

Revolution Within Evolution: The Emergence of a ‘Secondary State’ on Protohistoric Bronze Age Cyprus

A. Bernard Knapp

In two studies published some 25 years ago (Knapp 1986; 1988), I argued that the rise of social complexity on Cyprus during the late Middle to early Late Bronze Age involved the interplay of trade and external demand, the accumulation and reinvestment of wealth, and the division of labour into specialized production areas. In two follow-up papers (Knapp 1990a; 1993), I traced the ‘incipient’ stages in the emergence of socio-political complexity on Cyprus back to the Early and Middle Bronze Ages, arguing that gradual growth in metallurgical and agricultural production enabled emergent power groups to establish pre-eminence in the northern part of the island by at least 2000 BC. Nonetheless, I suggested that locally controlled exploitation of mineral, material and symbolic resources continued to characterize island society until c. 1700 BC, and that the ‘transformation’ then seen in Cyprus’s material culture represented a gradual development of power differentials in society. Virtually all other scholars involved have adopted a similar, evolutionary stance — looking at gradual development over a period of at least a millennium or more — to consider the dramatic changes that took place between c. 1750/1700–1400 BC (ProBA 1). More recent publication of several Early–Middle Bronze Age sites and related materials necessitates a reassessment of the conclusions drawn concerning the gradual emergence of social complexity on Bronze Age Cyprus. The discussion assesses various viewpoints related to Cyprus’s socio-political structure during and after this crucial transitional period, and in conclusion it is argued that none of the material correlates of a stratified complex society or emergent ‘secondary state’ appear together in the Cypriot archaeological record before about 1700 BC (MC III), i.e. at the very outset of the Protohistoric Bronze Age.

Keywords: Bronze Age Cyprus, social complexity, punctuated change, copper production and exchange, mobility and connectivity

Introduction

In two studies published some 25 years ago (Knapp 1986; 1988), I argued that the interplay of trade and external demand, the accumulation and reinvestment of wealth, and the division of labour into specialized production areas (especially in relation to copper) lay at the core of any explanation for the rise of social complexity on Cyprus during the late Middle to early Late Bronze Age (Protohistoric Bronze Age, ProBA, c. 1700–1400 BC). As the political economy of the island matured, low-level élites gained control over

surplus wealth, whilst increased foreign demand for Cypriot copper led these élites to formalize copper production internally, thus establishing an ideological base to legitimize their authority, and so transforming a village-based culture into an international, urban-oriented society.

In two follow-up papers (Knapp 1990a; 1993), I sought to trace the incipient stages in the emergence of socio-political complexity on Cyprus during the Early and Middle Bronze Ages (Prehistoric Bronze Age, PreBA, c. 2400–1700 BC). Once again citing a broad range of material evidence, I argued that the increasing intensification of metallurgical and agricultural production enabled emergent power groups to establish their pre-eminence in the northern part of

A. Bernard Knapp, Department of Archaeology, University of Glasgow, Glasgow G12 8QQ, UK; email: bernard.knapp@glasgow.ac.uk

the island by about 2000 BC. In turn, I maintained that elements of regional discontinuity, with locally controlled elite exploitation of mineral, material and symbolic resources, continued to characterize island society until the end of the PreBA, c. 1700 BC. Thus I suggested that the ‘transformation’ seen in Cyprus’s material culture at the end of this period represented a gradual development of power differentials in society. Adopting this evolutionary stance, I argued that the initial and emergent stages of the dramatic changes taking place between c. 1700–1400 BC (ProBA 1) could be traced back at least to the mid-3rd millennium BC. At least one commentator to these papers felt they could be traced even earlier: ‘One conclusion to be drawn from these observations is that significant courses towards complexity were in train well before the secondary-products revolution and that the [...] latter is an extension of change already under way’ (Peltenburg, in Knapp 1990a, 165–66).

At the time of writing, the archaeological record of the PreBA was largely based on mortuary evidence, although three important village sites were in the course of excavation: Marki *Alonia*, Sotira *Kamminoudhia* and Alambra *Mouttes*. Final publication of those sites (Coleman *et al.* 1996; Frankel and Webb 1996; 2006; Swiny *et al.* 2003) and several others, mainly cemeteries, are now available, and further excavations are underway in other PreBA village sites (e.g. Bombardieri 2010a; Falconer *et al.* 2010). Thus the time is ripe to re-evaluate the material and spatial aspects of the PreBA, and to reassess the socio-economic and ideological conclusions drawn concerning the gradual emergence and development of social complexity on Bronze Age Cyprus.

This study begins with a statement on the intellectual background relevant to the study of Mediterranean, and specifically Cypriot production and trade during the Bronze Age. The following section on the PreBA (Philia/EC I–MC II) presents extensive new and relevant older data from survey and excavation on sites and/or landscapes of this period, and on that basis offers a new evaluation of PreBA social organization. The following section focuses to the extent possible on the ProBA 1 period (MC III–LC I), outlining new radiocarbon evidence and again presenting new data or summarizing earlier evidence and interpretations concerning settlements, spatial organization and long-distance exchange. The discussion assesses various viewpoints related to Cyprus’s socio-political structure during the ProBA, and in conclusion I argue that none of the material correlates of a stratified complex society or emergent

‘secondary state’ appear together in the Cypriot archaeological record before about 1700 BC (MC III), i.e. at the very outset of the Protohistoric Bronze Age.

Background

I have come to feel that for many years to come our main objective should be the identification of imports, to record their precise spatial and chronological contexts and, if it can be done, determine their places of origin. [...] In this way we should obtain an optimum record of evidence for the movement of goods and raw materials without the debilitating effects of the controversies that have only too frequently surfaced when archaeologists commit themselves to a historical reconstruction based upon evidence far too fragile for the elaborate constructs placed on it. (Catling 1991, 10–11)

With these words, Catling sought to stem the tide of analytical as well as theoretical studies on trade and exchange that had become prominent in Aegean and eastern Mediterranean archaeology over the previous two decades (and to which he contributed in no small part on the analytical side). Clearly, his aim was to promote a minimalist approach that had little tolerance for theoretical input, much less the relevance of intensified copper production and long-distance exchange (or, indeed, the ideology associated with distance, and the ‘other’) in attempts to understand the rise of social complexity, be it on Cyprus or in the Aegean, both areas of focal interest for Catling.

Snodgrass (1991), writing in the same volume, argued that commercial trade is seldom identifiable in the material record of the prehistoric Mediterranean, where the existence of markets was very limited. In his view, the evidence of close interconnections between different polities could be accounted for either through the workings of redistributive centres (high-bulk goods) or as a result of private elite transactions like gift exchange (low-bulk, prestige items).

Compiling inventories or seeking the origins of ‘foreign’ objects in the way Catling proposed proved very popular in (eastern) Mediterranean archaeology (e.g. Lambrou-Phillipson 1990; Cline 1994; Jacobsson 1994; Phillips 2008). Such pursuits, however, provide but a limited frame of reference for assessing the nature and extent of long-distance exchange (Panagiotopoulos 2012, 52). Manning and Hulin (2005, 271) have stressed the shortcomings and biases inherent in emphasizing only the production and distribution of ‘exotic’ imports rather than considering their social life and biographies, relative values and

local contexts (see also Stockhammer 2012). For example, Cline's (1994) corpus of 'Orientalia' found in Late Bronze Age Aegean sites (1118 imports of differing certainty and context), averaged over the period of 600 years with which the study was concerned, amounts to 0.5 objects per year (Manning and Hulin 2005, 283). Taking an even closer look at the foreign contacts of the Late Bronze Age Aegean, Parkinson's (2010, 17–18, table 2.1) calculations, when tabulated by decade, indicate that the number of foreign items entering the archaeological record would have been 6.78 for Crete, 5.85 for the Greek mainland and 1.60 for the Aegean islands. Thus the assumed importance of trade or level of interaction based on numbers alone cannot be equated with the actual impact of the traded goods once they reached their destination.

As Stockhammer (2012, 14) recently pointed out: 'The agency of objects and the complexity of their interaction with humans will become most clearly visible once they move into a new environment because their potential will have to be explored in the context of the new environment'. In other words, once foreign goods become entangled in local contexts, they have to be 'translated' into local social practices and worldviews. Goods and materials obtained from afar may take on different social or symbolic values in a new setting, and thus may be manipulated, or not, in a range of power strategies. Embedded with their own 'agency' (Feldman 2010), these 'things' may carry their own messages of power and prestige. Focusing on the origins of objects tends to obscure their meaning(s) and significance in a new context (Burns 2010, 16). Objects made of rare, exotic or precious materials may well have been 'wondrous things' but they also could have represented important paraphernalia of power, intrinsically (their value or agency) or extrinsically (the exotic connections they represent). The conspicuous consumption of foreign objects, materials, symbols and ideas thus may reflect not only their acquisition but also all sorts of intentions and aspirations difficult for archaeologists to grasp.

Bearing in mind such contradictory views on Mediterranean Bronze Age production and trade, and following on from earlier work by Cherry (1983; 1984; 2009), I argue that connectivity and foreign ideologies spurred internal developments on Cyprus — notably in copper production/distribution — and were central to the punctuated appearance of socio-political complexity on Cyprus at the transition to the Protohistoric Bronze Age. All the associated developments, material and social, took place within an archaeological moment of change around 1700 BC. Heeding Catling's concerns, I qualify goods as

'imports' only where they can be identified as such through careful dating, contextualization or sourcing (where possible). Moreover, by engaging a broad range of material culture, I discuss how factors such as mobility or connectivity served as key factors in the emergence of a new, more complex social identity on Cyprus, thus providing a reconstruction based upon data solid enough even for Catling's consumption (similarly, Cherry 2009, 128).

Prehistoric Bronze Age Cyprus (Early Cypriot I–Middle Cypriot II)

During the Prehistoric Bronze Age overall (Table 1), settlement increasingly expanded into areas of Cyprus previously unoccupied or only sparsely so, e.g. the central and western *Mesaoria* (the plain between the Troodos and Kyrenia mountain ranges); the fertile plain along the north coast; the Karpass peninsula in the north-east; the foothills of the Troodos; along much of the southern and western coasts and surrounding hinterlands. Other concentrations of PreBA materials or sites have been identified through survey work (summarized in Knapp 2008, 74, table 2), but by far the most comprehensive survey of PreBA settlement (Georgiou 2007) identified 44 sites of PreBA 1 date, which increased eight-fold during PreBA 2 to 345 sites. This striking expansion in the number of sites also implies significant population growth at the same time. By PreBA 2 (early 2nd millennium BC), clusters of settlement arose along the interface between the mineral-rich Troodos foothills and the arable lands of the *Mesaoria*, perhaps pointing to the increased exploitation of the island's copper resources (also Webb and Frankel 2013).

The only PreBA 2 settlements (or phases within settlements) excavated to any extent are Marki *Alonia*, Sotira *Kaminoudhia*, Alambra *Mouttes*, Pyrgos *Mavroraki* and Politiko *Troullia* (the last extending into ProBA 1,

Table 1 Chronology of Prehistoric and Protohistoric Bronze Age Cyprus

Periods	Phase/Culture	Dates cal BC
<i>Prehistoric Bronze Age (PreBA)</i>		
(Philia-Early/Middle Cypriot)		
PreBA 1	Philia 'Phase'	2400/2350–2250
PreBA 1	Early Cypriot I–II	2250–2000
PreBA 2	Early Cypriot III–Middle Cypriot I–II	2000–1750/1700
<i>Protohistoric Bronze Age (ProBA)</i>		
(Middle Cypriot III–Late Cypriot IIIA)		
ProBA	(MC III–LC III)	1750/1700–1100
ProBA 1	Middle Cypriot III–Late Cypriot I	1750/1700–1450
ProBA 2	Late Cypriot IIA–IIC early	1450–1340
ProBA 3	Late Cypriot IIC late–IIIA	1340–1125/1100

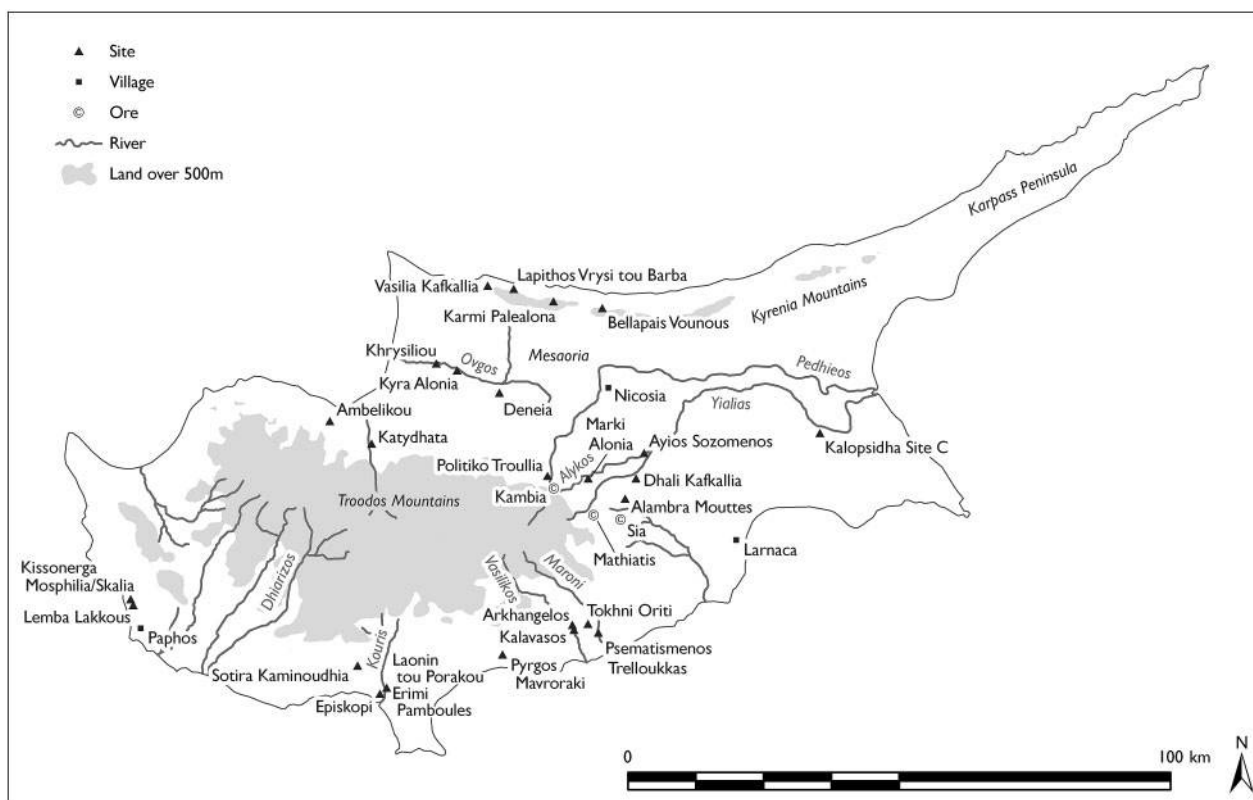


Figure 1 Map of Cyprus, showing Prehistoric Bronze Age sites mentioned in the text (drawn by Luke Sollars)

i.e. MC III–LC I — for locations, see Fig. 1). Excavations at Marki *Alonia* produced three chalk-casting moulds, solid evidence for the local production of metal artefacts from Cypriot ores during PreBA 1 (Philia phase, EC I–II) (Frankel and Webb 2006, 215–17, figs 6–18–19). Webb (2009a, 261–64) suggests that by Phase E (EC III, PreBA 2) at Marki, the appearance of anthropomorphic and zoomorphic figurines may indicate an attempt to control sources of labour (reproductive females) and capital or social storage (cattle) in an increasingly intensified agricultural economy. Even so, and despite all the notable internal developments seen through time at Marki *Alonia* (Frankel and Webb 2006), this site must be regarded as a small agricultural village whose inhabitants relied on the usual faunal and plant resources to sustain themselves.

The excavations at Sotira *Kaminoudhia* provide additional proof of local metalworking during the PreBA, including the knowledge of alloying metals (Giardino *et al.* 2003, 392) as well as working picrolite (Swiny 2008, 47–48). In architectural terms, *Kaminoudhia* has at least one unusual feature. The Unit 12 Complex reveals an atypical architectural plan, unique installations (a tall, white-plastered wall backing the courtyard), several striking objects or features (cattle scapula, gaming stones, a waist-high

grinding platform holding two querns), as well as a carefully planned burial (beneath a stone bench just beyond the structure's north-west corner). Swiny (2008, 49–50) thus suggested that this complex might have served for the performance of ceremonial activities and display. Despite its architectural anomalies and notable features, Sotira *Kaminoudhia* can only be classified as a typical PreBA agropastoral village whose inhabitants relied on cattle, sheep and goat, deer and pig for their subsistence (Swiny *et al.* 2003, 439, table 11.1).

The same holds true for PreBA 2 *Alambra Mouttes*; the absence there of any clear indicators of wealth or status differences also suggests an egalitarian village society (Coleman *et al.* 1996, 77). The only notable structure was Building IV, which might have had some ceremonial function. Faunal remains show that the people who lived at *Mouttes* relied on the same suite of animals known at other PreBA sites. Other production activities — pottery and terracotta (figurines, spindle whorls) — indicate that most materials were manufactured at or near the site, whilst the paucity and condition of the metallurgical remains indicate that any copper produced was destined for consumption by the village's inhabitants. Like Marki *Alonia*, *Alambra Mouttes* seems to have been abandoned entirely by the end of the PreBA.

