so far hindered rather than enhanced our understanding of the use of Aegean-type pottery in the Southern Levant.

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Weapons and Metals – Interregional Contacts between Italy and the Eastern Mediterranean during the Late Bronze Age

Mathias Mehofer and Reinhard Jung

Abstract

In this paper we discuss the observable interactions between Italy and the eastern Mediterranean regions from the late 14th to the 11th century BCE. During that time, specific bronze types such as Naue II swords, spearheads, various implements and dress accessories belonging to the metallurgical koine found their way into the Mediterranean world. These phenomena are often discussed in connection with the activities of the so called 'Sea Peoples'. In order to provide analytical results for the discussion of this topic we carried out XRF and lead isotope analyses on artefacts found in different Aegean and Italian regions. Based on their analytical results a number of bronzes can be related to the Northern Italian ore deposits in the Trentino, which enables us to identify them as imports to the Aegean.

Introduction

The information on the provenance of the various warrior groups that are subsumed under the general term 'Sea Peoples' can only be called meagre. Inscriptions by Ramesses II (1290–1224 BCE – henceforth all pharaonic dates according to Schneider 2010: 402–403) speak of attackers coming in ships "from the mid of the Sea" (Rhetorical Stela, Tanis II: Kitchen 1996: 120). Similarly Merneptah (1224–1214 BCE) mentions "Northerners, wanderers of all lands" and "of the foreign countries of the Sea" (Great Libyan War Inscription, Karnak: Kitchen 2003: 2, 7) and in another inscription "the foreign people of the Sea" (Libyan War Stela from Kôm el-Ahmar: Kitchen 2003: 19). Ramesses III (1195–1164 BCE) locates their homelands on unspecified islands (Medinet Habu, Year 8 Inscription, II, sentence 3: Edel 1985: 225). Roughly contemporary with Merneptah, the Hittites know little about the Šikalājū, one of the Sea People groups, except that they are living on ships (letter from Ugarit RS 34.129: Dietrich and Loretz 1978; Lehmann 1979). This fact, revealed in a letter found at Ugarit, should exclude the possibility of western Asia Minor being their region of provenance, because in that case the Hittites would have been better informed about that enemy group.

Leaving aside the very difficult interpretation of the Sea Peoples ethnonyms,[1] one may use the representations to shed light on the issue of the provenance of those fighters. Such representations are available from the early reign of Ramesses II and of Ramesses III. The reliefs at Abydos, Abu Simbel and Medinet Habu provide us with information on the various sword types used by the Sea Peoples. Here one may differentiate between three principal shapes: One can be identified with a type found from the Marmara Sea to the shores of the southern Levant (Fig. 1, we proposed calling it 'type Ugarit', Jung and Mehofer 2009: 119, fig. 6,3; 126; for a distribution map see Jung 2009: 143–144, fig. 8). The second shape with horned shoulders vaguely recalls Mycenaean swords of the palatial period. The third and final sword type depicted in connection with the Sea Peoples is the oldest one. It is attested on the reliefs of Ramesses II at Abu Simbel and Abydos. It may also appear on the reliefs of Ramesses III at Medinet Habu, but this identification is not certain, as some of the Medinet Habu depictions show certain morphological details that are absent from the earlier reliefs. The depictions of this type from the time of Ramsses II seem to reproduce Sicilian and Southern Italian sword types (Jung 2009: 130–135, figs. 1–2). Unfortunately neither Egypt nor Philistia provide us with a sufficient number of swords dating from the 13th and 12th centuries to allow any statistically meaningful comparison with the relief depictions. This is certainly due to the fact that warrior graves of that period are largely missing from those regions. Regarding Egypt, we can refer to one Naue II sword said to be from Zagazig / Bubastis and a second sword related to the Naue II shape from Tell

[1] For this discussion see R. Jung, in the present volume.

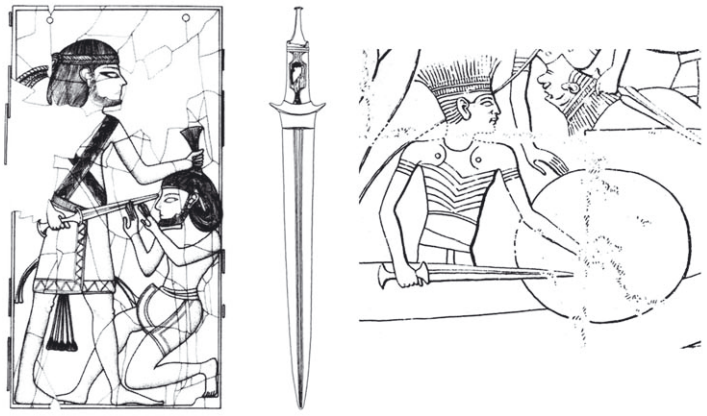

Fig. 1 Swords of type Ugarit: A – on an ivory relief found at Ugarit (Gachet-Bizollon 2001: 43, fig. 12, pl. 25:1/H); B – from the Royal Palace at Ugarit (Schaeffer 1956: 172, fig. 124:5); C – from Medinet Habu, mortuary temple of Ramesses III, northern outer wall (Breasted 1930: pl. 39)

el-Firaʿūn.[2] The latter is inscribed with the cartouches of pharaoh Seti II and can thus be precisely dated to the time between 1214–1208 BCE. In his first publication of these swords the Egyptologist Jacob Burchardt connected them to northern warriors, but noted at the same time that these sword types do not correspond to the ones depicted on the Egyptian reliefs. After more than a century of archaeological research scholars agree that the Naue II swords belong to a whole group of bronze forms that spread to the eastern Mediterranean[3] from their regions of origin in central and northern Europe, Italy and the Balkans during the later 13th and the 12th century BCE.

Urnfield bronzes in the Mediterranean world

The above-mentioned bronzes are referred to either as Urnfield bronzes or bronzes of the metallurgical koinè. This phenomenon is circumscribed by the adoption of new types of weapons, armour, dress accessories and implements at the end of the Bronze Age in the Aegean and beyond. Various scholars discussed whether the majority of these types were invented in the Balkan regions and/or central Europe and came to the Mediterranean region via a Balkanic route.[4] For example more than 45 years ago Jan Bouzek mentioned that "Die Analyse und die Verbreitungskarte der balkanländischen und italischen Griffzungenschwerter der Naue-II-Familie scheint die Theorie einer barbarischen Wanderung vom Nordwestbalkan ins östliche Mittelmeer eher zu bestätigen als zu widerlegen. Diese Theorie ist zudem auch aus anderen archäologischen und historischen Gründen höchst wahrscheinlich. Aus der Verbreitung der Schwerter in Italien einen Weg der Wanderer über dieses Land zu erschliessen, würde einen unnötigen und schwer erklärbaren Umweg bedeuten, auch wenn man natürlich auch diese Möglichkeit nicht ausser Acht lassen darf" (Bouzek 1971: 441).

Trace element and lead isotope analyses

Thanks to the results of a recent research project carried out by the authors, we have detailed analytical arguments to support the theory that the origin of those bronzes has to be traced back to Italy[5] and not to the Balkans. This analytical program was funded by IN-

[2] Undset 1890: 3 f., fig. 4; Burchardt 1912a: 61, fig. 1–2, pl. 5:2, 62, pl. 5:3; Burchardt 1912b: 233, fig. 1; Bietak and Jung 2007–2008; Jung 2009: 139–140, fig. 5:1.

[3] Catling 1961, 1964, 1968; Matthäus 1980; Harding 1984: 132–134, 137–140; Drews 1993; Kilian-Dirlmeier 1993; Papadopoulos and Kontorli-Papadopoulou 2000; Jung 2006: 21–57.

[4] von Merhart 1958: 137–147; Bouzek 1971: 441; Sandars 1983; 1985: 88–95; Bouzek 1985: 215, 217, 222; Hiller 1986; Harding 1995: 38.

[5] Jung *et. al.* 2008; Jung *et. al.* 2011; Gatsi *et. al.* 2012; Jung and Mehofer 2013.

