

Cambridge Histories Online

<http://universitypublishingonline.org/cambridge/histories/>



The Cambridge World Prehistory

Edited by Colin Renfrew, Paul Bahn

Book DOI: <http://dx.doi.org/10.1017/CHO9781139017831>

Online ISBN: 9781139017831

Hardback ISBN: 9780521119931

Chapter

3.10 - Anatolia from 2000 to 550 bce pp. 1545-1570

Chapter DOI: <http://dx.doi.org/10.1017/CHO9781139017831.095>

Cambridge University Press

3.10 ANATOLIA FROM 2000 TO 550 BCE

ASLI ÖZYAR

The Middle Bronze Age (2000–1650 BCE)

Introduction

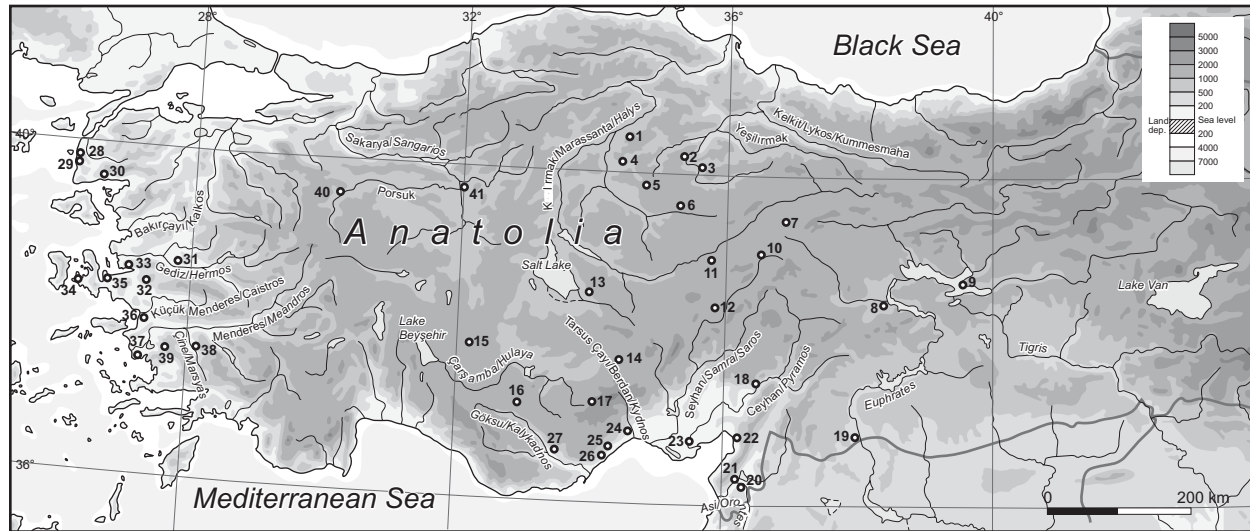
Traditionally, the term Middle Bronze Age (MBA) is applied to the rise and fall of Anatolian city-states during the first three centuries of the 2nd millennium BCE, designating a period lasting one-fifth of the timespan allotted to the early part of the Bronze Age. This is an indication of the speed of developments that led to changes in social organisation when compared to earlier millennia. The arbitrary application of the tripartite division of periods derived from the European archaeological tradition defines the label of MBA. On the other hand, a justification for distinguishing a new era is given by the many destruction levels all over Anatolia at the end of the 3rd millennium followed by new socioeconomic developments. Along the same lines, the end of the period, too, is marked by a series of widespread destructions ushering in a new political development, the territorial state. The Anatolian MBA is roughly contemporary with the Isin-Larsa Period followed by the Old Babylonian Kingdom in southern Mesopotamia, the Old Assyrian Period in northern Mesopotamia, the Syrian Middle Bronze I–II Period characterised by urban centres such as Ebla (Tell Mardikh III A–B), Mari (Tell Hariri) and the kingdom of Yamkhad, and the Middle Kingdom to Second Intermediate Period in Egypt. Close contacts were preserved with these neighbouring regions as indicated by imported artifacts, imported practices such as writing in cuneiform script, and connections in cult and culture tangible in architecture and iconography. Other contemporary cultures are the state of Elam, stretching south from the Susiana Plain to the Zagros highlands including Anshan (Tepe Malyan) along the Persian Gulf, and the Cretan Middle Minoan and Aegean Middle Helladic Period (roughly equal to the First Palace Period).