The inhabitants of Politiko *Troullia* (Falconer *et al.* 2005; 2010; Fall *et al.* 2008) enjoyed good access to arable land, a spring-fed stream and one of the most dynamic river regimes (Pedhaios) on Cyprus. They were also situated in close proximity to the copper ore resources at nearby *Kokkinorotsos* (Knapp and Kassianidou 2008). Concentrations of pottery, charcoal fragments and metallurgical materials (copper slag, copper tongs, a copper-alloy dagger blade, limestone cast moulds) provide evidence of ‘utilitarian’ production activities. Carbonized plant remains recovered at the site include olive (most frequent), grape, fig, pistachio and caper, along with some cereals and wild taxa. Archaeobotanical analyses of charcoal and charred seeds from *Troullia* suggest intensive cultivation of orchard crops, less so of cultivated cereals (Klinge and Fall 2010, 2626–27). The faunal record thus far is dominated by ovicaprids and deer, but also includes cattle and pig (Falconer *et al.* 2010). On present evidence, therefore, Politiko *Troullia* appears to be another rural agrarian community of the PreBA, extending into the earliest phase of ProBA 1, with households of farmers and herders who shared a central (communal?) space.

Stratified deposits at Pyrgos *Mavroraki* have been dated to a late phase of PreBA 2. Belgiorno (2000; Belgiorno *et al.* 2012, 28–29) has reported evidence for metallurgical activities already in MC I (washing, smelting, casting) in the northern and southern ‘courtyards’ of the site; identified copper slags, crucibles, moulds and nozzles; and argued that four sub-circular structures served as furnaces for smelting copper. Yet the association between these archaeometallurgical finds and the PreBA structures with datable pottery remains uncertain (Muhly 2002, 81). Because the excavator continues to recreate and self-publish elaborate scenarios of what happened at the site without providing adequate discussion of the relevant stratigraphic and contextual evidence (e.g. Belgiorno 2004), the role and function of this crucial site in Cyprus’s late prehistory remains at best enigmatic.

Excavations began in 2008 at the multi-terraced site of Erimi *Laonin tou Porakou*, situated in the mid-lower Kouris River Valley in the island’s south. On present evidence (discussed here in some detail as much of it is still unpublished), occupation at the site is confined mainly to PreBA 2, with continuation into ProBA 1 (e.g. Bombardieri 2010a, 39–43; 2010b). Excavations on top of the mound (Area A) have uncovered evidence of a ‘workshop complex’ (a system of deep carved basins, lined with grey plaster) spread over 20 × 20 sq m and interconnected by a

series of flow channels. Characterized by a series of features built onto or directly carved into the limestone bedrock, five open-air working areas have been identified along with three roofed areas, mostly devoted to storage. The last are all arranged in parallel, with the same orientation and the same side entrance. These storage areas (90 sq m) were also carved directly into the limestone bedrock and contained within them several *pithoi* and a variety of Red Polished vessels. On the first lower terrace (Area B), a small domestic unit has been partly uncovered; this has an open court and what appear to be three small rooms arranged on one side. The southern cemetery (Area E) is spread over a series of natural terraces sloping to the south; three single-chamber tombs — again carved directly into the limestone bedrock — were excavated on the uppermost terrace, and six on a lower one (Bombardieri *et al.* 2009; 2011). Whereas the workshop area at *Laonin tou Porakou* surely signals some specialized production activities, the single structure so far uncovered, as well as the tombs, show no signs that this site was anything other than a typical PreBA 2 rural village.

Mention must also be made of Ambelikou *Aletri*, the sole site of the PreBA (MC I) for which we have sound evidence for the actual mining and extraction of copper (Dikaaios 1946; Merrillees 1984). Recent work on finalizing the publication of this key site has emphasized the existence of a pottery production area at Ambelikou (Frankel and Webb 2012). Settlements like Ambelikou, situated near the mineral resources of the Troodos foothills, were certainly self-sufficient with respect to metals. The level of activity at *Aletri* suggests the site was located specifically to exploit the mineral resources and may even have been involved in offsite distribution of metal (Jennifer Webb, pers. comm., June 2012).

In sum, the people of the PreBA period established their settlements throughout most areas of the island. Many were in agriculturally productive zones, along rivers or routes of transport, including coastal outlets, or near mineral resources. There are no perimeter walls at any of the known sites, although some are situated on low plateaus, or on the slopes of low hills. Defence, then, does not seem to have concerned these villagers (Swiny 1989, 17). The location of some sites close to the copper-rich foothills of the Troodos, or between the foothills and the *Mesaoria* plain, indicates that local copper resources were being exploited (Keswani 2005, 385–91; Knapp 2012, 16–17; Webb and Frankel 2013). With the possible exception of Ambelikou *Aletri*,

however, none of these sites offers enough evidence to demonstrate the level or intensity of production.

The relatively small number of known EC I–II metal objects suggests that very few sites were actually producing metal artefacts (Georgiou *et al.* 2011, 360). Even so, at least during the Philia phase of the PreBA 1 period, the north coast had participated in a maritime interaction sphere that linked Cyprus, Anatolia and parts of the Aegean, and involved the exchange of copper and bronze artefacts, if not of copper ores (Webb *et al.* 2006; Şahoğlu 2005). The only known PreBA 2 settlement located along the north coast was Lapithos *Vrysi tou Barba* (Gjerstad *et al.* 1934; Swiny 1989, 17), which continued in use as late as MC III (i.e. ProBA 1). Even so, the presence of the wealthy north coast cemeteries of Bellapais *Vounous* (Stewart and Stewart 1950; Dunn-Vaturi 2003) and Karmi *Palealona* (Webb *et al.* 2009) indicates that settlements were probably situated nearby (their existence is simply assumed in Webb and Frankel's [2013] discussion of regional differences between settlements in the north and central/southern parts of the island).

There is still much to learn about both the internal and external relations of these PreBA settlements. Beyond the more obvious prestige goods involved in exchange relations (see below), we must keep in mind the quest for raw materials and other, intangible types of knowledge (Wengrow 2009, 157–58). Whilst both natural and cultural constraints may have limited foreign trade during the PreBA, there are at least some material indicators of intensifying external contacts as the PreBA 2 period develops; these are more or less synchronous with documentary evidence for the use of Cypriot copper in Mari and Babylon during the 19th–18th centuries BC (Sasson, in Knapp 1996, 17–19). Imports or exports to Cyprus necessarily involved maritime trading ventures that may well have included people from Cyprus, whether as producers or distributors. The manufacture after *c.* 2000 BC of bronze objects alloyed with tin (Balthazar 1990, 161–62) also indicates Cyprus's involvement in exchange activities that brought tin to the island (Yener 2000, 75).

During the PreBA, on present evidence, a total of about 25 imports — pottery, metal daggers and a razor, faience pendants and beads, calcite or gypsum vessels — arrived in Cyprus from Crete, the Levant, Anatolia and Egypt (cf. Keswani 2005, 388–89, table 13, which also includes 'foreign-influenced' goods). According to Webb *et al.* (2006, 276), up to six of 17 finished metal artefacts from PreBA 1–2 north coast cemeteries (e.g. Vasilia, Bellapais *Vounous*, Karmi

Palealona) may be identified as imports (based on lead isotope analysis). Beads and pendants made of faience and shell from Marki *Alonia* may also have been imported at this time (Frankel and Webb 1996, 215–16). Three gypsum vessels from Vasilia *Kilistra* Tomb 103 were most likely imported from Egypt (Merrillees 2009a). Spread over some 400 years, these objects were recovered primarily from the north coast cemeteries at Vasilia *Kafkalla*, Bellapais *Vounous*, Lapithos *Vrysi tou Barba* and Karmi *Palealona* (Knapp 1994, 281, fig. 9-4; Webb *et al.* 2009, 252). The scarcity of these imports (the equivalent of 0.6 of an object per year) does not inspire confidence in any suggestion that the people of this era were more than passively involved in long-distance exchange.

Because the *excavated* settlements of the PreBA 2 period show no material markers of differences in wealth or status, it may be that mortuary ritual and practices served as the preferred means to showcase any social differences (Swiny 1997, 206; Keswani 2004, 153–54; 2005, 384; Webb and Frankel 2010; 2013). The copper and bronze weapons and implements deposited in some PreBA 2 (EC III, or MC I) tombs at Lapithos (Keswani 2004, 208–13, tables 4-11b–c), for example, may reflect not only internal consumption but also a growing external demand for Cypriot copper (Knapp 1990a, 159–60; Knapp and Cherry 1994, 161–62). Lapithos, with its coastal location in a protected bay, was ideally situated to take part in an expanding system of seaborne trade (Webb *et al.* 2009, 251–52).

Moreover, the sumptuous features of some tombs in earlier, PreBA 1 cemeteries at Bellapais *Vounous*, Lapithos *Vrysi tou Barba* and Karmi *Palealona* suggest that some may have served as mortuary 'shrines', promoting new forms of authority linked to ancestors, and establishing specific types of ritual practice that became common in later periods (Keswani 2005, 349–50). Amongst these burials, Webb and Frankel (2010, 193–94) single out Tombs 2 and 6 at Karmi *Palealona*, whose elaborate construction and contents suggest '[...] they may have been the graves of people of greater social importance or perhaps the founding members of the community whose remains became a focus of memory and ritual activities'.

From PreBA 1 *Vounous* (Site A, EC I–II), the funerary assemblages contained a large quantity of elaborately incised and decorated Red Polished pottery vessels, as well as quantities of cattle, sheep and goat bones that may represent the traces of feasting activities held at mortuary events (Webb and Frankel 2010, 195–97, 198 fig. 11; 2013). In comparison

with Lapithos and Karmi *Palealona*, *Vounous* stands out with respect to the incidence of animal bones, richly decorated and iconographically elaborate vessels (horned and/or ‘dancing’ quadrupeds, symbols representing solar, lunar and other natural phenomena), and bowls for drinking (‘tulip’ bowls) and food presentation (Webb and Frankel 2010, 198–202). It may be that these north coast sites, particularly *Vounous*, served as key arenas for ritualized mortuary practices, creating for the occupants and their descendants social alliances and prestige as well as new forms of social identity (Keswani 2004, 82; Webb and Frankel 2010, 202–03; 2013). Tomb assemblages from *Vounous* Site B (PreBA 2, EC III–MC I) change somewhat, with fewer drinking or pouring vessels but including some new, more symbolically complex, non-utilitarian pottery vessels (e.g. multiple bowls or juglets), perhaps representing a shift from individual to more corporate identities.

Although both Peltenburg (1994, 159) and Manning (1993) suggested that hereditary élites emerged on the north coast during PreBA 1 (EC), Keswani (2004, 63, 83) found no evidence for a rigidly defined status hierarchy at *Vounous* or Lapithos, but rather ‘an ongoing dynamic of prestige competition within and between communities’. Webb and Frankel (2013) argue that the elaborate styles seen in pottery production and complex funerary practices witnessed in the north during EC I–II indicate that status and authority were structured in different, ritually more complex ways than can be seen in the central and southern parts of Cyprus. They see a ‘clear disparity in cross-island pathways toward social complexity’ (Webb and Frankel 2013, 73, 76–77), with an ‘evolution in the basis of social hierarchy’ in the north that resulted in contested social relationships and ‘sustained individualizing behavior’ if not ‘acquired adult rank’. Nonetheless, the negotiation, use and deposition of ritualized, high-status pottery vessels throughout the north coast mortuary record of the PreBA period does not seem to have been restricted to an exclusive group of ‘élite’ individuals or families.

Contemporary (i.e. PreBA 1) communities and cemeteries in the centre and south of the island (e.g. at Sotira, Pyrgos, Episkopi, Marki and newly founded Psematismenos, Kalavassos, Pyla, etc.) have little to compare with the elaborate grave goods and mortuary architecture of these north coast sites, thus implying a more egalitarian social structure, with shared social production and reproduction (Peltenburg 1996, 27; Webb and Frankel 2010; 2013). By the end of the PreBA 1 period, for example, spearheads are far more

numerous in north coast cemeteries, in particular at *Vounous* B (Keswani 2004, 65, 69), although they appear in tombs in the centre and south of the island — e.g. at Psematismenos *Trelloukkas*, Nicosia *Ayia Paraskevi* and Episkopi *Phaneromeni* (Georgiou *et al.* 2011, 356–57). At Psematismenos, there does seem to be some differential distribution of ‘wealth’ in the tombs (number and size of pottery vessels, metal artefacts, faunal remains) but there are no signs of accumulated wealth or status distinctions, only ‘some forms of prestige symbolism’ (Georgiou *et al.* 2011, 358).

The main communication link during PreBA 1 between sites such as *Vounous* and Karmi in the north, Deneia and Nicosia *Ayia Paraskevi* in the centre, and fledgling copper production sites in the Troodos foothills, was likely the Agirdha pass in the *Pentedaktylos* (Kyrenia) range (Georgiou 2007, 443–44; Webb *et al.* 2009, 202–03). Whereas occupation around Deneia appears to have been quite limited during PreBA 1 (EC I–II) (Frankel and Webb 2007, 157–58), this site eventually came to occupy a strategic position between the copper-bearing northern Troodos foothills and the north coast sites. Given the clear stylistic boundaries between the north and the rest of the island (Webb and Frankel 2013), communications may have been limited but nonetheless adequate for those living on the north coast to acquire metal for their own needs during EC I–II. Whereas Webb and Frankel (2010, 205) see this as possible evidence of a ranked settlement system dominated by *Vounous*, with a stratified society in the north and a more egalitarian counterpart in the south, equally they are aware that the material differences amongst these PreBA 1 sites may have resulted from a social emphasis in the north on display rather than accumulation, and on establishing social position rather than appropriating materially-based power. Thus they conclude (Webb and Frankel 2010, 205, following Keswani 2004, 64–65): ‘The absence of clear concentrations of prestige ceramics at *Vounous* [...] suggests that even at this site EC I and II communities were still relatively decentralized, with social relationships governed by kinship and personal interactions rather than stable or ascribed hereditary institutions’.

Peltenburg (1994, 159) presented quite a different view, suggesting that a well-known ‘genre scene’ on a Red Polished pottery bowl from the cemetery at *Vounous* symbolized new social conventions of power and exclusion, an attempt by élites from the north of Cyprus to legitimize a new regime and to stabilize their position through the use of ritual authority.

This vessel, first published by Dikaios (1940, 50–51, pls VII, VIII) and dated to PreBA 2 (EC III–MC I), is a modified bowl rendered with an entryway, 19 human figures and four penned cattle. Overall, the 19 figures (one female holding an infant, the rest males) are represented in what is argued to be a hierarchical, social manner — from animals, infant and female, through individual males, to a seated male of some prominence. But there are other, contradictory interpretations of this object. Manning (1993, 45–46), for example, suggested that the main figure represents an ‘aggrandizer’ surrounded by images of power, wealth and institutional authority. Keswani (2004, 78), however, countered that any social differences represented by this scene never institutionalized into a rigid social or political hierarchy. Most scholars regard the *Vounous* model, along with three abbreviated, plank-like versions from the areas around Kalopsidha and Marki (also likely of EC III date — Dikaios 1940, 118; Karageorghis 1970), as depictions of open-air sanctuaries. Certainly, this model represents a special building, perhaps even a ranked individual and a gendered ideology that separated male from female in PreBA Cypriot society. On its own, however, it is difficult to regard this single object as representing institutionalized authority in a hierarchical society.

The striking iconography and ritualized mortuary practices that emerged at *Vounous* during PreBA 1, together with other aspects of north coast material culture, spread to other areas of the island during PreBA 2 (EC III–MC II) (Webb and Frankel 2010, 206; 2013). At Deneia during MC I–II, there was ‘an explosion of tomb construction’, both in the *Kafkalla* area and in a new burial area at *Mali* (Frankel and Webb 2007, 159–60). Indeed, the number of adult burials for the MC I–II periods at Deneia is estimated to be somewhere between 9000–20,000, suggesting a notable rise in the number of people living nearby (this fell off dramatically by MC III, and new tombs ceased to be constructed at *Kafkalla* after that time — Frankel and Webb 2007, 162). A similar phenomenon may be seen at various points in the PreBA 2 period at several other sites: Lapithos, Karmi, *Vounous* and Nicosia *Ayia Paraskevi* (Frankel and Webb 2007, 160). Thus the use of many PreBA 1 cemeteries continued into the PreBA 2 period, and by the early 2nd millennium BC the material culture across the island had become much more uniform and coherent (excepting the distinctive Deneia-style pottery); this stands in some contrast, at least on present evidence, to the more distinctive regional patterns of PreBA 1 (Webb 2009b; Webb and Frankel 2013). Although

north coast communities clearly obtained metal for their own needs during EC I–II, the use of metal as a distinctive marker of ‘wealth’ does not seem to have developed prior to this time (late EC III–MC I), when the amount of metal deposited in tombs at Lapithos and *Vounous* increased substantially (Keswani 2004, 64–71). Lapithos in particular shows a marked increase in the local consumption of metal: 74% of transitional EC III–MC I tombs there contained metal, whilst 96% did during MC I–III (Keswani 2004, 68–69, 208–14, tables 4.11b–4.12).