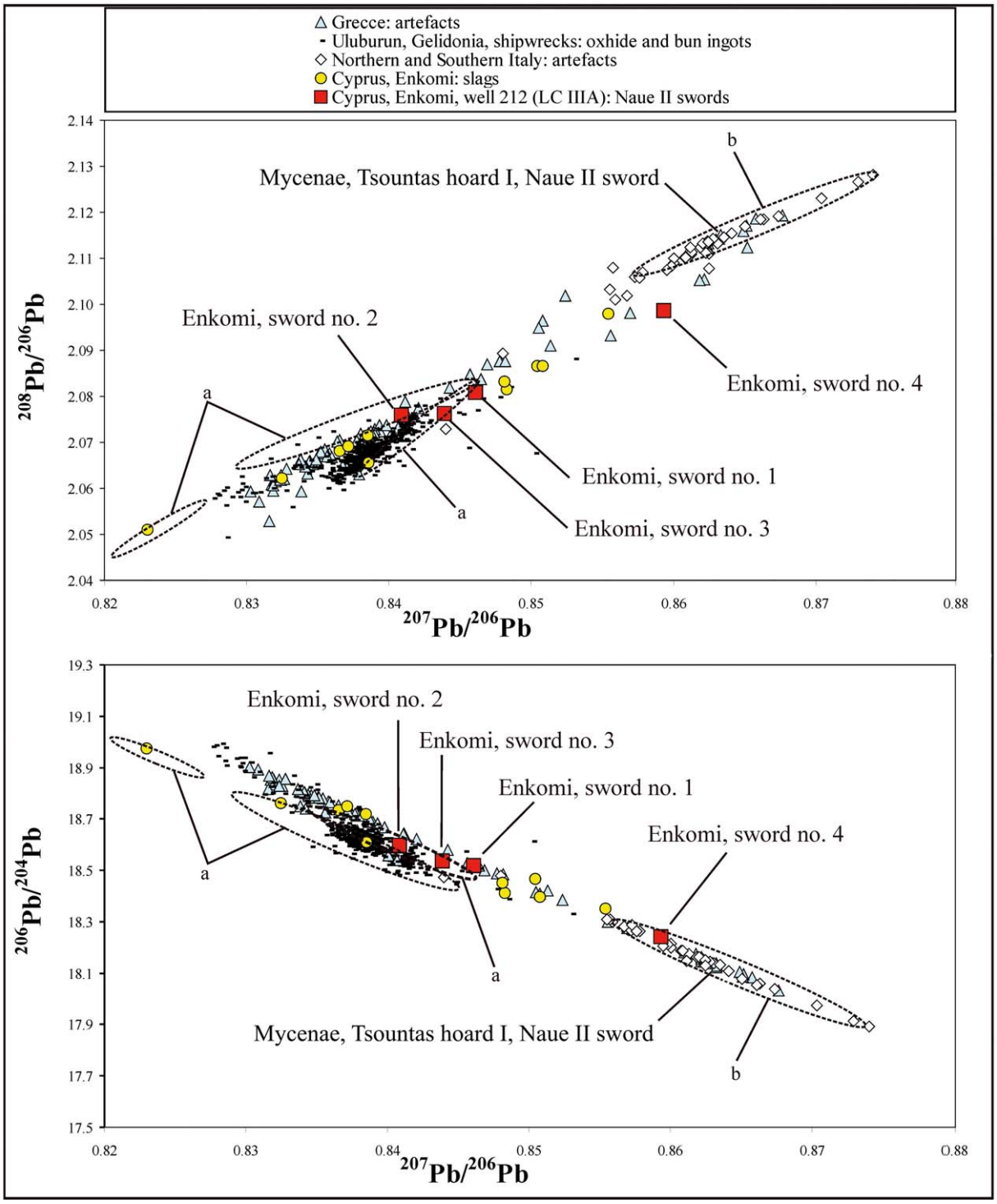

Fig. 2 The lead isotope diagrams show that three of the Naue II swords from Enkomi have similar lead isotope ratios to the ore deposits of Cyprus. "a" = The dotted ellipses circumscribe the lead isotope ratios of the copper ore deposits of Cyprus; "b" = The dotted ellipse circumscribes the lead isotope ratios of 19 copper slags from Trentino. Data: Stos-Gale *et al.* 1996; Gale *et al.* 1997; Hauptmann *et al.* 2002; Stos Gale *et. al.* 1998; Stos 2009: 179, table 3; Stos-Gale and Gale (Oxalid database), Jung, Mehofer, Pernicka (unpublished). The mean standard deviation of the artefacts analysed in the current research project is smaller than the size of the symbols

STAP (Institute for Aegean Prehistory) and included 142 bronze objects, which were excavated in Italy, Greece, the Aegean Islands and Egypt. The samples were analysed by XRF to measure the concentration of the minor and trace elements; the lead isotope ratios were measured with a mass spectrometer (MC-ICP-MS) at the Curt-Engelhorn-Centre for Archaeometry, Mannheim (D) to determine the provenance of the copper used in the alloy. The project itself focused on the following key issues: which of the 'European/Italian'-type objects found in Greece were imported and which of them were produced in Mycenaean Greece using locally available copper? Were these innovations in weapons technology and bronze-working transmitted to Greece via a Balkan route or via a sea route starting in some central Mediterranean region? Additionally, it was of interest whether the spread of these European bronze types can be linked with the activities of the so-called Sea Peoples. Only if all data, the typological information and the analytical results alike, supported an identification of an artefact as foreign to the region were it was found, did we decide to classify it as an import from another region. To control and cross-check these interpretations, artefacts produced according to the local typological tradition were sampled in each region treated in our project.[6]

During recent decades several research groups have conducted large-scale analytical programs in the Mediterranean world and especially in the Aegean.[7] These programs focused on the provenance of copper and bronze artefacts[8] as well as on the corresponding copper ore deposits. In their publications Noel Gale and Zophie Stos-Gale (Gale and Stos-Gale 2005, 2012) point out the Apliki mine in Cyprus as the dominant copper supplier during the Late Bronze Age. Various researchers have discussed the validity of this interpretation of the analytical evidence, and a consensus has not been reached so far. This is, for example, due to the fact that the lead isotope ratios of the oxhide ingots found on the Uluburun and Gelidonya shipwrecks only partly coincide with those of the sampled and analysed ore deposits from Cyprus (Fig. 2). Nevertheless, one can assume, that the oxhide ingots found within the region of our research – e.g. the ones from Uluburun or Gelidonya (Gale and Stos-Gale 2005: 122; Stos 2009: 179, table 3) – were produced with Cypriot copper.[9] A detailed comparison with the analytical data of the artefacts analysed in the framework of our project and published data of eastern Mediterranean artefacts and ore deposits allowed the conclusion that most of the artefacts found in Greece had been produced using Cypriot copper (Jung and Mehofer 2013: 178, 179, fig. 5). The lead isotope ratios of these artefacts either coincide with published results of Cypriot copper ores or with the ones from copper ingots found on the Uluburun shipwreck[10] (Fig. 2), which suggests that the copper source of these artefacts is located in Cyprus (cf. Muhly 2005).

Most interestingly, the analytical results of a small amount of objects analysed in our project correspond with data of artefacts found in northern Italy[11] (Fig. 2). These artefacts can therefore be interpreted as imports to the east Mediterranean world. In this context it is worth remembering that one of the earliest bronzes of the metallurgical koinè that has been found in Greece up to now is a Naue II sword from Mycenae (Fig. 3:A). It forms part of a hoard (called Tsountas hoard I)[12] found in 1890 by Christos Tsountas in the northwestern part of the citadel of Mycenae, an area not inhabited after LH IIIB Final.[13] The hoard assemblage itself does not contain any artefact type which would hint at a more recent date of its deposition. This means that this specific weapon is one of the earliest Naue II swords known from the Aegean. In order to answer the question whether it came to Mycenae as a finished product or whether it was one of the earliest Mycenaean reproductions of an Urnfield type, the object was analysed and the results compared with those of artefacts found in Italy and Greece. According to a recent article, the analytical results of this sword coincide very well with those of artefacts found in northern Italy and slags from the Trentino region. With a

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6 We could do so in most of the Greek regions, but we did not have this possibility in the case of Egypt.

7 Stos-Gale *et al.* 1995; Stos-Gale *et. al.* 1996; Gale *et al.* 1997; Begemann *et al.* 2001; Gale and Stos-Gale 2005; Hook 2007; Angelini *et. al.* 2009: 157–164, tables 2–4; Artioli *et. al.* 2009: 171, table 3; Jung *et al.* 2011.

8 Kayafa 2006; Jung *et. al.* 2008: 86f.; Stos-Gale and Gale 2009.

9 The lead isotope ratios of most of the Uluburun oxhide ingots are bracketed between the main group of ores from the Aplíki mine and one single ore sample from that same mine. Unfortunately, the lead isotope ratios of this specific Aplíki sample are not published in detail, but only illustrated in a lead isotope diagram (Gale and Stos-Gale 2005: 122, 124, fig. 6).

10 Gale *et al.* 1997; Hauptmann *et al.* 2002; Gale and Stos-Gale 2005: 121, fig. 3; 123, fig. 5; 124, fig. 6; 126, fig. 7.