The transition from Early to Middle Bronze Age in terms of material culture in any given site, despite destruction horizons, is fluid and somewhat marked by growth in scope and organisation. The socioeconomic system of agricultural villages and fortified towns accumulating surpluses and engaging in metallurgy and trade, already established in the previous

millennium, develops steadily from an initial social hierarchy, as is manifest in the cemeteries and settlement patterns of the 3rd millennium BCE, towards increased political complexity. Almost all sites of the 2nd millennium BCE developed on already existing 3rd-millennium precursors. Settlement continuity with marked vertical stratification is characteristic for the inland Anatolian landscape, leading to high-mound formations especially due to the use of mud brick as the preferred building material. Settlement continuity may be explained in terms of access to water sources, agricultural potential and/or hereditary rights to land as property mostly hindering horizontal stratigraphy. An additional or alternative explanation can be the continuity of cult buildings, envisaged as the home of deities often with ties to the particular location, which must have acted as linchpins preventing settlements from moving away. What is new in terms of site formation is the development of lower towns or outer towns spilling beyond the formerly fortified nucleus of the settlement. These new neighbourhoods, protected by a fortification system as well, were built on virgin soil as opposed to the nucleus of the settlement, which often rose on a mound due to continuous habitation at least from the EBA onwards. Ultimately, a tripartite fortification system developed: a separately fortified citadel was located in the centre of a fortified town beyond which lay the fortified outer town or suburb. These could be arranged in a concentric order or gravitate towards a topographical feature of importance such as a river. The establishment of multifunctional monumental structures is in a way the hallmark of this period. Some of these structures are labelled palaces, a designation also justified by the use of the equivalent Akkadian term in contemporary written evidence. The distinction of palatial/administrative structures from cult buildings or temples is based on architectural criteria and not on conclusive cultic artifacts, installations or texts associated with buildings identified as such.

Archival sources

The hallmark of this period in Anatolia are written documents in the form of inscribed clay tablets found in private merchant archives kept in the basement of their houses, as preserved at a number of excavated sites (Veenhof 2003b). These are the first written documents recovered so far in Anatolia. To date



MAP 3.10.1. Map of Anatolia: 1. Alacahöyük; 2. Ortaköy/Shapinuwa; 3. Maşat/Tapigga; 4. Boğazköy/Hattusha; 5. Kerkenes; 6. Alişar; 7. Kuşaklı/Sarıssa; 8. Arslantepe-Malatya/Malidiya (Bronze Age) Melid (Iron Age); 9. Korucutepe; 10. Kululu; 11. Kültepe/Kanesh; 12. Firaktin; 13. Acemhöyük; 14. Kemerhisar/Tuwanuwa (Bronze Age), class. Tyana; 15. Karahöyük; 16. Kızıldağ; 17. İvriz; 18. Karatepe-Aslantaş/Azatiwataya; 19. Karkamish; 20. Tell Atchana/Alalakh; 21. Tell Tayinat/Kunulua; 22. Kinet höyük/Iziya/class. Issos; 23. Sirkeli; 24. Tarsus-Gözlükule/Tarsa; 25. Mersin-Yumuktepe; 26. Soli/class. Soloi-Pompeiopolis; 27. Kilisetepe; 28. Hisarlık/Troia; 29. Beşik-Yassitepe; 30. Assos/Assuwa (?); 31. Sardis; 32. Bademgediği/Puranda (?); 33. Panaztepe; 34. Çeşme-Bağlararası; 35. Limantepe/class. Klazomenai; 36. Apasa (Bronze Age)/class. Ephesos; 37. Milet/Millawanda/class. Miletos; 38. Çine-Tepecik; 39. Suratkaya (in the Latmos area); 40. Küllioba; 41. Yassihöyük/Gordion.