Taking a broader view, PreBA 2 cemeteries along the north coast boasted a wealth of copper-based metal artefacts (from tools and weaponry to personal ornaments and toiletry items). Material from contemporary agricultural villages situated nearer the Troodos copper ore sources indicates the use of more utilitarian copper objects, suggesting that people from these two regions held different social attitudes towards metals during life and after death. Mortuary contexts contain more metal objects in a wider range of types than household contexts, which may suggest a higher rate of reuse in the latter (Frankel and Webb 2006, 190). Some metal artefacts from mortuary deposits (e.g. the large copper-based spearheads that occur quite widely across the island, e.g. at *Vounous* Site A, Episkopi *Phaneromeni*, Nicosia *Ayia Paraskevi*, Psematismenos *Trelloukkas*) exhibit a style that may point to their value as prestige objects for display (Swiny 1997, 205–06).

In a key paper that treats perceptively both the mortuary and industrial records of early 2nd millennium BC Cyprus, Keswani (2005, 391) argues that the rich metal assemblages of the north coast cemeteries resulted from the responsiveness of copper producers to both ‘ceremonial demand’ and effective *internal* networks of exchange. Crewe (2007, 158–59) also believes that north coast sites were exporting significant amounts of copper but through *external* trade networks, a pattern that was to re-emerge in ProBA 1 (MC III–LC IA). Such an interpretation helps to sustain her argument that copper production only began at Enkomi toward the end of ProBA 1 (LC IB) (Crewe 2007, 17–19). Kassianidou (2012, 96–99, 104), however, has now challenged her views on metallurgical production at Enkomi. Most importantly, Kassianidou (2012, 103) notes that during Level I at Enkomi (i.e. LC IA), what Dikaios (1969, 22) identified as smelting furnaces are actually hearths for heating crucibles, whilst the (mainly elbow-shaped) tuyères were used for melting metal, not smelting ores.

During the PreBA 2 period, the internal consumption of metals so well documented in the cemetery at

Lapithos (less so but still significant at *Vounous* and Karmi), coupled with external demand for Cypriot copper (however limited it may have been), must have triggered certain developments in metallurgical production on the island (Keswani 2005; Knapp 2008, 81, 84–87). In my view, however, the overall level of metallurgical development on PreBA 2 Cyprus is one of limited-scale localized production and internal consumption of metals, a picture that would change radically in the course of a single century.

Some level of external relations with the Aegean world at this time is indicated by the imported Minoan Kamares ware cup from Karmi *Palealona* Tomb 11B, and the Minoan spouted jar from Tomb 806A at Lapithos (Grace 1940, 24–27, pl. IA). Whilst Kouka (2009, 40) feels that these objects must have arrived indirectly, via Minoan outposts in the south-east Aegean, Webb *et al.* (2009, 246–47) suggest that the occupant of Tomb 11B at Karmi may have been a (Cretan?) ‘newcomer’. Both these objects thus have been seen as evidence that it was the Minoans who actively sought Cypriot copper (also Betancourt 1998), not Cypriotes instigating the exchange. A Cypriot vessel of PreBA 2 (EC III or MC I) date from Knossos (Catling and MacGillivray 1983) is the only known object of return trade to the Aegean.

Peltenburg (2008, 153) is probably correct to suggest that the known imports of the PreBA, including those from Crete, were the result of a ‘passive’ engagement in long distance trade on the part of the local Cypriot communities. Even so, increasing seaborne communications and connectivities between Cyprus and its neighbours likely prompted some people on the island to emulate or adopt as their own certain material innovations that characterized the PreBA. The growing demand for copper, whether internal or external, and the production and trade in raw materials and metal goods, would have helped to break down existing barriers. Foreign materials and ideas thus increasingly became part of a new Cypriot identity that looked outwards as well as inwards.

Overview: Prehistoric Bronze Age

Swiny (1997, 171) once observed that the transition from the Chalcolithic to the Early Bronze Age represented ‘the most radical cultural discontinuity’ that had occurred up to that time in Cypriot prehistory. Webb and Frankel (2011) echo this sentiment, arguing for the introduction by Anatolian immigrants of an entire new suite of material and social changes: architectural, agricultural, metallurgical and mortuary (but cf. Knapp 2008, 103–30; 2013).

Despite differing views about the origins and meanings of all these innovations, the rich and increasingly diverse material record of the PreBA may be seen as a harbinger of social and cultural developments to come over the course of the Bronze Age. Nonetheless, an even more ‘radical’ — and abrupt — discontinuity occurred at the very end of the PreBA, one that is more to the point of the present study.

There are no obvious material remains in any medium from post-Philia phase PreBA Cyprus of a socio-political system in which regional or town centres dominated agropastoral villages or received agricultural surpluses from them, no evidence of centralized production, no material correlates of an institutionalized hierarchy (similarly Driessen and Frankel 2012, 65–66). The introduction of the plough, an increase in the size and number of implements for grinding grain, and the likelihood that cattle (at least from Marki *Alonia*) served as draught animals all suggest that the people of PreBA Cyprus enjoyed a diet that increasingly relied on cereal crops as well as domesticated animals (Frankel and Webb 2006, 207). The size and structure of house compounds, the limited evidence of storage facilities (confined to each household) and the lack of evidence for communal enterprises all indicate that these PreBA agropastoral villages were autonomous communities with households or extended family units that owned the land as well as its products (Frankel and Webb 2006, 314–15).

Thus the villages of PreBA Cyprus may be seen as open communities that were stable, internally well integrated and most likely interdependent. Such stability also seems evident in the location of settlements in non-defensive positions (and lacking fortifications), the paucity of weaponry (at least until the end of EC III — Keswani 2004, 77, table 4.15), and the absence of evidence for violent destruction or forced abandonment (except possibly an earthquake at Sotira *Kaminoudhia* — Swiny 2008, 45). Whilst there now seems little doubt that divergent social trajectories were at work in the northern and central/southern regions of the island (Webb and Frankel 2013), the material and ritual elaboration evident at northern sites such as *Vounous* was instrumental in establishing a new social order, not an entrenched social hierarchy.

Several notable changes took place in PreBA mortuary practices, including the way tombs were constructed (Keswani 2004, 37–62; Webb and Frankel 2010). Typically, the dead were interred in large extra-mural cemeteries in chambered tombs, with the number of multiple burials increasing

through time (excepting EC I–II); these tombs also contained many new types of grave goods (e.g. at Deneia — Frankel and Webb 2007). Excavations at several PreBA cemeteries have produced scores of copper weapons, tools and ornaments, and more limited numbers of imports along with a few luxury items (e.g. faience beads/pendants and stone vessels, earrings made of copper, bronze and precious metals, gold ornaments, distinctive and elaborate pottery vessels). Keswani (2005, 348–49, 363, 388–89, 392) links the changes in mortuary practices that become apparent by the very end of the PreBA 2 period (MC II, and into MC III) to socio-economic developments that involved ancestor veneration, the negotiation of social identities and the *potential* for the institutionalization of social inequalities.

The newly identified ‘workshop’ complexes seen at Erimi *Laonin tou Porakou* and perhaps at Ambelikou *Aletri* (the evidence from Pyrgos *Mavrorachi* might fit here, too, if presented in a more coherent manner) may point to some increase in ‘industrial’ activity from PreBA 2 (MC I) onwards. However, on the one hand, there is no evidence from the more fully excavated sites of Marki *Alonia* or Alambra *Mouttes* to indicate such activity was widespread. On the other hand, such an increase in industrial activities would tie in well with the amount of metal being deposited in graves at this time, especially at Lapithos, from which one might assume increased production or changes in the organization of production.

As to external relations, the frequency and volume of the metals trade is a matter of speculation. Nonetheless, if more copper was being produced in response to a growing demand both within and beyond the island, at the same time that a small number of foreign prestige goods arrived, one might argue for new social dynamics of communication, negotiation and interaction. Wealth or status differences postulated amongst certain PreBA households and compounds seem evident in a range of new types (and technologies) of mould-cast, copper-based implements, tools and jewellery, anthropomorphic and zoomorphic figurines, and the small but notable array of imports seen in north coast mortuary deposits.

If the amount of goods imported to Cyprus is a ‘valid proxy’ (Keswani 2005, 387–91, and table 13), however, the scale of long-distance trade must be seen as ‘more sporadic than systematic’ before MC III (ProBA 1). In Keswani’s view, the main stimulus for the emerging copper industry at this time was local exchange and consumption: as metal goods were removed from circulation in burials, and as the use of

such goods continued to mount (e.g. at Lapithos), the ‘ceremonial’ demand for copper may have intensified. Thus the limited amount and types of metal goods found in settlements (perhaps because they were curated — Webb 1995; Frankel and Webb 2006, 190) may indicate that copper remained a scarce resource throughout the PreBA. Keswani (2005, 391) suggests that by manipulating the relationship(s) that prevailed between copper-consuming communities (like Lapithos in PreBA 2) and copper-producing communities, and by having access to new types of prestige goods, emergent élites may have stimulated the surplus production of copper. The level of copper production that served as a means to address ‘ceremonial demand’ during the PreBA thus set the stage for the transformation and reorganization of copper production and exchange during the subsequent, ProBA 1 period.

From its outset, the Prehistoric Bronze Age marks a clean break with the earlier prehistory of Cyprus, evident not only in the material culture but also in the economic and social changes associated with intensified agrarian practices and metallurgical production. As forests were cleared to provide more land for the ‘cattle and plough complex’ and to fuel the production of copper, the landscape of Cyprus was transformed. The island now took the first steps toward involvement in the emerging systems of trade and interaction that enveloped the entire eastern Mediterranean world. All these developments peaked in a rapid and dramatic fashion toward the end of the PreBA and at the outset of the ProBA (17th–16th centuries cal BC), when the earliest urban polities emerged on Cyprus.

Protohistoric Bronze Age 1 Cyprus (Middle Cypriot III–Late Cypriot I)

In Keswani’s view (2005, 392–93), the rise of urban polities and the emergence of Cyprus as a significant copper producer during the ProBA 1 period resulted from the convergence of the local (PreBA 2) ritual system with the growth of external demand for Cypriot copper. In this scenario, emerging élites on Cyprus, by identifying with foreign values and ideology, established status distinctions between themselves and other community members, triggering a series of other structural changes in PreBA society.

Whilst I am largely in agreement with such a scenario, it must be clarified that the material record as a whole does not support the notion that the apparent increase in mortuary consumption in north coast burials during EC III–MC I (c. 2000 BC) triggered a significant change in either internal

production or external exchange. Nor did the consequences of these ‘competitive’ mortuary celebrations extend into the sphere of everyday life. Yet, as Keswani (2005, 393–94) suggests, the high value that was placed on scarce foreign goods, and their association with foreign élites may have led ‘emergent Cypriot leaders’ to distinguish themselves from other members of the community and ‘to create an ideological basis for institutionalized social inequality’. ‘Social inequality’ is, nonetheless, a far cry from the kind of socially stratified society that characterizes most early state polities (see also Crewe 2007, 158).

Adhering to Catling’s (1991) dicta, we need to indicate the timing involved as carefully as possible, and in addition remind ourselves of the theory behind the processes we presume to uncover. To take the former point first, one obvious place to start is with a high precision radiocarbon chronology (Manning, Appendix I in Knapp 2013). On the one hand, there is currently very little directly relevant radiocarbon evidence that bears on the close of PreBA 2 (MC II) or on the start of ProBA 1 (MC III–LC I). On the other hand, there are some indicators if one extrapolates from the increasingly dense and consistent radiocarbon data available in the Aegean in terms of the well-recognized LM IA/LC IA material culture linkages (e.g. Graziadio 2005; Manning and Bronk Ramsey 2007). The end of the PreBA is not well defined. Because late MC data (Episkopi *Phaneromeni*) come from charcoal samples (necessitating some allowance for old-wood effect), and therefore set only *terminus post quem* ranges, the date for the end of MC II must be set *c.* 1700/1680 cal BC (Manning 2001; Merrillees 2002, 6 suggests 1750 BC). Three dates from LC I contexts (Maroni *Tsaroukkas*) are also from long-lived charcoal samples so again provide only *terminus post quem* ranges.

The dates provided in this study (Table 1, above) also take into account archaeological linkages with Egypt and the Near East, as well as radiocarbon-dated chronologies in the Aegean, with their material culture linkages to Cyprus (Manning *et al.* 2006; Manning and Bronk Ramsey 2007; Bronk Ramsey *et al.* 2010; Lindblom and Manning 2011). Based on several good archaeological links for MC III material around and after this point (Merrillees 2002), it is assumed that at least some material of the later MC III period (e.g. later White Painted Pendent Line Style) must come after 1700 cal BC. Since material from the first part of the LC I period occurs in pre-New Kingdom contexts in Egypt and the Levant (see Merrillees 1992b; 2002; 2009b), it is also assumed that the LC IA period begins before the start of the

Egyptian New Kingdom (*c.* 1559 cal BC; see Bronk Ramsey *et al.* 2010). Taking all these factors into account, a starting date for ProBA 1 is set *c.* 1750/1700 cal BC (Manning 2001; Manning *et al.* 2002). There are no dates for the end of LC I but reasonable data exists for LC IIC: a *terminus post quem* from long-lived wood at Kalavassos *Ayios Dhimitrios* lies at 1391 ± 22 cal BC; various earlier, long-lived samples from Maroni *Tsaroukkas* lie between 1343–1341 $\pm 25/26$ cal BC; and the last extant tree-ring in the Apliki *Karamallos* roof wood lies at 1323 ± 28 cal BC. This all suggests that LC IIC begins no later than around 1340/1325 cal BC (Manning *et al.* 2001).

At the very least, then, we can argue with some confidence that the ProBA 1 period began late in the 18th century BC or early in the 17th century cal BC (Merrillees 2002; Manning, Appendix I in Knapp 2013) and lasted until the mid-15th century cal BC. With respect to the second point (the theory behind the processes), archaeologists use the term ‘social complexity’ mainly to discuss hierarchical social organization and/or the emergence of social élites. Nonetheless, it is also a fundamentally relational experience involving simultaneously the global (in this case long-distance exchange), the local (especially copper production) and the individual (Kohring 2011, 145). As to ‘state formation’, there is no single factor that universally underpins this process, although states often emerge, at least in part, as a way of addressing threats to social coherence or continuity posed by sharp rises in population. Changes in socio-political structure result largely from the ability of a few people (‘élites’) — acting strategically in their own interest — to mobilize basic resources (including human labour), create hierarchies and centralize power in their own hands (Urban and Schortman 2012, 123–32). Redmond and Spencer (2012) recently reiterated that ‘states’ are also characterized by warfare and expansionism, a multi-tiered site hierarchy and an internally specialized administration.

Despite the increasing size and extent of the communities and cemeteries of PreBA 2 Cyprus, none of the material correlates of a stratified complex society or ‘secondary state’ — social stratification, hierarchies, centralized concentration of power — appear in the Cypriot archaeological record before about 1700 cal BC (MC III), at the very outset of the Protohistoric Bronze Age (see the table ‘Aspects of Complexity’ in Knapp 1986, 50, reproduced and updated here as Table 2). The social and cultural transformations that occurred on Cyprus after about 1700 cal BC cannot be explained or even modelled

using an evolutionary framework; even the term ‘secondary state’ calls to mind such notions (similarly Pozorski and Pozorski 1992, 862–63). The establishment of socio-political power and the stratification of society on Cyprus lay in the control over basic productive resources (land and labour), access to resources in demand (in this case, copper), centralized politico-economic organization and increased or specialized production. None of these factors can be seen in the Cypriot material record before the ProBA 1 period.

In the sections that follow, to the extent possible the discussion is restricted to sites (settlements or cemeteries) and materials that date to the MC III–LC I periods (i.e. ProBA 1), between c. 1700–1450 BC. Any in-depth view of this period is hampered to some extent by the overall archaeological record of the ProBA, which derives largely from settlements and burials dated between about 1450–1200 BC (on the sparser material and settlement records of the centuries between 1700–1450 BC, see Knapp 2008, 148–51). Although most published works on the emergence of social complexity or the ‘secondary state’ on Cyprus (reviewed below) necessarily have recourse to the full material record of the ProBA (or at least through ProBA 2, c. 1300 cal BC), it must be reiterated that this study is concerned primarily with what can be adduced from the material record of the earliest stages of the Late Bronze Age.

Spatial organization and settlement

In prehistoric, and in particular pre-state societies, population dynamics and population increases play a

crucial role in most processes of socio-cultural change (Shennan 2000). Attempts to estimate such increases in population based on the size of sites as determined from surface scatters is a hazardous exercise, not least because of all the other factors — settlement drift, sequential settlement, clustering or dispersion of households — that cause material or the actual area of settlement to move around on the surface, within what would be seen as the total site area (Webb and Frankel 2004, 133–35). Accepting the gravity of such concerns, the accumulated evidence that bears upon the spatial organization of settlements nonetheless suggests that, by the end of the PreBA, the size and location of settlements had begun to change in ways that reflect structural changes in society and in the economy.