11 For a detailed discussion see Jung *et al.* 2011: 236–239; Jung and Mehofer 2013: 178–182.

12 Sandars 1963: 151f., pls. 26, 36, 46–47; Spyropoulos 1972: 12–16, figs. 10–12, 14–15, pls. 4–6, 7γ, 8α.

13 For the pottery from the Northwestern Quarter see Iakovidis 2006.

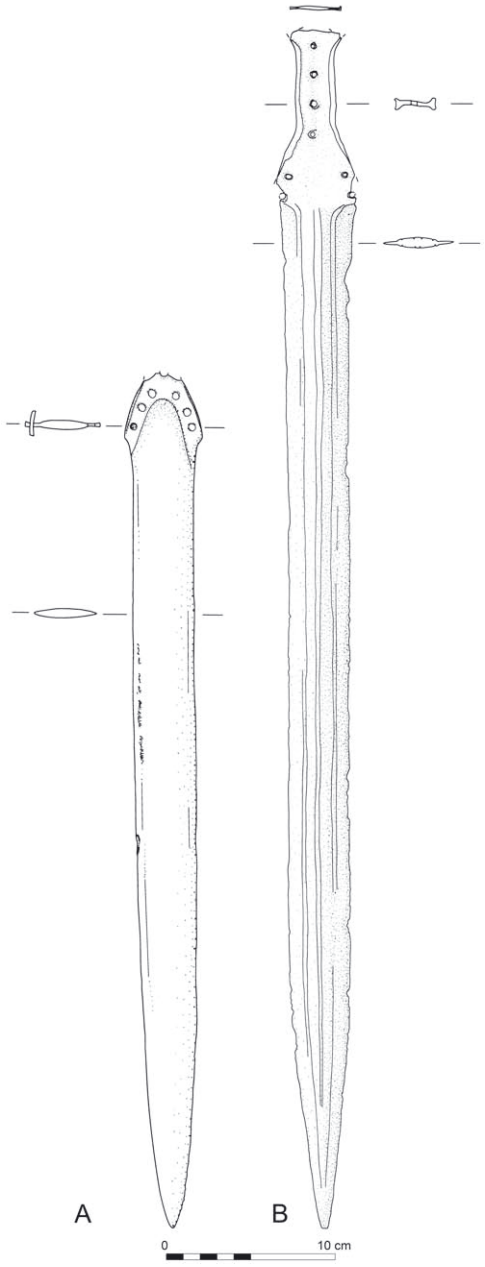

Fig. 3 A – Naue II sword (A) from Tsountas hoard I found at Mycenae (Inv. no. EAM 2539); B – the Naue II sword said to be found in Zagazig / Bubastis (Inv. no. 20447), (drawings: R. Jung; digitalization M. Frauenglas). Scale 1:4

single exception, contemporary artefacts of Mycenaean type do not exhibit the lead isotope characteristics of those northern Italian ore deposits. Therefore it is possible to conclude that the copper used to produce the sword comes from the region of the southern Alps (Jung and Mehofer 2013: 179, fig. 5, 180, fig. 6). In consequence, the Naue II sword from Mycenae can be identified as an import originating in Italy.

During the following periods, i.e. during LH IIIC and the Submycenaean phase, such imported objects were not only present on the Greek mainland, but also in other regions of the Mediterranean world. In particular four Naue II swords (Fig. 4; Lagarce 1971: 407, 410, fig. 18) which were excavated in Well 212 in the city of Enkomi, Cyprus, provide useful information concerning the above-mentioned observations. The find context dates to the phase LC IIIA, to be synchronized with Aegean LH IIIC Early–Developed (Jung 2006: 177–178; for the Aegean synchronization see Mountjoy 2007). Although they differ in certain details, three of the four swords belong to the same type, a type that is called Cetona in Italy, Reutlingen in central Europe and Naue II, type A, in Greece (Bianco Peroni 1970: 62–65; Schauer 1971: 132–144; Kilian-Dirlmeier 1993: 94–96, 100–105). The fourth sword is damaged at its grip tongue, but may also have belonged to this type. Up to now swords of the Naue II family are attested only by eight specimens in Cyprus, one of which belongs to a short, late variety (Matthäus 1985: 364–365, pls. 140,2–5; 141,6–9). This may at least partly be explained by referring to the rarity of tombs dating to LC IIIA all over the island – with a few exceptions in some regions.

The four swords from Well 212 were analysed by Noel Gale and Zophie Stos-Gale[14] at the Isotrace Laboratory of the University of Oxford. In the lead isotope diagrams we compare their lead isotope ratios with published data of various oxhide ingots found on the shipwrecks from Uluburun and Gelidonya.[15] In addition, we show the Oxford data of slags[16] excavated at Enkomi in these diagrams. These slags further confirm our interpretation that most of the artefacts from late Mycenaean contexts analysed in our project had been made of Cypriot copper.[17] These comparisons reveal that three of the swords from Enkomi Well 212

[14] N. Gale, Z. Stos-Gale, OXALID database, http://oxalid.arch.ox.ac.uk (14.10.2014).

[15] Bass 1967; Stos-Gale *et al.* 1998: 117; 122, tables 2–4; Yalçin *et al.* 2005; N. Gale, Z. Stos-Gale, OXALID database, http://oxalid.arch.ox.ac.uk (14.10.2014).

[16] N. Gale, Z. Stos-Gale, OXALID database, http://oxalid.arch.ox.ac.uk (14.10.2014).

[17] In the authors' opinion the lead ores from Lavario can be excluded as a source of copper. The various analytical reasons which support this assumption will be discussed in an upcoming publication. Jung *et al.* 2008; Gatsi *et al.* 2012; Jung, Mehofer, Pernicka (unpublished).

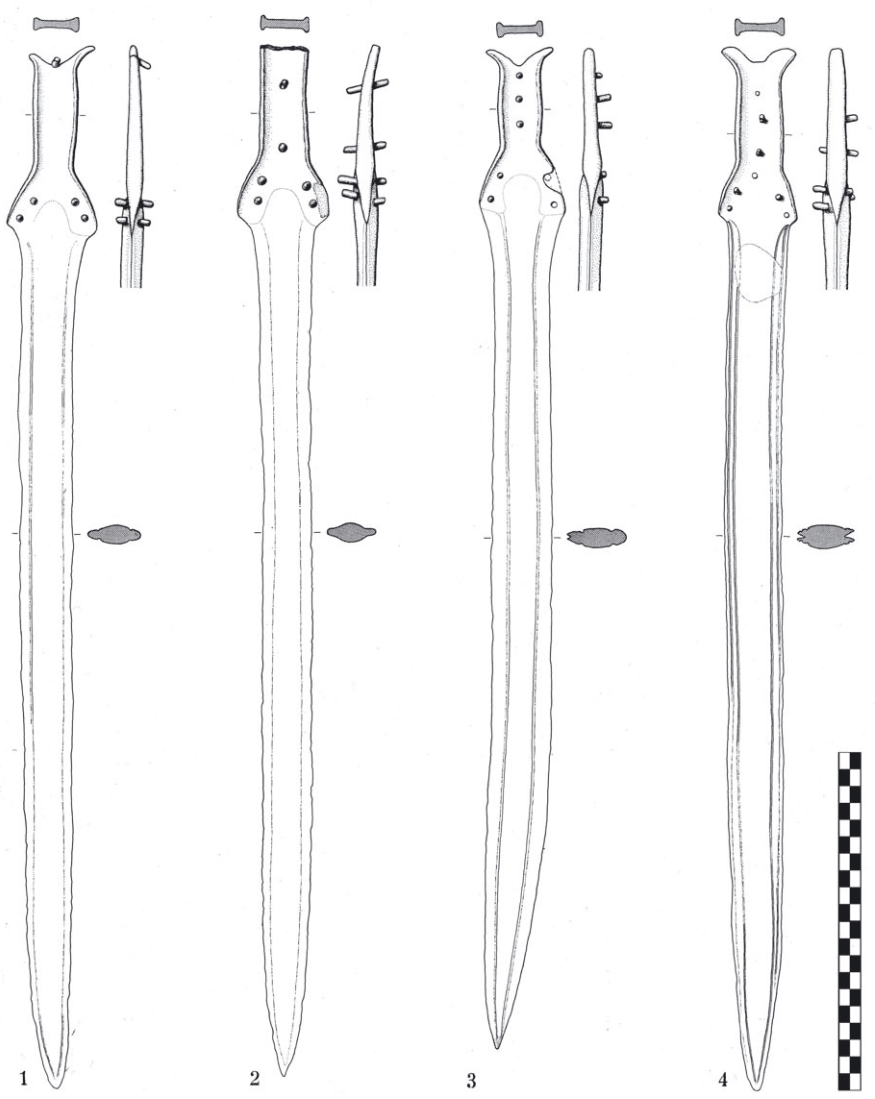

Fig. 4 Naue II swords found in Well 212 at Enkomi. Length of scalebar: 20cm, scale 1:4 (Lagarce 1971: fig. 18)

(nos. 1–3) coincide in their lead isotope ratios with the copper ore deposits of Cyprus. This would allow the assumption that they had either been produced in Cyprus or manufactured with Cypriot copper somewhere in the Aegean and then found their way to Enkomi. The lead isotope ratios of sword no. 4 do not coincide with these Cypriot ore deposits nor with those of ingots from Uluburun and Gelidonya, which is why Cyprus can be excluded as a source of the material used in its production. Therefore this sword can be classified as an import to the island. Its provenance must remain unclear because unfortunately neither for this piece, nor for the other three swords from Enkomi, trace element concentrations have been published. One might think that it contains Sardinian copper, because its lead isotope ratios coincide partly with lead isotope ratios of Sardinian ores (see Fig. 5). However, the additional information that minor and trace elements can provide is indispensable for the creation of a sufficient basis for formulating some reasonable hypothesis regarding the provenance of that artefact (regarding the differentiation between northern Italian and Sardinian copper see Jung *et al.* 2011). With the evidence at hand one can only speculate on the source of the copper contained in the alloy of sword no. 4. In any case, to suppose a Sardinian origin of the sword or of the copper