Several sites surveyed in the Vasilikos Valley along the south central coast, for example, are argued to be of exceptional size in comparison with sites of the PreBA 2 period. These include Kalavassos *Mitsingites* (6.25 ha), *Laroumena* (10 ha), *Arkangelos* (14–16 ha) and *Khorapheril/Vounaritashi* (36 ha) (Todd 2004, 39–40, 58–61, 67–75, 85–87). *Arkangelos* and *Laroumena* may have formed one extensive MC III ‘complex’, over 77 ha in extent, on the western side of the valley (Todd 2004, 40). Similarly, Todd (2004, 59) suggests that the *Khorapheril/Vounaritashi* complex (36 ha) should be considered in relation to *Mitsingites*, 1 km to the east. Both sites have large numbers of Middle Cypriot (MC) and scattered amounts of Late Cypriot (LC) wares, and thus are likely to be ProBA 1 in date.

Opposite *Laroumena* and *Arkangelos* on the eastern side of the valley lay two large MC sites: *Alonia tou*

Table 2 Aspects of complexity

Increased/Specialized Production	External Demand
Bronze technology Copper ingots? Copper mining/metallurgy Refinement/export centres	Transport technology (internal and external) Metallurgical/mining technology Elaboration of local markets/coastal emporia Copper; Near Eastern imports
Competition/Centralization of Power	Demographic Change
Regionalism Warfare/weapons/burials Intensified production (copper) Élites Prestige goods (ingots/symbolic-laden items) Storage facilities (not universal)	Site hierarchy Coastal emporia (centrally planned) Increase in number/size of sites ‘Urbanization’ trend on coasts ‘Gateway cities’ to wider trade systems
Social Stratification	Interregional Exchange
Site hierarchy (industrial, agricultural, towns) Large-scale public/ceremonial buildings Rich burials; ‘warrior’ tombs Political flux/warfare Prestige goods (ingots, imports) Writing (scribal élite?) (New social division of labour?)	External demand Internal production increase Control of copper resources Centralization Increased specialization

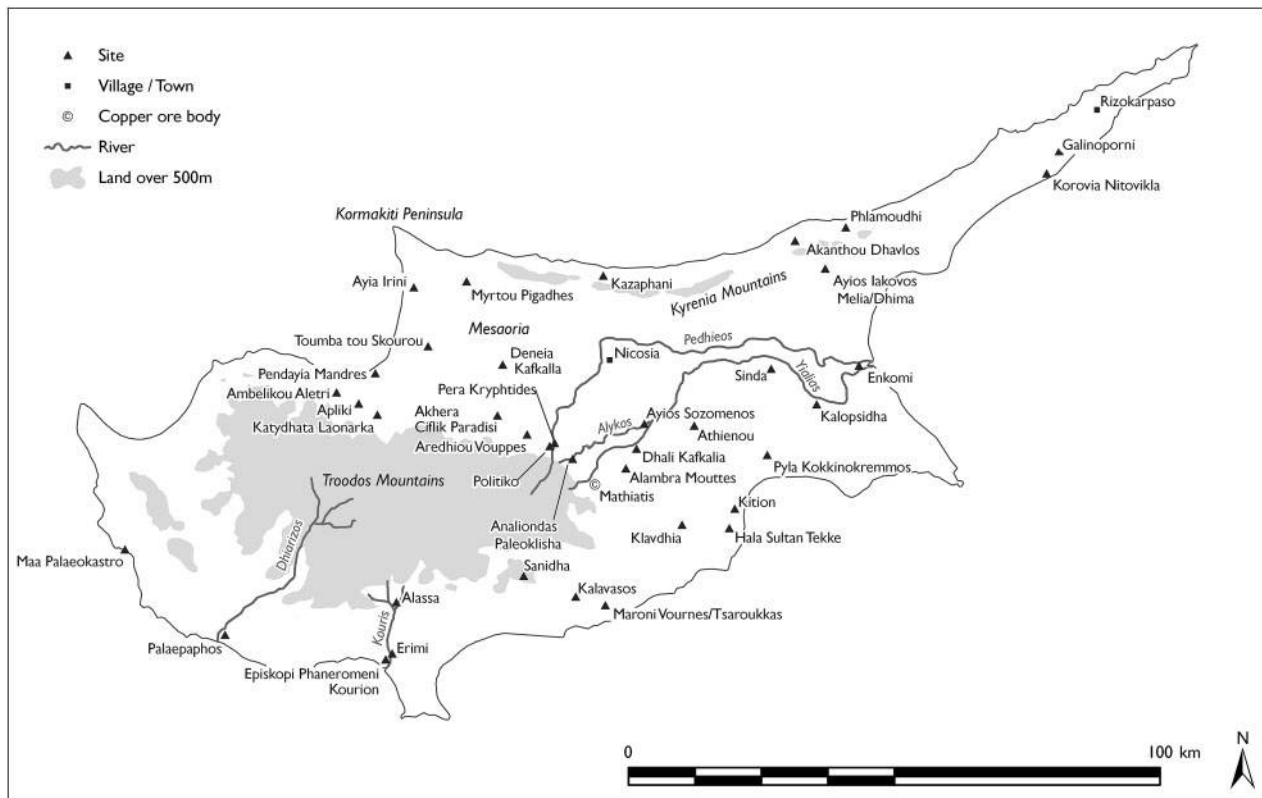


Figure 2 Map of Cyprus, showing Protohistoric Bronze Age sites mentioned in the text (drawn by Luke Sollars)

Pano Zyou (9 ha) and *Lourca* (8.25 ha) (Todd 2004, fig. 20). Both had significant sherd scatters (Red Polished, White Painted), the latter also some LC pottery (White Slip, Base-ring, *pithoi*) (Todd 2004, 33–34, 73–75). If *Kokkinokremos* (3 ha) actually formed the ‘lower component’ of the *Lourca* site (Todd 2004, 62), then another ‘mega-site’ existed there. Yet another major Bronze Age complex may be seen at Tokhni *Oriti* North and South, the sherd scatters of which extend over some 10–11 ha (Todd 2004, 137–39); both sites had MC material as well as some LC coarse ware and *pithos* sherds.

In all these cases, of course, it has yet to be demonstrated that the whole site area (assuming surface scatters accurately reflect this) was occupied simultaneously as opposed to a situation of settlement drift or expansion through time. At best, the total site area may indicate the maximum expansion of settlement; at worst, it indicates only the total area over which settlement existed at one point or other (Webb and Frankel 2004).

Still, the size of sites such as *Laroumena/Arkhangelos* or *Khorapheril/Vounaritashi* must be seen in the light of the more typical, 5 ha or less PreBA 2 villages. The only other site with which they might be compared is Politiko *Troullia*, with material spread over some 20 ha (Falconer *et al.* 2005, 73). On current evidence, *Troullia* seems to

have been occupied mainly towards the end of the PreBA, but there are excavated structures of MC III date and some examples of LC pottery have already been identified (Fall *et al.* 2008, 197). MC and LC tombs at nearby Politiko *Lambertis*, of course, had always pointed to the existence of a PreBA2 or ProBA 1 settlement nearby (Masson 1964, 202–04; Catling 1962, 168). Elsewhere there was a major expansion of settlement and an overall increase in site size; the current settlement record of ProBA Cyprus in all phases numbers well over 300 sites (Catling 1962, 160–69; Knapp 1997, 46–52; Frankel and Webb 2007, 161–62; Georgiou 2007, 448–54, 465–68). Several of these sites — Enkomi, Kition, Alassa, Kalavassos *Ayios Dhimitrios*, Maroni *Vournes*, Hala Sultan Tekke *Vyzakia*, Morphou *Toumba tou Skourou*, Phlamoudhi *Melissa* — have been excavated and published (for locations, see Fig. 2).

One of the most striking features of this settlement record is the establishment of new towns along or very near the coasts of Cyprus, many of which served as ports. During the ProBA 1 period (c. 1700–1450 BC), key new sites were established at Enkomi *Ayios Iakovos* and Hala Sultan Tekke *Vyzakia* (east and south-east), Episkopi (Kourion) *Bamboula* and Kouklia *Palaipaphos* (south and south-west) and Morphou *Toumba tou Skourou* (north-west) (Keswani 1996; Knapp 1997, 46–48). As Iacovou (2012, 61–62) points out, the establishment of

these coastal centres as likely ‘ports of export’ or ‘coastal gateways’ represents a major change from earlier site patterning.

Whilst a few key PreBA sites (or, strictly speaking, the cemeteries associated with them) had been situated on or near the north coast (e.g. Lapithos, *Vounous*), their demise was likely triggered by factors both locational (i.e. narrow coastal plain with limited arable land — Peltenburg 1996, 32 n. 19) and economic (new coastal centres on the Kormakiti peninsula, like *Toumba tou Skourou* or *Ayia Irini Paleokastro*, offered more efficient outlets for copper produced from the rich ore deposits around Apliki and Mavrovouni — Keswani and Knapp 2003, 215). The coastal or near-coastal sites newly established during the ProBA are found over most of the island and were oriented decisively toward the connecting sea. Cypriot élites established these coastal centres to promote politico-economic and ideological alliances with overseas polities in Egypt, the Levant and the Aegean (Keswani 1989; Manning *et al.* 2002).

Elsewhere I have argued for a settlement hierarchy during the ProBA period overall (Knapp 1997; following earlier work by Catling 1962; Keswani 1993); it must be emphasized, however, that this settlement pattern is better substantiated for the ProBA 2 than for the ProBA 1 period. The distinctions between these four tiers of settlement are based not just on site size but also on the different materials found in the sites of each tier, and thus on their presumed functions.

1. coastal centres (commercial, ceremonial, administrative, production)
2. inland towns (administrative, production, transport, some storage)
3. smaller inland sites (ceremonial, production, transport, some storage)
4. industrial (mining, pottery-producing) and agricultural villages (production, storage)

The primary coastal or near-coastal centres represent the largest sites, all but one (Episkopi *Bamboula*, ProBA 1 in date, 6 ha) ranging from 12–25 ha in extent (Table 3). The size of the four largest sites (ProBA 1 *Palaipaphos* and Hala Sultan Tekke; ProBA 2 Kition and Maroni) represents the maximum area of dispersed settlement in and around the actual excavated or surveyed areas.

Even if we discount size as a factor in determining a site’s politico-economic significance, location — and in particular a coastal location — must have assumed strategic as well as commercial importance (Merrillees 1992a, 316–19, 328). The variety and quantity of

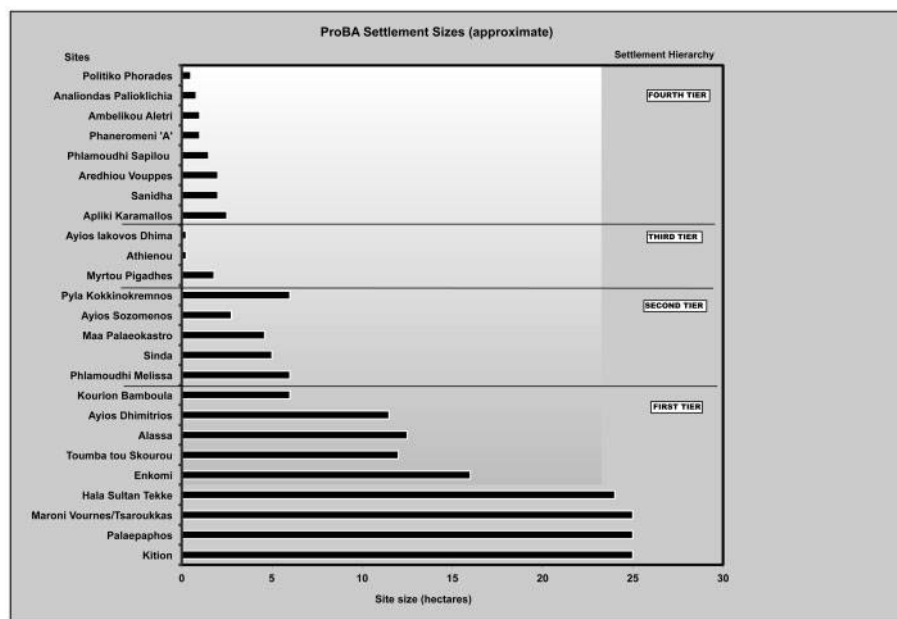
imported goods and local finished products found in the primary centres clearly distinguish them from the other three levels of the site hierarchy. The final stages of production in the coastal towns served an élite strategy to control the output and ensure the cooperation of the (fourth tier) agricultural, mining and pottery-producing villages; this in turn increased the rural sector’s dependence on specialized goods and services available only in the coastal towns. The primarily administrative secondary towns and the mainly ceremonial tertiary sites tend to be located at strategic nodes where centralized control could be exercised over the production or distribution of copper, agricultural products and imports or prestige goods. Thus they served as transshipment points where local resources and exchange articulated with the broader regional system.

Beyond settlement patterning, we must consider several other factors to gain a better understanding of the socio-political and ideological shifts that resulted in Cyprus’s rapid transformation from insular polity to international player, of how the economy expanded from a local, co-operative, village-based system (PreBA) to a more competitive, interregional, town-based enterprise (ProBA). Factors of mobility and transport, and issues related to connectivity and external communications also require consideration, as they would have impacted on any perceived or real social or spatial hierarchy. Within the ProBA 1 period, a major urban centre was established at Enkomi, arguably with a network of forts set up at critical transport junctures to ensure the direct procurement of copper ores (Peltenburg 1996, 30–35); eventually this surveillance system was replaced by more subtle, ideological sanctions expressed through ritual paraphernalia, the circulation of symbol-laden goods, and the elaborate monumental architecture that stands as a hallmark of most major ProBA 2 sites (Knapp 1988; 2009). Anyone who attempted to establish economic hegemony or cement socio-political alliances had to have the capacity to control access to resources in demand as well as the ability to direct economic relations within and beyond the island.

Connectivities

The site of Kalopsidha in the eastern *Mesaoria* evidently enjoyed extensive trade relations with the Levant, with privileged access to imported goods (Crewe 2010). Dated mainly to the ProBA 1 period (Gjerstad 1926, 269; Åström 1966, 9, 76), the dwellings at Kalopsidha were abandoned soon thereafter, although occupation in the area continued into the

Table 3 ProBA settlement sizes (approximate)



ProBA Cypriot sites

Size in hectares

<i>Politiko Phorades</i>	0.5
<i>Analiondas Palioklichia</i>	0.8
<i>Ambelikou Aletri</i>	1
<i>Phaneromeni 'A'</i>	1
<i>Phlamoudhi Sapilou</i>	1.5
<i>Aredhiou Vouppes</i>	2
<i>Sanidha</i>	2
<i>Apliki Karamallos</i>	2.5
<i>Ayios Iakovos Dhima</i>	0.25
<i>Athienou</i>	0.25
<i>Myrtou Pigadhes</i>	1.8
<i>Pyla Kokkinokremnos</i>	6
<i>Ayios Sozomenos</i>	2.75
<i>Maa Palaeokastro</i>	4.6
<i>Sinda</i>	5
<i>Phlamoudhi Melissa</i>	6
<i>Kourion Bamboula</i>	6
<i>Ayios Dhimitrios</i>	11.5
<i>Alassa</i>	12.5
<i>Toumba tou Skourou</i>	12
<i>Enkomi</i>	16
<i>Hala Sultan Tekke</i>	24
<i>Maroni Vournes/Tsaroukkas</i>	25
<i>Palaeapaphos</i>	25
<i>Kition</i>	25

early phases of ProBA 2 (c. 1450–1350 BC). The waning fortunes of this likely important site were probably linked to the foundation of nearby Enkomi at the outset of the ProBA 1 period (Crewe 2012, 232).

Only Enkomi offers a detailed archaeological record for the earliest phase of the ProBA. The copper that was produced on a significant scale in the Level IA and IB Enkomi 'fortress' (Dikaios 1969, 21–24; Kassianidou 2012, 97–98) is regarded as a major labour investment 'by a centralized authority intimately concerned with copper production' (Peltenburg

1996, 29; see also Muhly 1989, 299). Crewe (2007, 17–19, 156–57) has questioned Enkomi's primary role in producing copper for export during LC IA, arguing that north coast sites closer to the ore sources may have been involved. However, no known settlements are yet associated with the PreBA north coast cemeteries (e.g. *Vounos*, *Lapithos Vrysi tou Barba*); presumably those that were would also be PreBA in date and were never inhabited during the ProBA (some *Lapithos* tombs extend into MC III, but no later). In any case, as Peltenburg (1996, 31, emphasis added) pointed out, the desertion of those very same

north coast cemeteries, '[...] whose *earlier* prosperity was so closely linked with copper exploitation, mirrors the rise of Enkomi'. Enkomi's position thus was based in no small part on its ability to transport (across the island), produce and export copper in demand from the wider Mediterranean world.

Even if Crewe was referring to north coast sites contemporary with Enkomi (i.e. ProBA 1), her argument is puzzling. New sites were established along or near the north coast at Phlamoudhi *Melissa*, and perhaps near the cemetery at Kazaphani *Ayios Andronikos* (Smith 2008; Nicolaou and Nicolaou 1989). But the few bronze knives, daggers and rings, and bits of silver jewellery from the tomb chambers at Kazaphani *Ayios Andronikos* hardly compare to the amount of metal seen in some of the earlier north coast cemeteries. And the few known imports from Phlamoudhi *Melissa* (even fewer at Phlamoudhi *Vounari* — Horowitz, in Smith 2008, 78–79) offer little support for the notion that north coast sites 'closer to the ore sources' were involved in exporting copper, much less in any significant scale of production during the 16th–14th centuries BC.