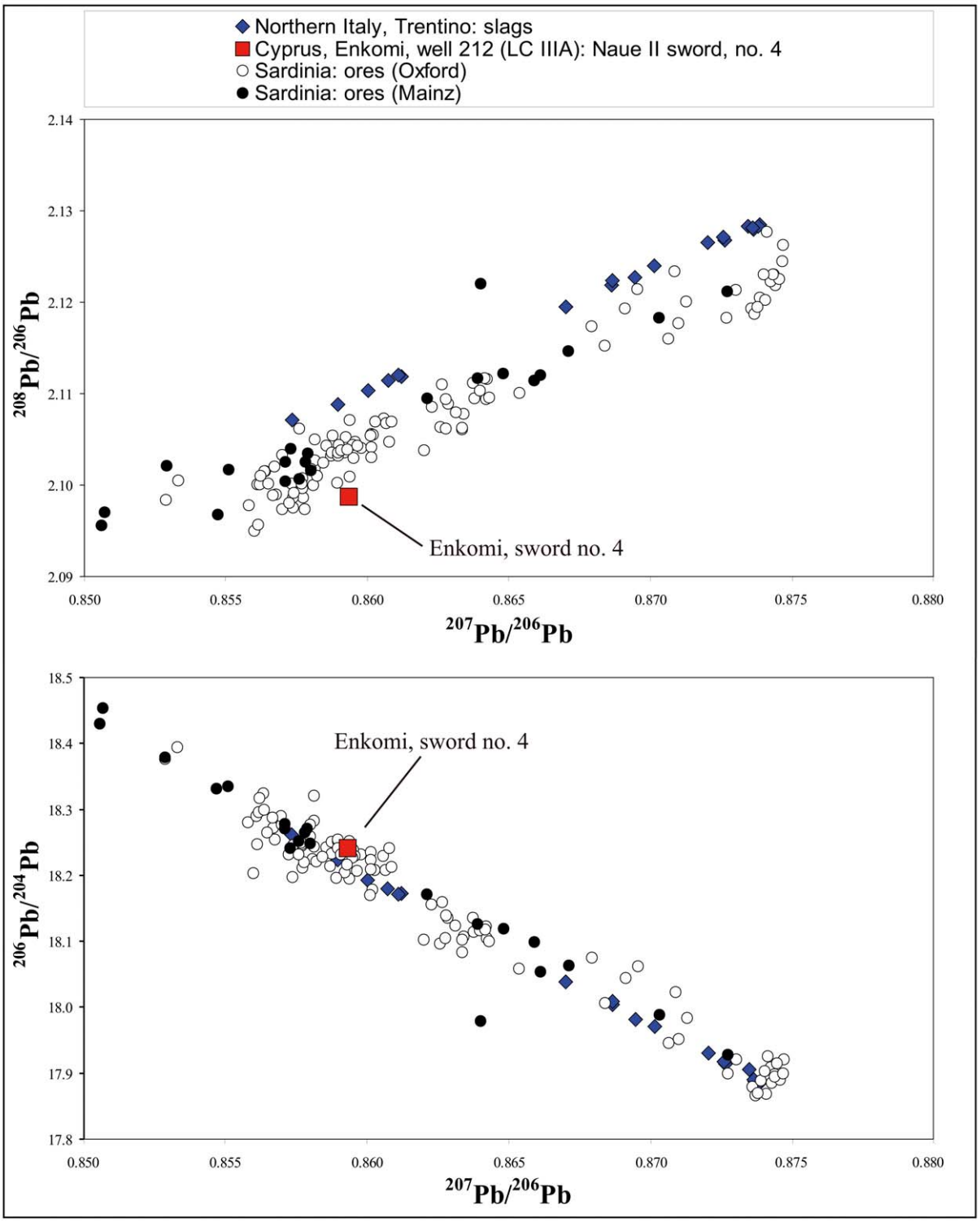

Fig. 5 The diagram represents a combination of analytical data from Late Bronze Age copper smelting slags found in the Trentino region together with those of copper and lead ores found in Sardinia. In addition, the data of sword no. 4 from Enkomi is displayed (data: Stos-Gale *et al.* 1995: table 1; Begemann *et al.* 2001: 54, table 2; Jung, Mehofer, Pernicka [unpublished])

with which it was produced is a very improbable explanation. First of all, there is only a single attestation of the Naue II sword family in Sardinia, a grip tongue fragment from the sanctuary site of Gremanu, Fonni, in central Sardinia (Lo Schiavo *et al.* 2004: 377–378, fig. 4,5). Second, people in Nuragic Sardinia imported large quantities of oxhide ingots made of Cypriot copper (Begemann *et al.* 2001; Stos-Gale *et al.* 1997: 102–104, fig. 7), while there is no positive evidence for the export of Sardinian copper to Cyprus. Third, very few bronze objects found in Cyprus have lead isotope ratios that would be consistent with Sardinian copper ore deposits, while there are several lead and silver artefacts that contain metal of Sardinian origin (Stos-Gale and Gale 2010: 398–399, table 5), and there is even an imported pottery vessel of Nuragic type mended with Sardinian lead from a LCIIC context at Pyla-Kokkinókremos (Karageorghis 2011: 89–91; 94, figs. 2–3; Fragnoli and Levi 2011; Gale 2011). Thus the presence of lead from Sardinian mines in Late Bronze Age Cyprus seems to be ascertained, while in our opinion the hypothesis of an import of finished objects or even raw copper from Sardinia needs to be further substantiated by minor and trace element analyses.

Based on the aforementioned analyses of Late Mycenaean bronzes it is possible to show, that during the LH IIIC period urnfield bronzes of the metallurgical koinè were produced in the Aegean with locally available copper imported from Cyprus. Even during the later phases of LH IIIC, one can identify swords that have been produced in Italy. As an example we would like to mention a sword of type Naue II, type A, Cetona from a LH IIIC Late context in chamber tomb 2 Spaliaréika-Lousiká in Achaea (northwestern Peloponnese).[18] In order to find an explanation for this ongoing import of weapons, metallographic analyses of various swords, greaves and other artefacts (Jung *et al.* 2009: 260, fig. 11) have been carried out in the VIAS archaeometallurgical laboratory. Based on these results we advance the hypothesis that even though during this time period Naue II swords were being produced in Greece with locally available copper, the bronze smiths still had difficulty in matching the standard of the Italian products. This might be one of the reasons why these weapons were still imported to Greece during the later phases of LH IIIC.

Naue II swords were even found east of Cyprus, e.g. at Ugarit[19] or at Mergama (Arbīl Governorate, Iraq; Ṣādiq 1989–1990: 294, fig. 6), where a Naue II sword was excavated as part of a hoard. Although the sword from Ugarit is not yet analysed, its locality proves that these objects reached nearly all regions, for which activities of the Sea Peoples are attested in the contemporary written sources. These regions also include Lower Egypt, as examples of bronze swords from the Nile Delta show. From this region we know the abovementioned Naue II sword, which is said to come from Zagazig/Bubastis (Fig. 3, B). It belongs to the type called Stätzling in central Europe, Allerona in Italy or Naue II, type C, in the Aegean (Bianco Peroni 1970: 66–70; Schauer 1971: 144–147; Kilian-Dirlmeier 1993: 96–99). Furthermore, we can point out a fragmentary sword with the cartouches of pharaoh Seti II, which was reported to come from Tell el-Firaʿūn (Jung 2009: 139–140, fig. 5,1). The importance of this sword lies in the fact that its shape and dimensions can be related to those of the Naue II family, although, strictly speaking, it does not belong to this type. The cartouches on the blade show a very specific form of Seti's name, which can only be found in the Nile delta, as Manfred Bietak (Bietak and Jung 2007–2008: 216, fig. 3) has convincingly shown in a recent article. This allows us to conclude that the sword (or at least the cartouches) was produced there. The interpretation of the analytical results of this sword is still in progress and will be discussed in an upcoming publication (Jung, Mehofer, Pernicka [unpublished]).

Conclusion

Metal analyses in combination with detailed typological and technological assessment of the analysed artefacts can help to explain, how and why the new sword types of the metallurgical koinè spread into the Mediterranean world. Already in 1897 Christos Tsountas recognized that the Naue II swords had not been developed locally in the Aegean from Mycenaean sword types, but were the result of technological and military innovations originating in the European regions north of Greece (Tsountas 1897: 116–120). The Mycenaean swords of the palace period are characterised by a long and flat blade with a marked midrib, an optimal construction feature adapted for use as thrusting swords. Other types have square shoulders and a flat and stout

[18] Petropoulos 2000: 76, 90 fig. 41:μ4645; Giannopoulos 2008: 103; 120 cat. no. Sp.G2-48; 169 f. pl. 32:48; pl. 48:48; pl. 78, Sp.G2-48.

[19] Saliby 1979–1980: 109 f., no. 25–26; 122, fig. 27–28; 136, no. 27–28; Jung and Mehofer 2009: 111–117, fig. 1–4.

blade. Therefore, their effective function can only have been thrusting and stabbing. By contrast, Naue II swords were adapted to another kind of fight, in which the warrior not only tried to penetrate or to by-pass the protection of his opponent, but in which he also executed slashing movements to cut through his enemy's armour. To sum up, it is this double function[20] of a Naue II sword – stabbing as well as slashing – which makes it superior to the Mycenaean thrusting swords.

In the authors' opinion this property of the Naue II swords must have been one of main reasons why finished bronze objects of the metallurgical koine – such as swords, but also daggers and certain implements – were brought from Italy to Greece and the Eastern Mediterranean from the late 13th to the 11th century BCE. These imports could be proven, based on minor and trace element concentrations and lead isotope ratios of certain artefacts, of which we have given examples in this paper. Furthermore, the results of a series of analyses allow us to confirm the conclusion already reached by other authors, according to which the Cypriot ore deposits can be seen as the dominant suppliers of copper for the Eastern Mediterranean workshops during that specific period.