Throughout the eastern Mediterranean during the Late Bronze Age, new levels of connectivity can be seen amongst Cyprus, the Levant, Egypt and the Aegean, and even farther afield (Knapp 1990b, 118–28). During the ProBA 1 period, Egyptian or Levantine pottery was imported in increasing amounts (e.g. Tell el-Yahudiyeh ware — Merrillees 2007; Syrian Red or Black Burnished and Plain wares — Georgiou 2009). Some ProBA 1 (MC III–LC I) tombs from Dromolaxia, Livadhia and Klavdhia in the island's south-east have yielded examples of Syrian and Egyptian pottery as well as Near Eastern cylinder seals (Keswani 2004, 124). Also imported at this time was some elaborate military equipment: maceheads, bronze 'warrior belts' and 'narrow-bladed shaft-hole axes'. Found in Cypriot mortuary contexts at Dhali *Kafkallia*, Politiko *Chomazoudhia*, Nicosia *Ayia Paraskevi*, Ayios Iakovos *Melia*, Klavdhia *Trimithios*, Kazaphani *Ayios Andronikos* and elsewhere (Masson 1976, 153–57; Keswani 2004, 80, 121–24), such items are common in Levantine burials (e.g. at Tell ed-Dab'a, Ugarit, Kültepe, Jerusalem, Jericho, Tell el-Far'ah North). Even if it is argued that such bronzes were produced locally, their indebtedness to Near Eastern prototypes is obvious (Philip 1991, 78–83; 1995).

Levantine and Near Eastern prototypes or ideas are also evident in equid burials from Politiko *Chomazoudhia* Tomb 3 (Buchholz 1973), Kalopsidha Tomb 9 and Lapithos Tomb 322B (Keswani 2004, 80). Both Courtois (1986) and Keswani (2004, 136) list several other imports that first appear during ProBA 1:

Syrian and Old Babylonian cylinder seals, faience ornaments, worked bone and ivory, ostrich eggs, gold jewellery and other precious metal objects, semi-precious stones — all potential markers of a new, élite status and identity. As already noted, several new vessel types of 'Levantine style' or 'Syrian inspiration' from Kalopsidha led Crewe (2010, 68) to suggest that the site enjoyed 'privileged access to imported goods and trade relations'.

Levantine maritime transport containers ('Canaanite jars') also begin to appear in Cyprus at this time, although it has proved difficult to identify the contexts or phases of their use (Crewe 2012). They have been identified more commonly in settlements than in cemeteries, and are found in secure, ProBA (MC III–LC I) settlement contexts at Nicosia *Ayia Paraskevi*, Arpera *Mosphilos*, Kalopsidha (26 examples, again highlighting the potential importance of this site), Korovia *Nitovikla*, Myrtou *Pigadhes* and Maroni *Vournes* (Crewe 2012, 229–32). A total of six transport containers have been found in ProBA 1 tombs at Arpera *Mosphilos*, Galinoporni, Kalavassos and Enkomi (Crewe 2012, 230, table 1). The quantity of 'Canaanite jars' found at Enkomi (31 examples), beginning in the LC I period, is seen by Crewe (2012, 232–33) as evidence for close links with the Levant, perhaps building on alliances established even earlier by people from Kalopsidha. During the ProBA overall, Canaanite jars are found at 19 different sites on Cyprus: these maritime transport containers facilitated the 'bulk' transportation of wine, olive oil and other organic goods, and formed part of a 'systematic' seaborne trade that began as early as the 3rd millennium BC in the Levant (Knapp and Demesticha n.d.), and spread widely throughout the Aegean and eastern Mediterranean by the mid-2nd millennium (most recently, Day *et al.* 2011).

At the same time, Cypriot pottery increasingly was exported to Egypt and the Levant. For example, a substantial number of Cypriot wares — White Painted (the majority), Red on Black, Black Slip, Red Slip, Red Polished, Bichrome, Plain White Handmade, Proto White Slip and White Slip — have been recovered at Tell ed-Dab'a in the eastern Nile Delta (Maguire 2009, 26–37). From Kom Rabia in Egypt (Memphis) come a Black Lustrous juglet handle, Red Lustrous sherds and a Base-ring I body sherd in an early 18th Dynasty context (Bourriau n.d.; 1987, 10–11). From Marsa Matruh in western Egypt, where the evidence also includes ProBA 2 material, the most frequently attested Cypriot wares are White Slip I and II hemispherical bowls, Base-ring I and II juglets, flasks and cups, and White Shaved ware juglets; there are a few examples of

Monochrome, Red Lustrous, Bichrome Wheelmade and Plain Ware jars (Russell, Hulin, in White 2002, 8–15, 28–38).

Cypriot wares of the ProBA 1 period are also widely distributed in both settlement and mortuary contexts along the Levantine coast, from Alalakh (Tell Atchana) and Ugarit (Ras Shamra) in the north to Ashkelon and Tell el-‘Ajjul in the south (Pilides 2000, 51; Bergoffen 2005; Maguire 2009, 22, fig. 2a, 47–66). A White Painted V jar recently recovered in Middle Bronze IIC levels during continuing excavations at Alalakh further exemplifies this trend (Yener 2012, 162–63, fig. 17-2). Other recent finds include a large quantity of White Painted Cypriot pottery recovered from a Middle Bronze IIB/C (c. 1700 BC) tomb at Tell Tweini in Syria (Bretschneider and Van Lerberghe 2011, 186–87, fig. 2). From Tell Kazel near the Syrian coast, where 75% of all imports are LC pottery types, the earliest level (Phase 6) contains several (the number is unstated) White Slip I, Base-ring I, White Shaved, Monochrome and Red Lustrous wares (Badre 2011, 206–09, fig. 1). Cypriot pottery assemblages found in several sites in the Levant and Egypt are dominated by narrow-necked jugs and juglets, which Maguire (2009, 53, 61 fig. 21) regards as ‘precious commodity containers’ for perfumed oils. New types of Cypriot wares — Base-ring, Red Lustrous, White Slip — eventually replaced the older exports, but small jugs and juglets continued to appear (Maguire 2009, 62–64, figs 22–23).

A few Late Minoan I and Late Helladic I–II imports (16th–15th centuries BC) arrived on Cyprus from the Aegean during ProBA 1; they are found mainly in the north-west at Morphou *Toumba tou Skourou* and Ayia Irini *Paleokastro* (Pecorella 1973; Vermeule and Wolsky 1990, 381–85). The return trade is represented in part by Cypriot imports found at Kommos on Crete. The earliest materials there, from late Middle Minoan contexts, include fragments from a Middle Cypriot, White Painted IV Cross Line Style jug, a ‘large Cypriot flask’ and ‘many more fragments of Cypriot pottery from soundings’ (Shaw 1998, 13–14, 23, and fig. 1; Rutter 2006, 653–58). Cline (1994, 64, table 37) lists 19 Cypriot objects in Late Minoan or Late Cycladic I/II contexts on Crete, Rhodes and the Cycladic islands, whereas Portugali and Knapp (1985, 77–78) tallied 27 objects of MC III–LC I date in Greece and on Crete, Rhodes and the Cyclades. Although these numbers, beyond being inconsistent, are not necessarily significant in terms of trade, they nonetheless demonstrate a remarkable increase over the single Cypriot vessel at Knossos

known from the PreBA 2 period (Catling and MacGillivray 1983).

Élite groups on ProBA 1 Cyprus adopted and assimilated many objects of foreign origin and various aspects of foreign technology. Several gold, metal, ceramic or stone objects found in tombs at Enkomi and dated LC IB–LC IIA — all items of ‘high iconographic content, decorated with ‘cosmic symbols’, hieroglyphs, Cypro-Minoan signs and other images — indicate some association with or manipulation of Near Eastern political ideologies (Keswani 1989, 68, 70). Crewe (2012, 238) suggests that the adoption of foreign goods and symbols on Cyprus was variable: some aspects were short-lived (warrior burials); some were taken up in different use contexts from those where they originated (seals); and some seem to have slotted into the existing Cypriot practices (Canaanite jars, juglets). Although she thus rightly insists on the impact that diverse foreign materials made in transforming Cypriot society at this time, Crewe suggests that it is impossible to pinpoint any specific time period during which they occurred. However, all the objects discussed here (and by Crewe) turn up in ProBA 1 contexts. They are stylistically and iconographically distinct from anything previously seen on Cyprus, and reflect a conscious strategy of consumption geared to enhance elite status and authority. They served not only to signal the social identity of the ruling elite but also to legitimize new power relations within Cypriot society (Keswani 2004, 136–39, 157). The natural circumscription of the island of Cyprus, with a fixed amount of arable land but a metal resource in constant demand throughout the Late Bronze Age eastern Mediterranean, ensured the concentration of power, production facilities and exchange transactions lay in the hands of an overarching political authority.

Discussion: Social Organization and the ‘Secondary State’

[...] the data examined during the course of this study [on ritual architecture, iconography and practice in the LC period] supports the island-wide polity or archaic state model for the first half of the Late Bronze Age. Secondary state formation in Cyprus appears to have been a relatively abrupt transition, wherein previously weakly stratified communities were propelled into statehood through contact with existing states outside the island. The principal catalyst was undoubtedly long-distance trade [...] (Webb 1999, 307; emphasis added)

Another problem with the absolutist model of secondary state formation in the Cypriot context is the end state of state formation. While not everyone agrees with me, I have argued that it is very difficult to discern the presence of a unified,

islandwide polity in Cyprus at any time during the Late Bronze Age [...]. It seems likely that there were a number of largely independent, variably competitive and collaborative polities throughout the island, with differing configurations of internal organisation and variable systems of regional exchange involving wealth and staple finance. (Keswani 2007, 514)

These two quotes exemplify well the divergent views of the transformation seen in the material and spatial record at the onset of the ProBA, and how it has been attributed to somewhat contradictory processes: e.g. secondary state formation (and urbanization); heterarchical or peer polities; a 'devolved authority' exercised by patrimonial households (e.g. Webb 1999, 305–08; 2005; Keswani 1996; 2007; Peltenburg 1996; 2012; Knapp 2008, 144–59, 324–41). In what follows, and in order to present a coherent discussion of the ProBA 1 period, it is necessary at times to incorporate material or interpretations from the subsequent, ProBA 2 period (the dating is always expressed explicitly).

In line with the current study, and basing his position largely on the material from Enkomi, Peltenburg (1996, 27–28) once argued for the rapid emergence during the ProBA 1 period of a secondary state modelled on the western Asiatic political systems surrounding Cyprus. In his view, Enkomi's status relied upon copper ore sources that lay almost 60 km inland. As already mentioned, in order to secure the transport of ores from the mining districts to their final processing and export point (Enkomi), some sort of transportation infrastructure would have been necessary. Thus whoever controlled production at Enkomi also secured the movement of ores through a network of forts within the *Mesaoria*, all of which were instrumental in the rise of Enkomi as a 'secondary state' and the attempt to stabilize its economic bases of power (Peltenburg 1996, 31–35, fig. 4). More recently, Peltenburg (2008) has pointed to similarities between the Cypriot forts at Korovia *Nitovikla* and Dhali *Kafkallia*, and the fortified compound at Tell el-Burak in Lebanon (Sader and Kamlah 2010); he suggested that those responsible for building the Cypriot forts were emulating mainland behaviour, both before and during the process of secondary state formation that took place at Enkomi.

Webb (1999, 305–08), as the passage quoted above indicates, argued that the patterned use and display of imported luxury goods and ideologies, aspects of monumental architecture and mortuary practices were used by emerging élites as 'political currency' to

construct a new identity, and to establish and legitimize status differences as well as a 'socially coercive ideology' almost wholly derived from external sources. This conclusion was based on a monograph rich in data on 'ritual' architecture (and the interior 'furnishings'), pottery, terracottas, metals, precious materials (ivory, faience, glass, alabaster, ostrich eggs), seals and sealings, as well as detailed iconographic analyses.

Some specialists seeking to understand the emergence of the state on protohistoric Cyprus would agree that whilst Enkomi may have risen to prominence in ProBA 1, it was marginalized by other, regional, heterarchical polities during the 14th–13th centuries BC, or ProBA 2 (e.g. Stech 1985, 112–13; Smith 1994, 33–36; Keswani 1996, 234, 236–37; 2007; see also Steel 2004, 181–86). In Keswani's (2004, 154–57) view, these competing factions would have formed initially during the ProBA 1 period in order to gain access to copper resources or to control transport and trade critical to their own polities. In coastal centres like Enkomi, *Toumba tou Skourou*, Hala Sultan Tekke and perhaps Kition, diverse if not competing élite groups from communities near and far converged at a locale advantageous for exploiting foreign trade. Conversely, at inland and/or southern centres that had long sequences of prior occupation — e.g. Maroni, *Ayios Dhimitrios* and *Alassa Paleotaverna* — a more organized, élite 'urban' group, without political or economic peers, was established. In other words, Keswani sees variation in socio-political organization within different regions of the island, with a hierarchical social system operating in the south and a more heterarchical system in the east and far west.

Another group of specialists sees some level of centralized, hierarchical socio-political authority at work throughout the ProBA (e.g. Muhly 1989; Webb 1999; 2005; Knapp 2008, 144–59, 324–41). Webb (1999, 305–08; 2005, 18) first proposed an 'archaic state' model based on her interpretation of seal iconography, the use of Base-ring bull rhyta in mortuary ceremonies and of standardized female terracotta images in settlement and mortuary contexts, from the late ProBA 1 period (15th century BC) onward. She emphasized in particular the role of seals, with motifs (presentation scenes, horned divinities, royal animals like lions and griffins) drawn from Near Eastern cosmologies related to kingship. The common symbolic elements on these seals may also represent expressions of centralized power and prestige (Webb 1999, 307).

Although she draws mainly on materials from the ProBA 2 period, Webb (2005, 180–81) argues along

the lines developed in this study that secondary state formation emerged rapidly on Cyprus, triggered by direct contact with overseas polities and motivated by the export of Cypriot copper as well as the import of foreign prestige goods. It should be noted that Keswani (1996; 2004) also regards the emulation of Near Eastern ideologies of kingship as a key structuring principle in the emergence of more complex forms of socio-political organization on ProBA Cyprus (see also Knapp 1998; 2006). Webb (2005, 181) suggests that these symbols of a foreign political ideology gave Cypriot élites a 'blueprint' for domination. I have also argued recently that a single unified polity emerged on the island no later than the 14th century BC, headed by a *šarru* ('king') of the dominant élite group, perhaps with a *rābiṣu* ('senior prefect') as second-in-command (Knapp 2008, 335–41).

Yet another group of specialists views the socio-political organization of ProBA Cyprus as neither strictly heterarchical or hierarchical. Merrillies (1992a), for example, argued that economic rather than political élites dominated the administrative organization of ProBA Cyprus. Rejecting any notion of a unified state, he suggested that autonomous settlements differentiated by size, wealth and extent of commercial activities dominated different parts of the island. Manning and DeMita (1997, 107–09) proposed another, economic alternative: independent, entrepreneurial foreign merchants were responsible for organizing production and distribution in each region. They see no evidence for bureaucrats, élite iconography or any dominant ideology on ProBA Cyprus. Given Cyprus's size, ecological and resource diversity, and the presence of several potential ports where trade could be controlled, they argued it would be difficult for a centralized authority to emerge on the island. Thus any (paramount) 'king' of Cyprus would only have held nominal control over independent, regional élite groups, a pattern they see as rooted in the structural history of Late Bronze Age Cyprus. In their view, a foreign merchant class linked directly to various regional polities served as 'brokers' for Cypriot commodities in demand abroad and in return provided the foreign prestige goods that local rulers needed to maintain and legitimize their authority.

More recently, Peltenburg (2012) has revisited the notion of an archaic state, and in so doing taken up several points raised by Manning and DeMita (1997, 106–13). He suggests that various (patrimonial) households exercised a kind of 'devolved authority' in different parts of ProBA 2 Cyprus, but were united under a *primus inter pares* (i.e. the *šarru*, or 'king')

who directed foreign affairs, especially trade relations. He sees a conflict between documentary evidence that portrays *Alaṣiya* as comparable to other western Asiatic states, and a material record that lacks the paraphernalia of formal governmental institutions. Like Keswani, and Manning and DeMita (1997, 109), Peltenburg maintains that some material signs of a state hierarchy (e.g. a palace) are missing on Cyprus, along with the dynastic paraphernalia and ideological symbolism that characterized centrally administered polities in the Levant and western Asia. These were polities with which Cyprus was well connected, and through which it was, presumably, deeply influenced.

Even so, the fact that Cyprus enjoyed multiple economic connections with and appropriated diverse symbolic elements from Levantine, Near Eastern or Aegean polities does not mean that it must share equally their materialities. Throughout the prehistoric and earlier protohistoric periods, the material culture of Cyprus was always demonstrably different from that of the surrounding polities. By over-emphasizing Cyprus's differences with other cultures and societies of the Mediterranean and Near East, we lose the internal perspective (see further below, on the 'late' emergence of social complexity on Cyprus). Whilst Peltenburg discounts the possibility that Cyprus's always-different material culture is reflective of a 'centrally administered state', he nonetheless emphasizes that documentary evidence from the same kinds of states appears to recognize such a polity on Cyprus. Whilst there is certainly a 'disjuncture' between the documentary and material evidence, it is no more and no less than that seen in other, similar protohistoric contexts (Knapp 1992, 84–85).