The fact that many objects of the metallurgical koinè found in the eastern Mediterranean show the characteristics of Cypriot copper suggest that the military developments rapidly inspired local production of foreign weapon types with the effect that common technological traditions in the production of bronze weaponry evolved on both sides of the Ionian and the Adriatic Seas. The conclusion that those metallurgical and military innovations spread to the eastern Mediterranean from Italy is a model that has been rather neglected for a long time. This is mainly due to the nature of the archaeological evidence in Italy and especially in southern Italy, which is characterized by a scarcity of graves with metal grave goods and relative rarity of hoards. The sheer quantities of finds, i.e. the density of hoard depositions and the number of objects contained in the single hoards, from the Carpathian basin and southeastern Europe dominated research for a long time (cf. the comments by Carancini and Peroni 1997: 595–599) and lead to inferences like Bouzek's statement quoted above. This example demonstrates that it is necessary to conduct a large-scale critical assessment of sources, a source criticism (*Quellenkritik*), in order to avoid such imbalances in the interpretation.

Finally, we can observe that the spread of weapons produced in Italy or according to Italian prototypes coincides in its chronological dimension as well as in its geographical extension with the activities of the Sea People groups, as they are reported in the Egyptian, Hittite, Cypriot and Ugaritic letters and historical texts. A reconstruction of the historical processes connected to this spread of weaponry and the warriors carrying those weapons is beyond the scope of this article and will be attempted in a forthcoming publication (cf. Bietak and Jung 2007–2008; Jung and Mehofer 2013; Jung, Mehofer, Pernicka [unpublished]).

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[20] Jung *et al.* 2008: 94, 105, fig. 8; Gatsi *et al.* 2012: 260, fig. 12; Jung and Mehofer 2013: 177, fig. 4.

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Shifts in Value? Exotica in the 13th–12th Centuries BCE Mediterranean

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Abstract

The phenomenon of the Sea Peoples can be understood as a change over several decades in the nature of long-distance communications and exchange in the Mediterranean. In this paper, this change is explored by investigating the social role of exotic artefacts, notably ivory, in the central Mediterranean, the Aegean and Cyprus. Across the period of the Sea Peoples, all three areas show an increase of local production of such exotic items, indicating familiarity with foreign arts and crafts in different parts of the Mediterranean. The question addressed here is the extent to which these changes can be related to the migration of larger groups of people to different parts of the Mediterranean.

Introduction

The destructions and disturbances in the eastern Mediterranean that we see at the end of the 13th and the beginning of the 12th centuries BCE have inspired intensive scholarly debates and several conferences and workshops (i.e. Ward and Joukowsky 1992; Gitin *et al.* 1998; Bachhuber and Roberts 2009; Killebrew and Lehmann 2013). Over time, the attention appears to have shifted away from attempts to identify the geographic origins and ethnic identity of the Sea Peoples, to a debate about the extent to which larger groups of people migrated at all in the eastern Mediterranean during this period. The destructions, which have traditionally been assigned to the Sea Peoples, span several decades at least,[1] making one wave of marauding groups unlikely. In opposition to ideas about widespread migrations, a case has been made that the cultural changes of this period visible in the archaeological records in the Aegean, Cyprus and the Levant are primarily the result of social and economic changes and the wearing down of the well-established system of state controlled long-distance trade and exchange (Sherratt 1998; Bauer 2014). Instead of considering a single historical event, it may be more appropriate to speak of a Sea Peoples phenomenon.

Leaving aside the widespread destructions, the Sea Peoples phenomenon seems to mark a separation between two different systems of international communication and exchange in the Mediterranean. In the 13th century BCE, before the Sea Peoples, we can recognize the well-known international network of relations in which the exchange of goods and particularly metals played a large role (Sherratt 2003; Steel 2013). This dynamic network, which had its roots in the Middle Bronze Age temple economies of the Near East and the Levant, has been described in detail by many scholars (Liverani 1990; Sauvage 2012). What is important here is that the movement of people in these networks appears to have been limited to individuals and perhaps small groups, such as kings and emissaries, merchants and craftsmen and, probably, wives and slaves (Michailidou and Voutsa 2005; Panagiotopoulos 2011: 41–42; van Wijngaarden 2012: 68). An important driving force in these networks appears to have been the production, exchange and consumption of goods, as gifts as well as commodities and exotic items (Sauvage 2012: 208–209; Steel 2013: 5–156).

The archaeological record of the period from the Sea Peoples onwards suggests an altogether different world of international contacts. In different parts of the Mediterranean, we note an increasing awareness of the material culture of other areas through the incorporation of foreign styles and types in local production. Consider, for example the so-called Hand-Made Burnished Ware, which appears to have been produced locally in an area stretching from Italy to Syria (Lis 2009). Philistine pottery is evidence of the fact that potters in the southern Levant were aware of ceramic developments in Cyprus and, perhaps, the

[1] The synchronisations between the destructions in the Aegean, Anatolia and the eastern Mediterranean are notoriously difficult. The disturbances can roughly be dated in the period from 1225–1170 BCE (Kaniewski *et al.* 2011; Cline 2014: 102–138).

Absolute Dates	Italic Chronology	Aegean Chronology	Cypriot Chronology
c. 1410–1330 BC	Middle Bronze Age 3	Late Helladic IIIA	Late Cypriot IIA–IIB
c. 1330–1190 BC	Recent Bronze Age 1	Late Helladic IIIB	Late Cypriot IIC
c. 1190–1140 BC	Recent Bronze Age 2	Late Helladic IIIC	Late Cypriot IIIA
c. 1140–1050 BC	Final Bronze Age 1 & 2		Late Cypriot IIIB

Table 1 Indicative comparative chronology. Adapted from Jones *et al.* 2014: 16, table 1.1; Knapp 2013: 27, table 2

Aegean (Barako 2003:164–165; Sherratt 2013: 621–622). In general, we see that in different parts of the Mediterranean foreign objects and styles are incorporated in local industries (Voskos and Knapp 2008; Van Wijngaarden 2008; Knapp 2013: 451–470). Rather than a cessation of long-distance maritime contacts at the end of the Bronze Age, the role of materials in these contacts appears to change, with an increased emphasis on the local production of exotic items, implying a wider sharing of information about crafts, technologies and values.

Of course, the distinction sketched above is not absolute. Moreover, it may be questioned to which extent the apparent change in long-distance contacts in the Mediterranean across the Sea Peoples phenomenon is the result of the large-scale movement and re-settlement of groups of people. The basic hypothesis of this paper is that in cases of migration flows, migrants generally stay in touch with people who stayed in the area of origin and with those who went to other destinations (Anthony 1997: 25–26; cf. Shavit 2009). The resulting flows of information and goods have an effect on the material culture in the areas of new settlement, as well as in the areas of origin (cf. Bhabha 1994: 319–328). The result would be localized changes in the production and consumption of different materials, which would, perhaps loosely, be echoed in other parts of the Mediterranean.

Exotic artefacts

In this contribution, I will explore the change over time in the nature of long-distance maritime connections with the help of a group of objects that can be referred to as 'exotic artefacts' (cf. Heymans and van Wijngaarden 2011). One of the characteristics of the Late Bronze Age is the circulation in the eastern and central Mediterranean of a wide range of objects and their incorporation in local material cultures (Burns 2010: 20–40; Steel 2013: 157–189; Blake 2014: 34–65). Some of these exotic items are singular objects made of valuable materials, often of exquisite workmanship. Such objects appear to have been part of ceremonial exchanges among rulers (Feldman 2006). However, a considerable group of exotic objects are not made of valuable material, nor in highly elaborate artistic styles. Examples are Egyptian scarabs in stone, ivory or glass, Levantine and Mesopotamian cylinder seals, and also Cypriot and Mycenaean pottery. Such objects were imported and used in different parts of the Mediterranean (Steel 2013). They were also imitated and incorporated in local strategies of production in various areas (Heymans and van Wijngaarden 2011: 125–127). Since many of these items do not fulfil indispensable functions, it is likely that their consumption depended on their ability to be incorporated in a variety of local and regional systems of value. The capacity of exotic goods to consequently affect such systems of value necessitates a fluid and dynamic approach to the social role of these artefacts (Voskos and Knapp 2008).