More specifically, Peltenburg (2012) argues (1) that seals without sealings are only equivocal signs for a centralized administration, and (2) that ashlar masonry and monumental complexes, and objects or images like bull rhyta and female terracotta figurines, the regular depictions of deities and other imagery on prestige goods, etc., do not form a solid basis on which to argue for the existence of a secondary state on Cyprus. Whilst not disputing that such materials may represent an élite status and a shared, complex social identity, he does not think they provide any insights into the socio-political organization of ProBA Cyprus. His position stands in stark contrast with the much more detailed work on the same subject by Webb (e.g. 1999, 307; 2002), who highlighted the role of seals bearing motifs drawn from Near Eastern cosmologies related to kingship, and argued that their common symbolic elements

could well have served not just as expressions of centralized power and prestige but also as (highly mobile) devices that could serve as mechanisms for organizational control.

It should also be emphasized that several monumental structures on ProBA 2 Cyprus — e.g. Buildings II and III at Alassa *Paleotaverna*, Building X at *Ayios Dhimitrios*, and the ‘Ashlar Building’ at Maroni *Vournes* — could have served various functions elsewhere regarded as ‘palatial’ in nature. For example, their large formal hearths, ashlar masonry, grand entryways and courts, and sunken constructions provide direct material evidence for social gatherings, feasting activities and ritual performances — all basic elements in creating monumental places and promoting social occasions that helped to legitimize new elite groups when unequal power relations came to be institutionalized (Fisher 2009, 190–95, 200–01).

One must also question how a ‘devolved’ authority such as Peltenburg proposes could command all the necessary resources to mine, smelt and refine, and export the 900+ copper oxhide ingots recorded in the Amarna letters. If we take an average weight of 28 kg for an oxhide ingot (Knapp 2008, 309–10, 312–13), then over the period of no more than 50 years to which the Amarna correspondence belongs a total over 25,000 kg of copper reached Egypt from Cyprus (on average, 500 kg per year). Moreover, lead isotope analysis has shown that the 10+ tons of copper found on the Uluburun shipwreck were consistent with production from Cypriot ores (Pulak 2008, 291–92): if this is correct, we have a material counterpart of the Amarna documentary evidence, both of which demonstrate the organizational and productive capacity of ProBA 2 Cyprus. This scale of production for export would have required the mobilization of a specialized workforce whose subsistence needs were met through the labour of others equally well integrated into the overall system.

These arguments could be continued, and countered, on both sides, and no doubt will be. The dilemma here, however, and one unlikely to be resolved any time soon, is the inherent ambiguity in the material record and the way different archaeologists understand the same or very similar aspects of materiality. As Parkinson (2010, 17) recently put it: ‘one researcher’s bric-a-brac is another researcher’s state sponsored voyage’. Clearly, Peltenburg (2012) takes a minimalist view, whilst my own position may be regarded as maximalist (discussed further in Knapp 2013). Thus we arrive at an impasse, but one that in any case takes us too far beyond the target period of this study, ProBA 1.

Finally, it is important here to address once again the often-repeated question of why a complex, socially stratified society emerged later on Cyprus than it did in the polities of the surrounding regions, in particular those of the Levant and the Aegean. Panagiotopoulos (2011, 37), for example, recently stated: ‘It’s rather hard to explain why Cyprus, a large island, very centrally located in the Eastern Mediterranean web of cultural exchange and possessing the richest copper resources, only made the decisive step to a high culture some centuries later than Minoan Crete’. Similarly, Adams (2010, 4) asks why the Minoans advanced to statehood 400 years before the Cypriots, with their access to natural resources in demand and their location at a ‘maritime crossroads’. Neither study offers anything approaching a satisfactory answer, although Panagiotopoulos at least has his finger on the pulse of the ‘stirring’ sea.

This is not such a difficult question to answer, if one does not attempt to view the situation on Cyprus wearing Aegean, Anatolian or Levantine blinders. Social, cultural and material culture developments on Cyprus are too often regarded as timeless processes, interrupted at crucial junctures by invasions, migrations and/or the ‘stimulation’ seen as essential for innovations or the reversal of cultural stagnation (e.g. Catling 1979). Thus social developments and economic change are inevitably associated with external forces, themselves based in scholarly preconceptions that anticipate Aegean or Near Eastern cultural influences. Accordingly, I have considerable sympathy with a statement made long ago by Merrillees (1975, 37), to which in fact Catling (1979) was reacting:

Cypriote historiography, particularly of the Bronze Age, has been afflicted by and suffered from an invasion syndrome [...] [W]hile the reality of certain foreign interventions is undeniable, due recognition and weight must be given their political, social and cultural complexity before the history of Cyprus, at least during the Bronze Age, can be seen in its proper light.

Throughout and beyond its prehistory, Cypriot material culture contrasts repeatedly and markedly with that of the surrounding regions. Apart from the inevitable first occupation episodes during its earliest prehistory (Knapp 2010), or a possible ‘colonization’ during the Aceramic Neolithic, there is limited evidence for foreign contacts until the Bronze Age, after about 2500/2400 BC. This perceived isolation may be linked to the nature of insularity or, more likely, to the way our interpretations stem from the problematic concept that islands are self-sustaining

systems, to be understood primarily in their own terms. Thus it is essential to investigate Cypriot prehistory in terms of internal developments and change, rather than with expectations that follow from developments in the surrounding regions. Even so, the discontinuities seen in the Cypriot archaeological record equally demand that we consider internal developments within the context of the wider eastern Mediterranean and Aegean worlds.

It must also be noted that because Cyprus's copper ore deposits are sulphidic (not oxidic) in nature, their exploitation came late in comparison with neighbouring regions. As the technology of treating these sulphide ore deposits became more proficient (it was already known in the Prehistoric Bronze Age if not Late Chalcolithic — Peltenburg 2011; Knapp 2012), Cyprus emerged as one of the most important sources of copper throughout the Mediterranean (Constantinou 1982, 18–22; 1992, 59–69).

It is not inaccurate to state that various aspects of complexity so characteristic of the surrounding regions — urban centres, palatial institutions, extensive inter-regional trading networks, and developed systems of writing — had little impact on Cyprus before the 17th century BC, notwithstanding the island's central location amongst all those polities. Cherry (1984; 2009), however, has pointed out that 'gradualist' approaches (e.g. 'peer polity interaction') cannot account for the sudden efflorescence of complex social systems in polities that previously exhibited no such signs in their material records. Moreover, certain social and environmental constraints may set ceilings on socio-political intensification. In south coastal Papuan society, for example, certain new inputs related to an expanding population and increased production and exchange prompted some cultural innovations but never led to structural changes in society (Allen 1984; see further references and discussion in Knapp 1986, 46–49; see also Knapp 1989).

In the villages of prehistoric Cyprus, where either a household- or village-based mode of production prevailed, similar constraints may have operated. Cypriote metalsmiths, for example, seem to have been extremely conservative and barely altered their production methods throughout the PreBA (Swiny 1982, 73–74). Demand from an increasingly extensive exchange system, the local Cypriot reaction to that demand, and the material and social consequences of participating in that system were certainly crucial factors in the easing of socio-economic constraints, and in the emergence of a new, more complex, social and economic reality on Cyprus.

Conclusions

Unlike the situation that prevailed with respect to Cyprus's archaeological record 25 years ago, today we have the final publication of three PreBA 2 sites and several cemeteries, and preliminary reports from other, ongoing field projects. From all this new evidence, it is clear that no regional or town centres dominated or received agricultural surpluses from people living in the stable, well integrated and most likely interdependent, essentially egalitarian agropastoral communities that typify the PreBA 2 landscape. The notable changes in mortuary practices, and in particular the quantity and quality of grave goods, including a surfeit of copper objects and more limited numbers of imports, may well point to social changes that involved the veneration of ancestors and/or the negotiation of social identities. There is no indication, however, that these practices resulted in the institutionalization of social inequalities.

Whilst we remain ignorant of the true extent of the external trade in metals during the PreBA, there is little doubt that copper remained a scarce and thus a valued resource throughout this period. Growing demand from both within and beyond the island, however, must have resulted in the increased production of copper. This intensified level of copper production to meet 'ceremonial demand' during the PreBA may well have set the stage for the transformations in copper production and exchange that is apparent at the onset of the ProBA (Keswani 2005, 391). Nonetheless, the known number of goods imported to Cyprus during the PreBA suggests that long-distance trade was sporadic rather than intensive and systematic.

Most scholars who have studied Bronze Age Cyprus at any serious level would probably agree that the involvement of PreBA élites in social and material exchanges within and beyond the island led to changes in social organization and structure (e.g. Peltenburg 1993, 20; Manning 1993, 46; Keswani 2005, 382–84; Webb 2009a, 261–64). Although such élites may have assumed a focal position in PreBA society, it was not until the onset of the ProBA 1 period that we see a quantum leap in all aspects of material and social practices, from the use of writing (Cypro-Minoan script), to the intensification of copper production and export, to a diverse range of prestigious imported goods and ultimately to the establishment of urban centres with monumental architecture.

New port towns oriented toward the connecting sea were established along the coasts of Cyprus by

élites eager to promote politico-economic and ideological alliances with overseas polities in Egypt, the Levant and the Aegean. Even during the ProBA 1 period, these included several of the best-known sites of the Late Bronze Age: Enkomi, Hala Sultan Tekke, Episkopi, Kouklia and *Toumba tou Skourou*. Although it is impossible to demonstrate a site hierarchy during ProBA 1, a four-tiered settlement system seems clear by the beginning of the 14th century BC.

A major urban centre was established at Enkomi during ProBA 1, with a network of forts set up at critical junctures to ensure direct procurement of copper ores. Enkomi's position at this time was based in no small part on its ability to mine, transport, produce and export copper in demand from the wider Mediterranean world. In addition, Enkomi provides remarkable evidence for the uninterrupted production of copper throughout the ProBA period (Kassianidou 2012), and beyond that for the emulation and consumption of imported prestige goods from the Levant and Egypt (Keswani 1989; 2004; Peltenburg 1996, 35–36). Several gold, metal and stone objects from Enkomi reveal a 'cosmic symbolism' closely associated with western Asiatic political ideologies. Distinct from anything previously seen on Cyprus, such 'things' would have enhanced elite status and authority, legitimized new power relations and signalled the ruling elite's social identity. Even if the preponderant use of the Cypro-Minoan script at Enkomi, which began there in the ProBA 1 period, is the (biased?) result of extensive archaeological excavations at the site, the fact remains that the use of writing is widely regarded as a key factor in establishing socio-political power and thus in the emergence of a 'complex society' (Ferrara 2012, 29–30, 267–68; see also Goody 1986; Lamberg-Karlovsky 2003). Moreover, Enkomi also has the only claim to being a centre of glyptic production throughout the ProBA. Its abundant seals (some 200 cylinder seals; several stamp and signet rings) and the symbolism that enlivens them almost certainly served as mechanisms for ideological and organizational control (Webb 2002, 139–40).

All this evidence represents the punctuated emergence rather than the gradual evolution on Cyprus of a centralized, hierarchical, socio-political organization that can be defined as a secondary state. (I use the terms 'punctuated' and 'gradual' in the sense of evolutionary biologists — e.g. Gould and Eldridge 1977; 1993; see also Gould 1986. Gradualism and punctuated equilibrium represent two ways in which species evolve: those that evolved rapidly did so

mostly through punctuated equilibrium; those that did so over a longer span of time evolved mostly through gradualism.) The élites who ruled at Enkomi not only seem to have established their dominant position over the internal production and external distribution of copper within a very brief period of time, but also had direct access to overseas markets and the prestige goods that first appeared on the island during ProBA 1. These connectivities with the Levant, Egypt and the Aegean ultimately enabled them to establish and legitimize their position of power on Cyprus (Knapp 1998; 2006). The polity they established would last throughout the remaining 500 years of the Bronze Age, if not into the early centuries of the Iron Age.

Exactly why this transformation occurred will continue to be a point of debate, but there is no longer any question of how or when it occurred. During an archaeological 'moment of change' that began around 1750/7000 cal BC and lasted little more than a century, there is a wide range of sound evidence for dramatic changes in the Cypriot archaeological record: urban centres with public and ceremonial architecture, Cypro-Minoan writing, differential burial practices, fortifications, the intensification of metallurgical production and export, extensive and wide-ranging trade relations with the surrounding cultures of the eastern Mediterranean. All these factors have been well studied and widely scrutinized elsewhere: here they simply provide the final exclamation point.

Acknowledgements

I wish to thank James Muhly, Jennifer Webb, Priscilla Keswani, Lindy Crewe and an anonymous *Levant* referee for reading and commenting on an earlier draft of this study. Thanks also to Luke Sollars for producing the maps (Figs 1 and 2).

Bibliography

- Adams, E. (2010) Centrality, 'capitals' and prehistoric cultures: a comparative study of Late Bronze Age Crete and Cyprus. *Cambridge Classical Journal* 56: 1–46.
- Allen, J. (1984) Pots and poor princes: a multi-dimensional approach to the role of pottery trading in coastal Papua. Pp. 407–63 in S. E. van der Leeuw and A. Pritchard (eds), *The Many Dimensions of Pottery*. Cingula 7. Amsterdam: van Giffen Instituut.
- Åström, P. (1966) *Excavations at Kalopsidha and Ayios Iakovos in Cyprus*. Studies in Mediterranean Archaeology 2. Lund: P. Åström's Förlag.
- Badre, L. (2011) Cultural interconnections in the eastern Mediterranean: evidence from Tell Kazel in the Late Bronze Age. Pp. 205–23 in K. Duistermaat and I. Regulski (eds), *Intercultural Contacts in the Ancient Mediterranean*. Orientalia Lovaniensia Analecta 202. Louvain: Peeters.
- Balthazar, J. W. (1990) *Copper and Bronze Working in Early through Middle Bronze Age Cyprus*. Studies in Mediterranean Archaeology and Literature, Pocket-book 84. Göteborg: P. Åström's Förlag.
- Belgiorno, M. R. (2000) Project 'Pyrame' 1988–1999: archaeological, metallurgical and historical evidence at Pyrgos (Limassol). *Report of the Department of Antiquities, Cyprus*, 1–17.

- (2004) *Pyrgos-Mavroraki: Advanced Technology in Bronze Age Cyprus*. Nicosia: Theopress Ltd.
- , Ferro, D. and Loepp, D. R. (2012) *Pyrgos-Mavroraki* in Cypriot metallurgy. Pp. 26–34 in V. Kassianidou and I. G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC*. Oxford: Oxbow.
- Bergoffen, C. (2005) *The Cypriote Bronze Age Pottery from Sir Leonard Wolley's Excavations at Alalakh (Tell Atchana)*. Contributions to the Chronology of the Eastern Mediterranean 5. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Betancourt, P. P. (1998) Middle Minoan objects in the Near East. Pp. 5–12 in E. H. Cline and D. Harris-Cline (eds), *The Aegean and the Orient in the Second Millennium*. Aegaeum 18. Liège: Université de Liège.
- Bombardieri, L. (2010a) Surveying the Kourion land: Kouris valley survey and preliminary excavations at Erimi-Laonin tou Porakou (2007–2008 seasons). Pp. 33–52 in A. M. Jasink and L. Bombardieri (eds), *Researches in Cypriote History and Archaeology*. Firenze: Firenze University Press.
- (2010b) Excavations at Erimi-Laonin tou Porakou: 2009 Preliminary Report. *Report of the Department of Antiquities, Cyprus*, 139–68.
- , Fossataro, D., Menozzi, O. and Jasink, A. M. (2009) The Kouris Valley Survey Project: 2008 preliminary report. *Report of the Department of Antiquities, Cyprus*, 117–29.
- , Scirè Calabrisotto, C., Albertini, E. and Chellazi, F. (2011) Dating the contexts (or contextualising the dating?): new evidence from the southern cemetery at Erimi-Laonin tou Porakou (EC–LC I). *Cahiers du Centre d'Études Chypriotes* 41, 87–108.
- Bourriau, J. (1987) Kom Rabi'a (Memphis). *Bulletin de Liaison du Groupe Internationale d'Étude de la Céramique Égyptienne* 12, 10–11. Cairo: Institut Français d'Archéologie Orientale du Caire.
- (n.d.) Aegean pottery from stratified contexts at Memphis, Kom Rabia. Unpublished ms in possession of the author.
- Bretschneider, J. and Van Lerberghe, K. (2011) The Jebel Plain through history: Tell Tweini and its intercultural contacts in the Bronze and Early Iron Age. Pp. 183–203 in K. Duistermaat and I. Reguluski (eds), *Intercultural Contacts in the Ancient Mediterranean*. Orientalia Lovaniensia Analecta 202. Louvain: Peeters.
- Bronk Ramsey, C., Dee, M. W., Rowland, J. M., Higham, T. F. G., Harris, S. A., Brock, F. A., Quiles, A., Wild, E., Marcus, E. S. and Shortland, A. J. (2010) Radiocarbon-based chronology for Dynastic Egypt. *Science* 328, 1554–57.
- Buchholz, H.-G. (1973) Tamassos, Zypern, 1970–1972. *Archäologischer Anzeiger* (1973: 3), 295–388.
- Burns, B. E. (2010) *Mycenaean Greece, Mediterranean Commerce, and the Formation of Identity*. Cambridge: Cambridge University Press.
- Catling, H. W. (1962) Patterns of settlement in Bronze Age Cyprus. *Opuscula Atheniensia* 4, 129–69.
- (1979) Reflections upon the interpretation of the archaeological evidence for the history of Cyprus. Pp. 194–205 in V. Karageorghis (ed.), *Studies Presented in Memory of Porphyrios Dikaios*. Nicosia: Lion's Club.
- (1991) Bronze Age trade in the Mediterranean: a view. Pp. 1–13 in N. H. Gale (ed.), *Bronze Age Trade in the Mediterranean*. Studies in Mediterranean Archaeology 90. Göteborg: P. Åström's Förlag.
- and MacGillivray, J. A. (1983) An Early Cypriot II vase from the palace at Knossos. *Annual of the British School at Athens* 78, 1–8.
- Cherry, J. F. (1983) Evolution, revolution and the origins of complex society in Minoan Crete. Pp. 33–45 in O. Krzyszkowska and L. Nixon (eds), *Minoan Society*. Bristol: Bristol Classical Press.
- (1984) The emergence of the state in the prehistoric Aegean. *Proceedings of the Cambridge Philological Society* 210, 18–48.
- (2009) Sorting out Crete's prepalatial off-island interactions. Pp. 107–40 in W. A. Parkinson and M. L. Galaty (eds), *Archaic State Interaction: The Eastern Mediterranean in the Bronze Age*. Santa Fe, New Mexico: SAR Press.
- Cline, E. H. (1994) *Sailing the Wine-Dark Sea: International Trade and the Late Bronze Age Aegean*. British Archaeological Reports, International Series 591. Oxford: Archaeopress.
- Coleman, J. E., Barlow, J. A., Mogelonsky, M. and Scharr, K. W. (1996) *Alambrá: A Middle Bronze Age Site in Cyprus*. Investigations by Cornell University, 1975–1978. Studies in Mediterranean Archaeology 118. Jonsered: P. Åström's Förlag.
- Constantinou, G. (1982) Geological features and ancient exploitation of the cupriferous sulphide orebodies of Cyprus. Pp. 3–24 in J. D. Muhly, R. Maddin and V. Karageorghis (eds), *Early Metallurgy in Cyprus, 4000–500 BC*. Nicosia: Pierides Foundation.
- (1992) Ancient copper mining in Cyprus. Pp. 43–74 in A. Marangou and K. Psillides (eds), *Cyprus, Copper and the Sea*. Nicosia: Government of Cyprus.
- Courtois, J.-C. (1986) A propos des apports orientaux dans la civilisation du Bronze Récent à Chypre. Pp. 69–87 in V. Karageorghis (ed.), *Cyprus between the Orient and Occident*. Nicosia: Department of Antiquities.
- Crewe, L. (2007) *Early Enkomi. Regionalism, Trade and Society at the Beginning of the Late Bronze Age on Cyprus*. British Archaeological Reports, International Series 1706. Oxford: Archaeopress.
- (2010) Rethinking Kalopsidha: from specialisation to state marginalisation. Pp. 63–71 in D. Bolger and L. C. Maguire (eds), *The Development of Pre-State Communities in the Ancient Near East*. BANEA Publication Series 2. Oxford: Oxbow.
- (2012) Beyond copper: commodities and values in Middle Bronze Cypro-Levantine exchanges. *Oxford Journal of Archaeology* 31, 225–43.
- Day, P. M., Rutter, J. B., Quinn, P. S. and Kilikoglou, V. (2011) A world of goods: transport jars and commodity exchange at the Late Bronze Age harbor of Kommos, Crete. *Hesperia* 80, 511–58.
- Dikaios, P. (1940) *The Excavations at Vounous-Bellapais in Cyprus, 1931–2*. Archaeologia 88. Oxford: Society of Antiquaries of London.
- (1946) Early Copper Age discoveries in Cyprus, 3rd millennium BC copper mining. *Illustrated London News* (2 March 1946): 244–45.
- (1969–71) *Enkomi. Excavations 1948–1958*. Vols 1–3. Mainz-am-Rhein: Philip von Zabern.
- Driessan, J. and Frankel, D. (2012) Minds and mines: settlement networks and the diachronic use of space on Cyprus and Crete. Pp. 61–84 in G. Cadogan, Iacovou, M., Kopaka, K. and Whitley, J. (eds), *Parallel Lives: Ancient Island Societies in Crete and Cyprus*. British School at Athens, Studies 20. London: British School at Athens.
- Dunn-Vaturi, A.-E. (2003) *Vounous, C. F. A. Shaeffer's Excavations in 1933. Tombs 49–79*. Studies in Mediterranean Archaeology 130. Jonsered: P. Åström's Förlag.
- Falconer, S. E., Fall, P. L., Hunt, J. and Metzger, M. C. (2005) Agrarian settlement at Politiko Troullia, 2008. *Report of the Department of Antiquities, Cyprus*, 183–98.
- Falconer, S. E., Fall, P. L., Hunt, J. and Metzger, M. C. (2010) Agrarian settlement at Politiko Troullia, 2008. *Report of the Department of Antiquities, Cyprus*, 183–98.
- Fall, P. L., Falconer, S. E., Horowitz, M., Hunt, J., Metzger, M. C. and Rytter, D. (2008) Bronze Age settlement and landscape of Politiko Troullia, 2005–2007. *Report of the Department of Antiquities, Cyprus*, 183–208.
- Feldman, M. H. (2010) Object agency? Spatial perspective, social relations, and the Stele of Hammurabi. Pp. 193–200 in S. R. Steadman and J. C. Ross (eds), *Agency and Identity in the Ancient Near East: New Paths Forward*. London: Equinox.
- Ferrara, S. (2012) *Cypro Minoan Inscriptions 1: Analysis*. Oxford: Oxford University Press.
- Fisher, K. D. (2009) Elite place-making and social interaction in the Late Cypriot Bronze Age. *Journal of Mediterranean Archaeology* 22, 183–210.
- Frankel, D. and Webb, J. M. (1996) *Marki Alonia: An Early and Middle Bronze Age Town in Cyprus. Excavations 1990–1994*. Studies in Mediterranean Archaeology 123.1. Jonsered: P. Åström's Förlag.
- (2006) *Marki Alonia: An Early and Middle Bronze Age Settlement in Cyprus. Excavations 1995–2000*. Studies in Mediterranean Archaeology 123.2. Sävedalen: P. Åström's Förlag.
- (2007) *The Bronze Age Cemeteries at Deneia in Cyprus*. Studies in Mediterranean Archaeology 135. Sävedalen: P. Åström's Förlag.
- (2012) Pottery production and distribution in prehistoric Bronze Age Cyprus. An application of pXRF analysis. *Journal of Archaeological Science* 39, 1380–87.
- Georgiou, G. (2007) *The Topography of Human Settlement in Cyprus in the Early and Middle Bronze Ages*. Unpublished PhD dissertation, University of Cyprus, Nicosia. (in Greek)

- (2009) The dynamism of central Cyprus during Middle Cypriot III: funerary evidence from Nicosia Agia Paraskevi. Pp. 65–78 in I. Hein (ed.), *The Formation of Cyprus in the Second Millennium BC: Studies in Regionalism during the Middle and Late Bronze Ages*. Österreichische Akademie der Wissenschaften, Denkschriften der Gesamtakademie 52. Vienna: Österreichische Akademie der Wissenschaften.
- , Webb, J. M. and Frankel, D. (2011) *Psematismenos-Trelloukas: An Early Bronze Age Cemetery in Cyprus*. Nicosia: Department of Antiquities, Republic of Cyprus.
- Giardino, C., Gigante, G. E. and Ridolfe, S. (2003) Archeometallurgical studies. Pp. 385–96, Appendix 8·1 in S. Swiny, G. Rapp and E. Herscher (eds), *Sotira Kaminoudhia: An Early Bronze Age Site in Cyprus*. American Schools of Oriental Research, Archaeological Reports 8, Cyprus American Archaeological Research Institute Monograph 4. Boston: American Schools of Oriental Research.
- Gjerstad, E. (1926) *Studies on Prehistoric Cyprus*. Uppsala: Uppsala Universitets Årsskrift.
- , Lindos, J., Sjöqvist, E. and Westholm, A. (1934) *Swedish Cyprus Expedition I, II: Finds and Results of the Excavations in Cyprus 1927–1931*. Stockholm: Swedish Cyprus Expedition.
- Goody, J. (1986) *The Logic of Writing and the Organization of Society*. Cambridge: Cambridge University Press.
- Gould, S. J. (1986) Evolution and the triumph of homology, or why history matters. *American Scientist* 74, 60–69.
- and Eldridge, N. (1977) Punctuated equilibria: the tempo and mode of evolution reconsidered. *Paleobiology* 3, 115–51.
- (1993) Punctuated equilibrium comes of age. *Nature* 386, 223–27.
- Grace, V. (1940) A Cypriote tomb and Minoan evidence for its date. *American Journal of Archaeology* 44, 10–52.
- Graziadio, G. (2005) The relations between the Aegean and Cyprus at the beginning of the Late Bronze Age: an overview of the archaeological evidence. In R. Laffineur and E. Greco (eds), *Emporia: Aegeans in the Central and Eastern Mediterranean*. *Aegaeum* 25/1, 323–34. Liège, Austin: Université de Liège, University of Texas at Austin.
- Iacovou, M. (2012) From regional gateway to Cypriot kingdom. Copper deposits and copper routes in the chora of Paphos. Pp. 58–69 in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC*. Oxford: Oxbow.
- Jacobsson, I. (1994) *Aegyptiaca from Late Bronze Age Cyprus*. Studies in Mediterranean Archaeology 112. Jonsered: P. Åström's Förlag.
- Karageorghis, V. (1970) Two religious documents of the Early Cypriote Bronze Age. *Report of the Department of Antiquities, Cyprus*, 10–13.
- Kassianidou, V. (2012) Metallurgy and metalwork in Enkomi: the early phases. Pp. 94–106 in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC*. Oxford: Oxbow.
- Keswani, P. S. (1989) Dimensions of social hierarchy in Late Bronze Age Cyprus: an analysis of the mortuary data from Enkomi. *Journal of Mediterranean Archaeology* 2, 49–86.
- (1993) Models of local exchange in Late Bronze Age Cyprus. *Bulletin of the American Schools of Oriental Research* 292, 73–83.
- (1996) Hierarchies, heterarchies, and urbanization processes: the view from Bronze Age Cyprus. *Journal of Mediterranean Archaeology* 9, 211–49.
- (2004) *Mortuary Ritual and Society in Bronze Age Cyprus*. Monographs in Mediterranean Archaeology 9. London: Equinox.
- (2005) Death, prestige, and copper in Bronze Age Cyprus. *American Journal of Archaeology* 109, 341–401.
- (2007) Beyond emulation and hierarchy: diverse expressions of social identity in Late Cypriot mortuary ritual. Pp. 509–35 in S. Antoniadou and A. Pace (eds), *Mediterranean Crossroads*. Athens, Oxford: Pierides Foundation, Oxbow Books.
- and Knapp, A. B. (2003) Bronze Age boundaries and social exchange in northwest Cyprus. *Oxford Journal of Archaeology* 22, 213–23.
- Klinge, J. and Fall, P. (2010) Archaeobotanical inference of Bronze Age land use and land cover in the eastern Mediterranean. *Journal of Archaeological Science* 37, 2622–29.
- Knapp, A. B. (1986) Production, exchange and socio-political complexity on Bronze Age Cyprus. *Oxford Journal of Archaeology* 5, 35–60.
- (1988) Copper production and eastern Mediterranean trade: the rise of complex society on Cyprus. Pp. 149–69 in J. Gledhill, B. Bender and M. T. Larsen (eds), *State and Society: The Emergence and Development of Social Hierarchy and Political Centralization*. One World Archaeology 4. London: Unwin Hyman.
- (1989) Paradise gained and paradise lost: intensification, specialization, complexity and collapse. *Asian Perspectives* 28, 179–214.
- (1990a) Production, location and integration in Bronze Age Cyprus. *Current Anthropology* 31, 147–76.
- (1990b) Entrepreneurship, ethnicity, exchange: Mediterranean inter-island relations in the Late Bronze Age. *Annual of the British School at Athens* 85, 115–53.
- (1992) Archaeology and *Annales*: time, space, change. Pp. 1–21 in A. B. Knapp (ed.), *Annales, Archaeology and Ethnohistory*. Cambridge: Cambridge University Press.
- (1993) Social complexity: incipience, emergence and development on prehistoric Cyprus. *Bulletin of the American Schools of Oriental Research* 292, 85–106.
- (1994) Emergence, development and decline on Bronze Age Cyprus. Pp. 271–304 in C. Mathers and S. Stoddart (eds), *Development and Decline in the Mediterranean Bronze Age*. Sheffield Archaeological Monograph 8. Sheffield: John Collis Publications.
- (1996) (ed.) *Near Eastern and Aegean Texts from the Third to the First Millennia BC*. Sources for the History of Cyprus II, ed. P. W. Wallace and A. G. Orphanides. Altamont, New York: Greece/Cyprus Research Center.
- (1997) *The Archaeology of Late Bronze Age Cypriot Society: The Study of Settlement, Survey and Landscape*. Department of Archaeology, University of Glasgow, Occasional Paper 4. Glasgow.
- (1998) Mediterranean Bronze Age trade: distance, power and place. Pp. 260–80 in E. H. Cline and D. Harris-Cline (eds), *The Aegean and the Orient in the Second Millennium*. *Aegaeum* 18. Liège: Université de Liège.
- (2006) Orientalisation and prehistoric Cyprus: the social life of Oriental goods. Pp. 48–65 in C. Riva and N. Vella (eds), *Debating Orientalisation: Multidisciplinary Approaches to Change in the Ancient Mediterranean*. Monographs in Mediterranean Archaeology 10. London: Equinox Press.
- (2008) *Prehistoric and Protohistoric Cyprus: Identity, Insularity and Connectivity*. Oxford: Oxford University Press.
- (2009) Monumental architecture, identity and memory. Pp. 47–59 in A. Kyriatsoulis (ed.), *Proceedings of the Symposium: Bronze Age Architectural Traditions in the East Mediterranean Diffusion and Diversity (Gasteig, Munich, 7–8 May, 2008)*. Weilheim, Germany: Verein zur Förderung der Aufarbeitung der Hellenischen Geschichte.
- (2010) Cyprus's earliest prehistory: seafarers, foragers and settlers. *Journal of World Prehistory* 23, 79–120.
- (2012) Metallurgical production and trade on Bronze Age Cyprus: views and variations. Pp. 14–25 in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC*. Oxford: Oxbow.
- (2013) *The Archaeology of Cyprus: From Earliest Prehistory through the Bronze Age*. Cambridge: Cambridge University Press.
- and Cherry, J. F. (1994) *Provenience Studies and Bronze Age Cyprus: Production, Exchange, and Politico-Economic Change*. Monographs in World Archaeology 21. Madison, Wisconsin: Prehistory Press.
- and Kassianidou, V. (2008) The archaeology of Late Bronze Age copper production: Politiko Phorades on Cyprus. Pp. 135–47 in Ü. Yalçın (ed.), *Anatolian Metal IV: Frühe Rohstoffgewinnung in Anatolien und seinen Nachbarländern*. Die Anschnitt, Beiheft 21, Veröffentlichungen aus dem Deutschen Bergbau-Museum 157. Bochum: Deutsches Bergbau-Museum.
- and Demesticha, S. (n.d.) Maritime transport containers and Mediterranean connectivity: a long-term perspective. Unpublished manuscript.
- Kohring, S. (2011) Social complexity as a multi-scalar concept: pottery technologies, 'communities of practice' and the Bell Beaker phenomenon. *Norwegian Archaeological Review* 44, 145–63.
- Kouka, O. (2009) Cross-cultural links and elite-identities: the eastern Aegean/western Anatolia and Cyprus from the early third through the early second millennium BC. Pp. 31–47 in V. Karageorghis and O. Kouka (eds), *Cyprus and the East Aegean: Intercultural Contacts from 3000 to 500 BC*. Nicosia: Leventis Foundation.