Recent scholarship has placed much emphasis on the use of such international objects by local élites in local and regional cultural strategies of power (Vianello 2011: 167–168; Steel 2013: 157–161). It is evident that the local role of such objects derives from their associations with a wider, foreign world (Panagiatopoulos 2012: 52–53). Therefore, in spite of the local contexts for production and consumption, exotic objects maintain an aspect of *distance value*; otherwise they would cease to be exotic (cf. Burns 2010: 192–193). This aspect makes exotic objects well-suited to investigate the cultural role of long-distance exchanges and communications. The basic hypothesis of this paper entails information flows about craft and consumption from migrated people to their regions of origin and other parts of the Mediterranean. It is necessary, therefore, to examine the occurrence of exotic objects on a Mediterranean scale. For practical rea-

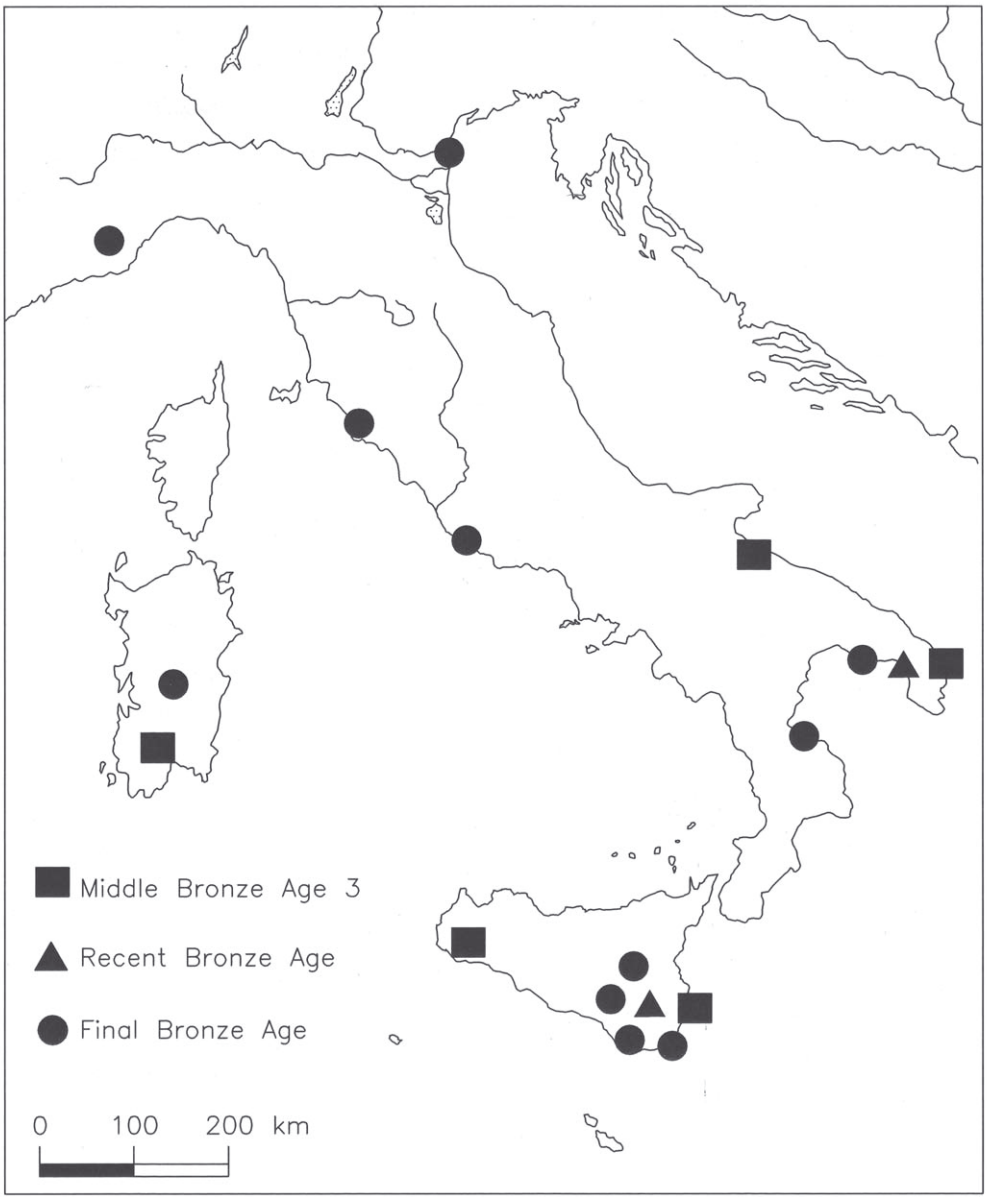

Fig. 1 Ivory artefacts in the Bronze Age central Mediterranean. Adapted from Guglielmino *et al.* 2011: 189, fig. 15.8

sons, I will limit myself here to a comparison of the archaeological records of Italy, Greece and, briefly, Cyprus. Within the wider range of exotic artefacts, I will zoom in especially on ivory objects. Ivory, as a raw material, clearly, is native to very few parts of the Mediterranean only (Krzyszkowska 1988: 226–228) and ivory artefacts as well as the craft of ivory-working have been associated with varying degrees of prestige and élite control in different parts of the Mediterranean (Krzyszkowska 2007: 51; Burns 2010: 124). Changes in the social role of ivory over the period of the Sea Peoples phenomenon may shed light on shifts in values on which maritime relations were based.

The central Mediterranean

In Italian prehistoric archaeology, the phenomenon of the Sea Peoples would fall at the end of the Recent Bronze Age (Jung 2006: 211–216) (Table 1). This period and the first phases of the succeeding Final Bronze Age are characterized by the presence of Mycenaean-type pottery, much of which was made in Italy (Jones *et al.* 2014). The type of non-ceramic exotic objects under

study here are extremely rare in Italy during these periods (Blake 2012: 34–65). The only reports of Bronze Age cylinder seals in Italy are a steatite seal in a tomb near Syracuse in Sicily (Voza 1999: 58–66) and an Olivine seal dating to the 14th or 13th century BCE in a collective Sardinian tomb (Lo Schiavo 2003: 20–22). Neither cylinder seal has been published in full and there is some discussion on their chronology and the date of their deposition, which may be much later. In addition, there are two open-worked faience beads of Aegean type found in 14th/13th century contexts in the Po area of the Veneto (Rahmstorf 2005).

Ivory objects are perhaps the most numerous exotic objects in Bronze Age Italy (Fig. 1) and we have the benefit of a useful synthesizing overview (Vagnetti *et al.* 2005). In the periods concerned, the Recent and Final Bronze Ages, ivory has been found at fourteen sites in the central Mediterranean (Guglielmino *et al.* 2011). This number can be augmented with several sites that have yielded objects of bone, which appear to imitate ivory objects (Bettelli and Damiani 2005). In fact, it is not always easy to distinguish between bone and ivory. The earliest ivory artefact dates from the very end of the Middle Bronze Age and the transition to the Recent Bronze Age: a very worn hook belt in the shape of a boar, which has been found in a funerary complex at Trinitapoli (Tunzi Sisto and Devoto 2005: 49–52). Two other exceptional ivory items can be dated somewhat later. The first is the lid of a duck-pyxis of hippopotamus ivory (Fig. 2) found in the debris of a collapsed house in Roca Vecchia in Apulia (Guglielmino 2005; Guglielmino *et al*. 2011: 176–177). The second is a fragment of a small plaque, also of Hippopotamus ivory, figuring a Mycenaean warrior found in a disturbed context at Decimoputzu in Sardinia (Vagnetti and Poplin 2005). All these three items from contexts earlier than the Sea Peoples phenomenon are exceptional and not manufactured locally, but imported from the Aegean or the eastern Mediterranean. The fact that all these objects are very small and worn suggests that they passed through many hands before ending up in their final context of deposition (cf. Krzyszkowska 1991: 119–120). The two faience beads in the Veneto mentioned above (Rahmstorf 2005), may be part of the same phenomenon.

The import of valuable ivory items probably continued in the Recent Bronze Age, as is suggested by several ivory fragments of a mirror handle found in a tomb at Pantalica on Sicily (Albanese Procelli and Chilardi 2005: 99). However, from this period onwards, we also witness the appearance of a local industry of ivory carving in prehistoric Italy. This is most clearly visible at Roca Vecchia in Apulia, where the excavators have identified 62 items of ivory, of which 4 were rectangular plaques and 58 fragments of unworked hippopotamus' teeth (Guglielmino *et al.* 2011). These items are evidence of local production at the site of this imported raw material. Interestingly, this evidence of ivory-working occurred in a structure where deer antler was also worked, indicating that the creation of exotics was incorporated in the context of local artisanal production.

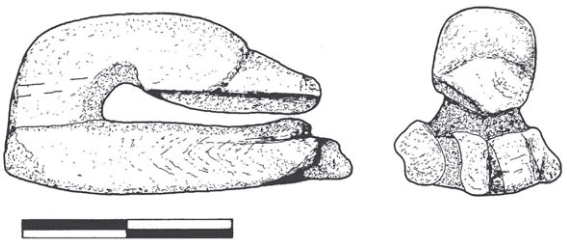

Fig. 2 Ivory duck-pyxis lid from Roca Vecchia (Middle Bronze Age). After Guglielmino *et al*. 2011: 176, fig. 15.1

The local creation of exotic ivory items continues after the period of the Sea Peoples in the Italian Final Bronze Age. Evidence for local ivory-working has come from Torre del Mordillo, where a fragment of an unworked ivory block was attested (Vagnetti 2005), from Sardinia (Lo Schiavo 2005) and from Fratessina in the Veneto (Arenoso Callipo and Bellinanti 1994: 26–46). It should be noted that the functional repertoire of ivory and bone exotica from the Final Bronze Age is actually quite limited. In addition to a range of combs, there are several cases of ivory or bone parts of weapons, notably dagger or sword handles (Guglielmino *et al*. 2011: 180–181).

In the transition from the Italian Middle to the Late and Recent Bronze Ages, we witness a shift from the import of finished ivory exotica to an incorporation of ivory-working in local craft industry. This shift occurs simultaneously with a change in repertoire: from extraordinary items such as sculpture, glyptic and cosmetic boxes to items such as combs and weapon parts. The shift to local production of ivory items may be compared to similar developments in other materials. The increased local production of Mycenaean pottery in Italy has been noted above. Moreover, the site of Fratessina in the Veneto, in addition to evidence of ivory-working, shows traces of the local production of glass and amber artefacts (Bietti Sestieri 1982; Arenoso Callipo and Bellinanti 1994: 26–46; Pearce 2000: 109). It is likely that the shift to local production of exotica coincides with change in the values of exotic objects.