- Lamberg-Karlovsky, C. C. (2003) To write or not to write. Pp. 59–75 in T. Potts, M. Roaf and D. Stein (eds), *Culture through Objects: Ancient Near Eastern Studies in Honour of P. R. S. Moorey*. Oxford: Griffith Institute.
- Lambrou-Phillipson, C. (1990) *Hellenorientalia: The Near Eastern Presence in the Bronze Age Aegean, ca. 3000–1000 BC*. Studies in Mediterranean Archaeology and Literature, Pocket-book 95. Göteborg: P. Åström's Förlag.
- Lindblom, M. and Manning, S. W. (2011) The chronology of the Lerna shaft graves. Pp. 140–53 in W. Gauß, M. Lindblom, R. A. K. Smith and J. C. Wright (eds), *Our Cups Are Full: Pottery and Society in the Aegean Bronze Age. Papers Presented to Jeremy B. Rutter on the Occasion of his 65th Birthday*. British Archaeological Reports, International Series 2227. Oxford: Archaeopress.
- Maguire, L. C. (2009) *The Cypriot Pottery and its Circulation in the Levant*. Tell el-Dab'a 21. Österreichische Akademie der Wissenschaften, Denkschriften der Gesamtkademie 51. Vienna: Österreichische Akademie der Wissenschaften.
- Manning, S. W. (1993) Prestige, distinction and competition: the anatomy of socio economic complexity in 4th–2nd millennium BCE Cyprus. *Bulletin of the American Schools of Oriental Research* 292, 35–58.
- (2001) The chronology and foreign connections of the Late Cypriot I period: times they are a-changin'. Pp. 69–94 in P. Åström (ed.), *The Chronology of Base-ring Ware and Bichrome Wheel-made Ware*. Konferenser 54. Stockholm: Kungl. Vitterhets Historie och Antikvitets Akademien.
- and DeMita, Jr, F. A. (1997) Cyprus, the Aegean and Maroni Tsaroukkas. Pp. 103–42 in D. Christou (ed.), *Cyprus and the Aegean in Antiquity*. Nicosia: Department of Antiquities, Cyprus.
- Manning, S. W., B. Weniger, A. K. South, B. Kling, P. I. Kuniholm, J. D. Muhly, S. Hadjisavvas, D. A. Sewell and G. Cadogan (2001) Absolute age range of the Late Cypriot IIC period on Cyprus. *Antiquity* 75, 328–40.
- , Sewell, D. and Herscher, E. (2002) Late Cypriot IA maritime trade in action: underwater survey at Maroni Tsaroukkas and the contemporary east Mediterranean trading system. *Annual of the British School at Athens* 97, 97–162.
- and Hulin, L. (2005) Maritime commerce and geographies of mobility in the Late Bronze Age of the eastern Mediterranean: problematizations. Pp. 275–307 in E. Blake and A. B. Knapp (eds), *The Archaeology of Mediterranean Prehistory*. Oxford: Blackwell.
- , Bronk Ramsey, C., Kutschera, W., Higham, T., Kromer, B., Steier, P. and Wild, E. M. (2006) Chronology for the Aegean Late Bronze Age 1700–1400 BC. *Science* 312, 565–69.
- and Bronk Ramsey, C. (2007) Clarifying the 'high' v. 'low' Aegean/Cypriot chronology for the mid-second millennium BC: assessing the evidence, interpretive frameworks, and current state of the debate. Pp. 101–37 in M. Bietak and E. Czerny (eds), *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC III*. Denkschriften der Gesamtkademie 37, Contributions to the Chronology of the Eastern Mediterranean 9. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Masson, E. (1976) A la recherche des vestiges proche-orientaux à Chypre, fin du bronze moyen et début du bronze récent. *Archäologischer Anzeiger* (1976: 2), 139–65.
- Masson, O. (1964) Kypriaka I. Recherches sur les antiquités de Tamassos. *Bulletin de Correspondance Hellénique* 88, 199–238.
- Merrillees, R. S. (1975) Problems in Cypriot history. Pp. 15–38 in N. Robertson (ed.), *The Archaeology of Cyprus*. Park Ridge, New Jersey: Noyes Press.
- (1984) *Ambelikou-Aletri*: a preliminary report. Report of the Department of Antiquities, Cyprus, 1–13.
- (1992a) The government of Cyprus in the Late Bronze Age. Pp. 310–29 in P. Åström (ed.), *Acta Cypria* 3. Studies in Mediterranean Archaeology and Literature, Pocket-book 120. Jonsered: P. Åström's Förlag.
- (1992b) The absolute chronology of the Bronze Age in Cyprus: a revision. *Bulletin of the American Schools of Oriental Research* 288, 47–52.
- (2002) The relative and absolute chronology of the Cypriot White Painted Pendant Line Style. *Bulletin of the American Schools of Oriental Research* 326, 1–9.
- (2007) The ethnic implications of Tell el-Yahudiyeh ware for the history of the Middle to Late Bronze Age in Cyprus. *Cahier du Centre d'Études Chypriotes* 337, 87–96.
- (2009a) The stone vases of the Philia culture from Vasilia: Cypriot, Egyptian or other? Pp. 23–28 in D. Michaelides, V. Kassianidou and R. Merrillees (eds), *Egypt and Cyprus in Antiquity*. Oxford: Oxbow.
- (2009b) Chronological conundrums: Cypriot and Levantine imports from Thera. Pp. 247–51 in D. A. Warburton (ed.), *Time's Up! Dating the Minoan Eruption of Santorini*. Monographs of the Danish Institute at Athens Volume 10. Athens: Danish Institute at Athens.
- Muhly, J. D. (1989) The organisation of the copper industry in Late Bronze Age Cyprus. Pp. 298–314 in E. J. Peltenburg (ed.), *Early Society in Cyprus*. Edinburgh: Edinburgh University Press.
- (2002) Early metallurgy in Greece and Cyprus. Pp. 77–82 in Ü. Yalçin (ed.), *Anatolian Metal II*. Der Anschnitt, Beiheft 15. Bochum: Deutsches Bergbau-Museum.
- Nicolaou, I. and Nicolaou, K. (1989) *Kazaphani: A Middle/Late Cypriot Tomb at Kazaphani-Ayios Andronikos: T.2A,B*. Nicosia: Department of Antiquities, Cyprus.
- Panagiotopoulos, D. (2011) The stirring sea: conceptualising transculturality in the Late Bronze Age eastern Mediterranean. Pp. 31–51 in K. Duistermaat and I. Reguluski (eds), *Intercultural Contacts in the Ancient Mediterranean*. Orientalia Lovaniensia Analecta 202. Louvain: Peeters.
- (2012) Encountering the foreign. (De-)constructing alterity in the archaeologies of the Bronze Age Mediterranean. Pp. 51–60 in J. Maran and P. Stockhammer (eds), *Materiality and Social Practice: Transformative Capacities of Intercultural Encounters*. Oxford: Oxbow.
- Parkinson, W. A. (2010) Beyond the peer: social interaction and political evolution in the Bronze Age Aegean. Pp. 11–35 in D. J. Pullen (ed.), *Political Economies of the Aegean Bronze Age*. Oxford: Oxbow.
- Pecorella, P. E. (1973) Mycenaean pottery from Ayia Irini. Pp. 19–24 in V. Karageorghis (ed.), *The Mycenaeans in the Eastern Mediterranean*. Nicosia: Department of Antiquities, Cyprus.
- Peltenburg, E. J. (1993) Settlement discontinuity and resistance to complexity in Cyprus, ca. 4500–2500 BC. *Bulletin of the American Schools of Oriental Research* 292, 9–23.
- (1994) Constructing authority: the Vounous enclosure model. *Opuscula Atheniensia* 20, 157–62.
- (1996) From isolation to state formation in Cyprus, c. 3500–1500 BC. Pp. 17–44 in V. Karageorghis and D. Michaelides (eds), *The Development of the Cypriot Economy: From the Prehistoric Period to the Present Day*. Nicosia: Bank of Cyprus, University of Cyprus.
- (2008) Nitovikla and Tell el-Burak: Cypriot mid-second millennium BC forts in a Levantine context. *Report of the Department of Antiquities, Cyprus*, 145–57.
- (2011) Cypriot Chalcolithic metalwork. Pp. 3–10 in P. P. Betancourt and S. C. Ferrence (eds), *Metalurgy: Understanding How, Learning Why*. Studies in Honor of James D. Muhly. Philadelphia: Institute for Aegean Prehistory Press.
- (2012) Text meets material culture in Late Bronze Age Cyprus. In A. Georgiou (ed.), *Cyprus: An island Culture. Society and Social Relations from the Bronze Age to the Venetian Period*, 1–22. Oxford: Oxbow.
- Philip, G. (1991) Cypriot bronzework in the Levantine world: conservatism, innovation and social change. *Journal of Mediterranean Archaeology* 4, 59–107.
- (1995) Warrior burials in the ancient Near Eastern Bronze Age: the evidence from Mesopotamia, western Iran and Syria-Palestine. Pp. 140–54 in S. Campbell and A. Green (eds), *The Archaeology of Death in the Ancient Near East*. Oxbow Monograph 51. Oxford: Oxbow.
- Phillips, J. (2008) *Aegyptiaca on the Island of Crete in their Chronological Context: A Critical Review*. Contributions to the Chronology of the Eastern Mediterranean. 2 vols. Vienna: Österreichisches Akademie der Wissenschaften.
- Pilides, D. (2000) *Pithoi of the Late Bronze Age in Cyprus*. Nicosia: Department of Antiquities, Cyprus.
- Portugali, Y. and A. B. Knapp (1985) Cyprus and the Aegean: a spatial analysis of interaction in the 17th–14th centuries BC. Pp. 44–78 in A. B. Knapp and T. Stech (eds), *Prehistoric Production and Exchange, The Aegean and the Eastern Mediterranean*. UCLA Institute of Archaeology, Monograph 25. Los Angeles: UCLA Institute of Archaeology.

- Pozorski, S. and Pozorski, T. (1992) Early civilization in the Casma Valley, Peru. *Antiquity* 66/253, 845–70.
- Pulak, C. (2008) The Uluburun shipwreck and Late Bronze Age trade. Pp. 289–310 in J. Aruz, K. Benzel and J. M. Evans (eds), *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium BC*. New York, New Haven and London: Metropolitan Museum of Art, Yale University Press.
- Redmond, E. M. and Spencer, C. S. (2012) Chiefdoms at the threshold: the competitive origins of the primary state. *Journal of Anthropological Archaeology* 31, 22–37.
- Rutter, J. B. (2006) Ceramic imports of the Neopalatial and later Bronze Age eras. Pp. 646–88, 712–15 in J. W. Shaw and M. C. Shaw (eds), *Kommos: An Excavation on the South Coast of Crete by the University of Toronto under the Auspices of the American School of Classical Studies in Athens*. Kommos V: The Monumental Minoan Buildings at Kommos. Princeton and Oxford: Princeton University Press.
- Sader, H. and Kamlah, J. (2010) Tell el-Burak: a new Middle Bronze Age site from Lebanon. *Near Eastern Archaeology* 73, 130–41.
- Şahoglu, V. (2005) The Anatolian Trade Network and the Izmir region during the Early Bronze Age. *Oxford Journal of Archaeology* 24, 339–61.
- Shaw, J. W. (1998) Kommos in southern Crete: an Aegean barometer for east–west connections. Pp. 13–27 in V. Karageorghis and N. C. Stampolidis (eds), *Proceedings of the International Symposium: Eastern Mediterranean, Cyprus-Dodecanese-Crete 16th–6th Centuries BC*. Athens: University of Crete and Leventis Foundation.
- Shennan, S. (2000) Population, culture history, and the dynamics of cultural change. *Current Anthropology* 41, 811–35.
- Smith, J. S. (1994) Seals for Sealing in the Late Cypriot Period. Unpublished PhD dissertation, Bryn Mawr College, Bryn Mawr, Pennsylvania.
- (ed.) 2008 *Views from Phlammoudhi, Cyprus*. Annual of the American Schools of Oriental Research 63. Boston: American Schools of Oriental Research.
- Snodgrass, A. M. (1991) Bronze Age exchange: a minimalist position. Pp. 15–20 in N. Gale (ed.), *Bronze Age Trade in the Mediterranean*. Studies in Mediterranean Archaeology 90. Göteborg: P. Åström's Förlag.
- Stech, T. (1985) Copper and society in Late Bronze Age Cyprus. Pp. 100–05 in A. B. Knapp and T. Stech (eds), *Prehistoric Production and Exchange: The Aegean and East Mediterranean*. UCLA Institute of Archaeology, Monograph 25. Los Angeles: UCLA Institute of Archaeology.
- Steel, L. (2004) *Cyprus before History: From the Earliest Settlers to the End of the Bronze Age*. London: Duckworth.
- Stewart, E. and Stewart, J. (1950) *Vounous 1937–1938*. Skrifter Utgivna av Svenska Institutet i Rom 14. Lund: Swedish Institute in Rome.
- Stockhammer, P. (2012) Performing the practice turn in archaeology. *Transcultural Studies* 2012(1), 7–42.
- Swiny, S. (1982) Correlations between the composition and function of Bronze Age metal types in Cyprus. Pp. 69–80 in R. Maddin, J. D. Muhly, and V. Karageorghis (eds), *Early Metallurgy in Cyprus, 4000–500 BC*. Nicosia: Pierides Foundation.
- (1989) From round house to duplex: a reassessment of prehistoric Bronze Age Cypriot society. Pp. 14–31 in E. J. Peltenburg (ed.), *Early Society in Cyprus*. Edinburgh: Edinburgh University Press.
- (1997) The Early Bronze Age. Pp. 171–212 in T. Papadopoulos (ed.), *A History of Cyprus, Volume 1*. Nicosia: Archbishop Makarios III Foundation (in Greek).
- (2008) Of cows, copper, corners, and cult: the emergence of the Cypriot Bronze Age. *Near Eastern Archaeology* 71, 41–51.
- , Rapp, G. and Herscher, E. (eds) (2003) *Sotira Kamminoudhia: An Early Bronze Age Site in Cyprus*. American Schools of Oriental Research, Archaeological Reports 8, Cyprus American Archaeological Research Institute Monograph 4. Boston: American Schools of Oriental Research.
- Todd, I. A. (2004) *The Field Survey of the Vasilikos Valley*. Vasilikos Valley Project 9, Studies in Mediterranean Archaeology 71.9. Savedalen: P. Åström's Förlag.
- Urban, P. A. and Schortman, E. (2012) *Archaeological Theory in Practice*. Walnut Creek, California: Left Coast Press.
- Vermeule, E. and Wolsky, F. Z. (1990) *Toumba tou Skourou: A Bronze Age Potter's Quarter on Morphou Bay in Cyprus*. Cambridge, Massachusetts: Harvard University Press.
- Webb, J. (1995) Abandonment processes and curate/discard strategies at Marki-Alonia, Cyprus. *The Artifact* 18, 64–70.
- (1999) *Ritual Architecture, Iconography and Practice in the Late Cypriot Bronze Age*. Studies in Mediterranean Archaeology and Literature, Pocket-book 75. Jonsered: P. Åström's Förlag.
- (2002) Device, image and coercion. The role of glyptic in the political economy of Late Bronze Age Cyprus. Pp. 111–54 in J. Smith (ed.), *Script and Seal Use on Cyprus in the Bronze and Iron Ages*. Archaeological Institute of America, Colloquia and Conference Papers 4. Boston: American Institute of Archaeology.
- (2005) Ideology, iconography and identity: the role of foreign goods and images in the establishment of social hierarchy in Late Bronze Age Cyprus. Pp. 176–82 in J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*. Oxford: Oxbow.
- (2009a) Keeping house: our developing understanding of the Early and Middle Cypriot household (1926–2006). *Medelhavsmuseet. Focus on the Mediterranean* 5, 255–67.
- (2009b) Deneia: a Middle Cypriot site in its regional and historical context. Pp. 27–37 in I. Hein (ed.), *The Formation of Cyprus in the Second Millennium BC: Studies in Regionalism during the Middle and Late Bronze Ages*. Österreichisches Akademie der Wissenschaften, Denkschriften der Gesamtakademie 52. Wien: Österreichisches Akademie der Wissenschaften.
- Webb, J. F. and Frankel, D. (2004) Intensive site survey. Implications for estimating settlement size, population and duration in prehistoric Bronze Age Cyprus. Pp. 125–37 in M. Iacovou (ed.), *Archaeological Field Survey in Cyprus. Past History, Future Potentials*. British School at Athens, Studies 11. London: British School at Athens.
- (2010) Social strategies, ritual and cosmology in Early Bronze Age Cyprus: an investigation of burial data from the north coast. *Levant* 42, 185–209.
- (2011) Hearth and home as identifiers of community in mid-third millennium Cyprus. Pp. 29–42 in V. Karageorghis and O. Kouka (eds), *On Cooking Pots, Drinking Cups, Loomweights and Ethnicity in Bronze Age Cyprus and Neighbouring Regions*. Nicosia: Leventis Foundation.
- (2013) Cultural regionalism and divergent social trajectories in Early Bronze Age Cyprus. *American Journal of Archaeology* 117, 59–81.
- Webb, J., Frankel, D., Stos, Z. A. and Gale, N. (2006) Early Bronze Age metals trade in the eastern Mediterranean. New compositional and lead isotope evidence from Cyprus. *Oxford Journal of Archaeology* 25, 261–88.
- Webb, J. F., Frankel, D., Eriksson, K. and Hennessy, J. B. (2009) *The Bronze Age cemeteries at Karmi Paleolana and Lapatsa in Cyprus. Excavations by J. R. B. Stewart*. Studies in Mediterranean Archaeology 136. Göteborg: P. Åström's Förlag.
- Wengrow, D. (2009) The voyages of Europa: ritual and trade in the eastern Mediterranean circa 2300–1850 BC. Pp. 141–60 in W. A. Parkinson and M. L. Galaty (eds), *Archaic State Interaction: The Eastern Mediterranean in the Bronze Age*. Santa Fe, New Mexico: SAR Press.
- White, D. (2002) *Marsa Matruh II: The Objects*. The University of Pennsylvania Museum of Archaeology and Anthropology's Excavations on Bate's Island, Marsa Matruh, Egypt 1985–1989. Institute for Aegean Prehistory, Prehistory Monographs 2. Philadelphia: Institute for Aegean Prehistory Academic Press.
- Yener, K. A. (2000) *The Domestication of Metals: The Rise of Complex Metal Industries in Anatolia*. Culture and History of the Ancient Near East 4. Leiden: Brill.
- (2012) Late Bronze Alalakh and Cyprus: a relationship of metals? Pp. 162–68 in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC*. Oxford: Oxbow.