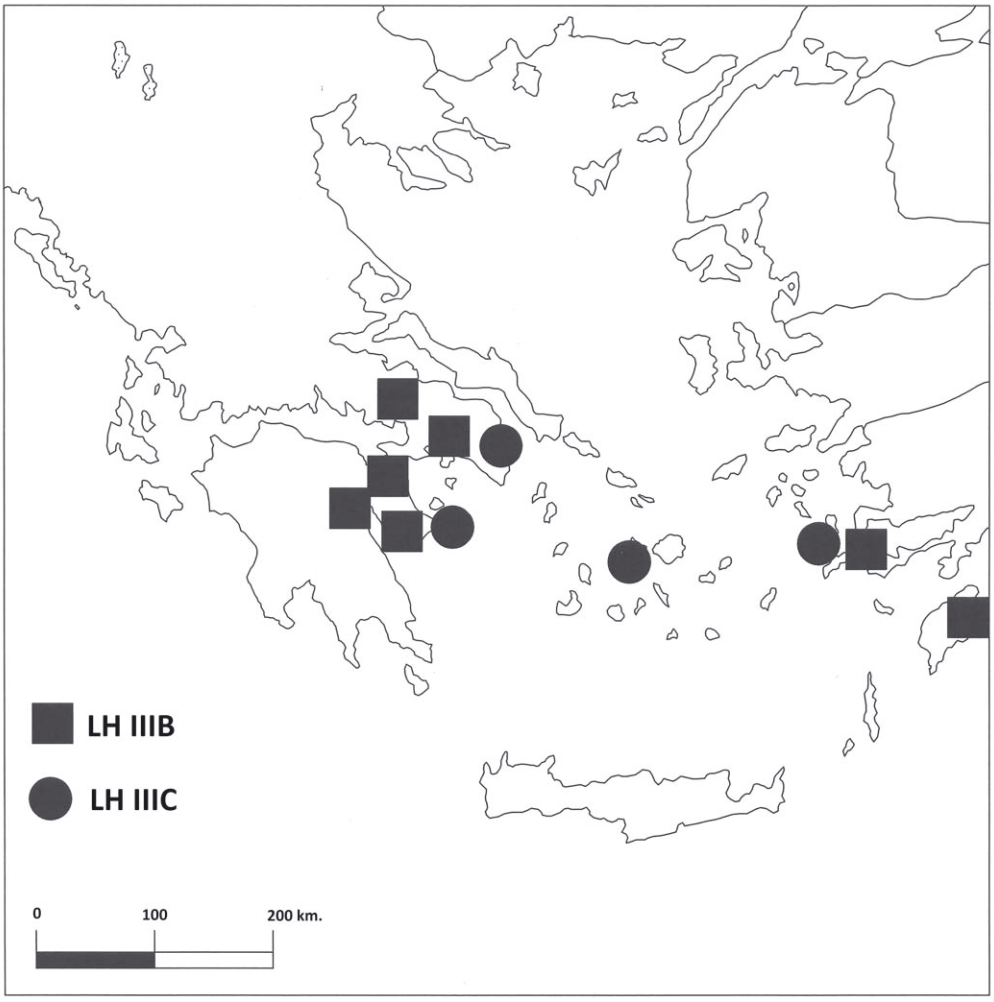

Fig. 3 Imported ivory artefacts in LH IIIB and LH IIIC Greece. Based on Lambrou-Phillipson 1990; Cline 1994 (with additions)

The Aegean

Exotic items from Late Bronze Age contexts in the Aegean have been the subject of quite a number of studies, which include at least two convenient catalogues (Lambrou-Phillipson 1990; Cline 1994, 1999). These studies show that even though they are not very numerous, there is a consistent pattern of such items in Mycenaean Greece, covering all centuries from the beginning of the Late Bronze Age to the demise of the Mycenaean palaces (Burns 2010: 41–56). Among these exotic items are Egyptian scarabs and amulets from stone and faience and a number of cylinder seals from the Near East and Cyprus, as well as some Canaanite jars and some Cypriot pottery. The exotic items are mostly found at the palatial centres or at sites, mostly cemeteries, associated with them. In particular Mycenae, Tiryns and Thebes have yielded concentrations of these exotica.[2]

Among the exotic items in palatial Mycenaean Greece, ivory objects take up a prominent place, even

[2] The exact numbers of exotic items per site are difficult to assess, since they depend on what is and what is not included. Combining the catalogues of Cline (1994) and Lambrou-Phillipson (1990), I arrive at the following indicative figures for the LH IIIB period: Mycenae 96; Knossos 68; Thebes 39 and Tiryns 17. However, since the publication of these catalogues, quite a number of additional finds have been made. See, especially, Brysbaert and Vetters 2013.

though they are not as numerous as faience and glass items (Fig. 3).[3] With regards to ivory production, a Mycenaean style can be distinguished, which includes many Near Eastern and/or Cypriot elements (Poursat 1977, 1999; Rehak and Younger 1998: 249–252). In fact, for individual items, it is sometimes impossible to assess whether they are the product of a Mycenaean or a Cypriot or Levantine workshop. The degree to which the production and use of ivory items was restricted to the Mycenaean palaces has been the subject of some debate (Krzyszkowska 1992; Burns 2010: 122–124). The scarce evidence available shows that in the palaces of Mycenae and Thebes the working of ivory was combined with other crafts, notably the making of furniture.

Tiryns appears to have been a major receiver of exotic items all through the palatial period and, indeed, to the very end and possibly after (Cline 1999; Maran 2004; Brysbaert and Vetters 2013). The relatively large quantity of exotic items at Tiryns is probably due to its geographical location near the coast and near Mycenae, because of which it has been labelled a 'contact zone' (Maran 2012: 121). Among the more spectacular finds is a small rod of Hippopotamus ivory with a Ugaritic inscription found in a context dating from just before the major destruction of the palace at the end of LH IIIB (Cohen *et al.* 2010). Considering the inscription, it is most likely that the object was imported to Tiryns. It was found in a workshop for faience vessels, which relates the object to the production of exotic items at Tiryns. Spatial and cultural associations of exotic items with artisanal production at Tiryns have also been suggested by Ann Brysbaert and Melissa Vetters (2013), in a detailed study of several contexts dating from the period just before the destruction of the palace in LH IIIB Final. It is clear that the local production of exotica, at least at Tiryns, which has been defined as a 'contact zone' (Maran 2012: 121), began already at the end of the Mycenaean Palatial period.

It is likely that the Mycenaean palatial élites exercised control over the production and circulation of exotic goods (Voutsaki 2001). However, the use of exotic items was not limited to the palatial centres and these objects played a role in various spheres of Mycenaean society (Burns 2010: 132; Heymans and van Wijngaarden 2011: 125–127). On a general level, one could say that exotic artefacts constituted a small but socially significant aspect of Mycenaean material culture, which played a role in the social relations between Mycenaean élites and others. The local manufacture of exotic objects and their association with artisan activities at the end of the palatial period perhaps indicates changes in the social roles of exotic objects in Mycenaean society.

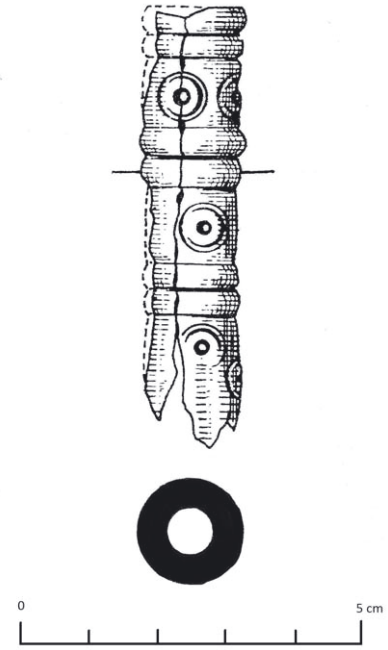

Fig. 4 Ivory spindle from Perati (Tomb 152) (After Iakovidis 1969: 350, fig 154)

The demise of the Mycenaean palaces marks a fundamental change in the occurrence of exotic items in the Aegean. The number of exotic items datable to the transitional period of LH IIIB2–LH IIIC is very low (Lambrou-Phillipson 1990; Cline 1994) (Fig. 3). Moreover, they appear to cluster at one particular site, namely Perati in Attica. If we include the LH IIIC period proper, an additional concentration of exotica can also be seen in the tombs of Ialysos in Rhodes. In comparison to the previous palatial period, it is to be noted that very few ivory objects have been found in LH IIIB–LH IIIC or LH IIIC contexts. At Perati, two fragmentary ivory spindles (Fig. 4) have been found in tomb 152 (Iakovidis 1969: 350, fig. 154) and there is a scatter of small ivory or bone objects such as but-

[3] The combined catalogues of Cline (1994) and Lambrou-Phillipson (1990) show 165 glass and faience objects and 44 ivory or bone objects in Mycenaean contexts.

tons, needles and combs (Iakovidis 1969: 286–288). On Paros a remarkable decorated fragment has been found at Koukounaries, which may have been part of a LH IIIC throne (Schilardi 1984: 186–188 and fig. 3).[4] In addition, there are two ivory or bone scarabs from tombs in Kos and Rhodes (Cline 1994: 149 nos. 146 and 147). Finally, there are two fragments of raw ivory, one worked and one unworked, in the so-called Tiryns treasure, which, as a whole can be dated to LH IIIC (Maran 2006: 134).

The cemetery of Perati consists of 192 chamber tombs and 21 pit graves from the late 13th into the 11th centuries BCE, which were excavated from 1953 to 1963 and admirably published as early as 1969 (Iakovidis 1969; 1980). Nineteen of the more than two hundred tombs at Perati yielded exotic items, mostly scarabs, amulets and cylinder seals. But there was also gold jewellery of Cypriot type.

The earliest group of tombs at Perati dates from the transitional period LH IIIB–LH IIIC, and includes a total of 45 tombs, of which 11 tombs contained exotic items (Desypri 2014: 11). It is of interest that all objects with Cypriot associations date from these earlier tombs. These include gold earrings and several cylinder seals with gold capping. The majority of the exotic artefacts in the earlier tombs at Perati appear to be older than the tombs themselves and date from the 13th century and earlier (Deger-Jalkotzy 2002: 61). For example, there are two faience cartouches with the name of Ramesses II, which must have been several decades old by the time they were deposited in the tomb. A few exotic items, such as a bronze Cypriot tripod from tomb 104 and various Levantine amulets in tomb 147, are more or less contemporaneous with their deposition in the tombs of LH IIIB/LH IIIC.

The tombs at Perati dating from the full LH IIIC period contain significantly less exotics than the earlier graves (Desypri 2014: 11–12). Moreover, it should be noted that the majority of imports are from Egypt. In addition to the orientalia, we may note the presence of several violin bow fibulae, which may be considered to be part of a European and central Mediterranean tradition of metal-working, which gained ground also in Greece during LH IIIC (Bouzek 1985: 152–157).

In Greece, the role of exotic objects appears to be closely related to the changes in the control exercised by the Mycenaean palatial centres. Even during the palatial period, the local production of exotic items took place under the control of the Mycenaean palaces. Towards the end of the period, such local production became specifically associated with artisan activities in a broader sense. In striking contrast to Italy, we see a strong decrease in ivory items and their local manufacture with the demise of the Mycenaean palaces. Instead, a shift can be seen in the appreciation for these objects not so much as objects from far away, but for their age, as objects from a less troublesome and less contested past (Deger-Jalkotzy 2002: 61). The Tiryns treasure, which contained objects from different periods of the Mycenaean past and included two ivory fragments, is evidence of this same shift in the appreciation of exotic items (Maran 2006).

Even during the palatial period, the age of objects was already a factor in the consumption of exotic items. Several of the imported items in Mycenaean Greece were very old by the time they were deposited, with cylinder seals from the Old Babylonian period as extreme examples (cf. Kopanias 2008: 39–96). The lack of evidence of local production of exotics in the period following the fall of the Mycenaean palaces, and the fact that almost all oriental exotics in Greece from this period are antiques, indicates that their age became the primary characteristic for their social role.

The significance of age for the distribution and consumption of exotic artefacts can also be inferred from the cargo of the Gelidonya wreck, which roughly dates from the period associated with the Sea Peoples' destructions or immediately after (Bass 1967). In addition to its cargo of metals and tools, the ship also carried a small selection of exotic artefacts: a faience plaque, several scarabs and one cylinder seal (Bass 1967: 797–802). With the exception of a few scarabs that date from the Egyptian 20th dynasty, all exotic items were much older than the period in which the ship sank (Buchholz 1967: 157). This suggests that antiques were purposefully distributed and exchanged. The increased emphasis on the age of objects instead of its distant origin may be understood as a shift in the value system associated with exotic objects in Greece.

Cyprus

In order to understand the great difference between the Central Mediterranean and the Aegean with regards to the changes in the production and consumption of exotic items, it may be useful to look briefly at Cyprus, since the island must be considered crucial both for the

[4] I thank Assaf Yasur-Landau for reminding me of this extraordinary find.

production and consumption of exotics (Knapp 2013: 397–398; Steel 2013: 77–90) and for understanding the Sea Peoples phenomenon (Sherratt 1998). In LC II, the consumption of exotic items had begun to become very important in the social fabric of the society. In several of the larger coastal centres, we find large tombs in which we can recognize élites that collected large quantities of exotica, notably ivory, glass jewellery and cylinder seals (Keswani 2004: 93–97; Knapp 2013: 416–432). Just as in the Aegean, towards the end of LC IIC the local production of exotic items in Cyprus seems to have increased, as is clear from the local production of Aegean-style pottery (Steel 2013: 136–138) and the rise of a glass and faience industry (Peltenburg 1986; 1991). Interestingly, there is little evidence of ivory-working in Cyprus in LC I and LC II.

Even though there are destructions visible in the archaeological record of Cyprus at the end of LC IIC and the beginning of LC IIIA and several sites are permanently abandoned, the island appears to have suffered less than the Aegean, Anatolia and the Levant during the Sea Peoples phenomenon, or, at least, it recovered more quickly (Knapp 2013: 451). The elaborate use of exotics, particularly in tombs, continues in LC IIIA (Keswani 2004: 129–135; Knapp 2013: 430–432). It is of interest that the majority of these LC IIIA exotic items, apparently, were produced on the island itself and combined a wide variety of styles and techniques that were both native and foreign to the island (Voskos and Knapp 2008: 664–673). The practice of re-carving and re-capping cylinder seals, which had developed during LC II period, also continued during LC IIIA (Steel 2013: 78–83). At Kouklia-Evreti there is good evidence of local production of ivory artefacts during this period: raw ivory and debris from ivory-working were found in a well (Maier and Karageorghis 1984: 70, figs. 59–61, 63).

The material culture regarding exotic items in Cyprus during the period of the Sea Peoples phenomenon and immediately after is too complex to deal with extensively here (but see, for example Webb 2005; Voskos and Knapp 2008). It is of importance to note that the practice already visible in the Aegean of locally producing exotic items in the period leading up to the Sea Peoples phenomenon is paralleled in Cyprus. The continuation of this practice in Cyprus in the period during the Sea Peoples phenomenon and immediately afterwards compares well to the central Mediterranean.

Discussion

The aim of this paper was to see what exotic items can reveal about changes during the Sea Peoples phenomenon with regard to the nature of long-distance exchange and communication. In all three areas under consideration the prime value of exotic items in the period before the Sea Peoples phenomenon was essentially distance value (Burns 2010; Steel 2013). Exotica were agents of a distant world, which was beyond the reach of most people (Panagiatopoulos 2011; 2012). A world, moreover, that was characterized by high level diplomacy and mighty kings.

Already in the period leading up to the Sea Peoples phenomenon, a change can be witnessed in the production and consumption of exotic artefacts. In Roca Vecchia in Italy, at Tiryns in Greece and, particularly in Cyprus, there is evidence of increase in the local production of exotica and a close association with artisan activities in general. It could be argued that such local production of exotic items is primarily a reaction to a decrease in the availability of popular imported exotics (cf Steel 2013: 138). However, in the case of ivory-working it is clear that the raw material itself can be obtained only from long-distance distribution networks. I would therefore argue that the shift to the local production of exotics reflects a change in the social role of such products in the societies of the Mediterranean across the period of the Sea Peoples.

A clear difference can be seen between the Aegean on one hand and Cyprus and the central Mediterranean on the other in the development of the local production of exotic items. In the Aegean, the palatial centres take a leading role in the incorporation of foreign crafts in local artisan production. With the demise of these palaces during the Sea Peoples phenomenon, such local production of exotic items appears to have diminished considerably. Instead, a shift can be witnessed to age as a qualifying characteristic for exotic objects, perhaps indicating identification with the past by new élites (Deger-Jalkotzy 2002: 59–61; Maran 2006). However, there is evidence of the incorporation of foreign styles and techniques originating in the central Mediterranean in pottery-making and in metalwork (Bettelli 2002: 117–138). I would suggest, therefore, that the importance of age in the social role of exotic objects is the result of the same mechanism as the incorporation of the foreign in local manufacture: faraway areas were no longer considered exotic, but the past could still act as such.

The increase in the local production of exotic artefacts must be considered together with other indications of cross-cultural convergences in artisan activities in the period across the Sea Peoples phenomenon. Consider, for example, the production of Aegean-style ceramics in Italy, Cyprus and the Levant (Van Wi-

jngaarden 2008; see also Mountjoy, this volume; Stockhammer, this volume) or the appearance of similar types of weaponry and jewellery in different parts of the Mediterranean (Jung 2009; see also Mehofer and Jung, this volume). All these phenomena are indicative of increased familiarity with a variety of foreign artisan styles and techniques. This familiarity can best be explained by changes in the flows of information about material culture across the Mediterranean as a result of population movements. These population movements changed patterns of availability and access to raw materials, such as ivory. More importantly, they created a sense of material community among groups of migrants settled in different parts of the Mediterranean. Across the phenomenon of the Sea Peoples, the convergences in artisan activities testify to material connections between migrated, diasporic groups of people.

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