the largest number of archives, that is, tablets (nearly twenty-three thousand), has been unearthed from the outer town of the settlement at Kültepe, ancient Kanesh; some (about forty) were also discovered in the fortified centre of the city on the mound (Özgüç 2003). A smaller number of tablets was found at Boğazköy (more than sixty: Bittel 1970: 162) and Alişar (seventy: Gelb 1935). The outer town of Kanesh, often referred to as a trading colony, was called *Karum* by Assyrians, a word meaning quay in Akkadian, and designating merchants' quarters in a suburb or outer town, in reference to the trade quarters of Mesopotamian cities which were often located near the quay area on the riverbank. *Karum Kanesh* was co-inhabited by Assyrian and Anatolian merchants and their families, but the former outnumbered the latter (Veenhof 1995). By and large the tablets belonged to the Assyrian merchants, who traded on behalf of themselves or trading companies, often family firms, operating out of Assur, although some Anatolian merchants also kept records in the same language, script and medium (Donbaz 1988). No earlier system of writing has so far been attested in Anatolia (Hawkins 1986). Among the preserved names that occur in the tablets, aside from the Semitic names of the Assyrian merchants, names in Hittite and Luwian (both Anatolian Indo-European languages) were frequent in addition to names in Hattic (an isolated Anatolian language, presumably spoken prior to the spread of Indo-European languages) and Hurrian (a non-Indo-European and non-Semitic language at home in Southeast Anatolia and northern Mesopotamia), suggesting that a large percentage of the population in Anatolian towns was already speaking an Indo-European language by

the beginning of the 2nd millennium (Melchert 2004). The question of when and where Indo-European speakers entered Anatolia or whether they were already there for millennia (Renfrew 1987) remains a subject of debate; archaeologically, however, there is no clear or sharp break in the cultural assemblage or material culture suggesting a new cultural/linguistic group.

The tablets, composed in the Old Assyrian dialect and written in the cuneiform script, contain minutes of a systematised and legally regulated long-distance trade in commodities between the Central Anatolian Plateau and Assyria (Veenhof 1972, 1995; Larsen 1976, 2008; Garelli 1994; Michel 2008; Veenhof & Eidem 2008). The texts only reflect part of a much wider trade network estimated to have operated between the Aegean in the west and Central Asia in the east. According to the archival sources Assyrian merchants transported tin which they obtained from as yet unidentified sources farther east (Afghanistan?) and fine textiles brought from Babylonia – from Assur, their hub on the Tigris River – to Central Anatolian towns by donkey caravans in a journey lasting six weeks and covering c. 1000 km, the main axis of the documented trade. This journey often took place twice a year, excluding the winter months between late November and early March. Tin was much needed in copper-rich Anatolia to produce bronze (Yener 2000), and Babylonian textiles were in demand as exotic prestige goods for the competing elite of Anatolian city-states. Both commodities were sold with a sufficiently high profit that made possible the costly enterprise of trading with distant lands. In return Assyrians brought back best-quality silver, which at the

time was used as a medium of exchange much like money, and gold from Anatolia. Records reflect that trading also involved sales of copper and wool within the domestic Anatolian markets to maximise profit. Anatolian merchants participated in this exchange alongside the Assyrians. Trade was regulated by treaties between Assur and individual city-states of Anatolia, specifying terms of trade, taxes and protective measures for merchants (Günbattı 2004). The trade of highly valued meteoric iron, for example, was a monopoly of the Anatolian palaces. On the other hand, records also make it clear that market forces and maximising profit were the driving force behind all mercantile activities. In Assur, political power was vested in an assembly of influential citizens headed by a less potent king in contrast to which the Anatolian political scene emerges as one of smaller and larger city-states with authoritative rulers including powerful women, with a strictly organised hierarchy of palace officials, who sanctioned the trade and decided and guaranteed on all issues concerning rights, duties and penalties. The central authority regulating Assyrian mercantile interests in Anatolia was an office referred to as *bit-karim* (the house of Karum in Akkadian) located in Karum Kanesh, designating this site as the central hub of operations in Anatolia. This office was subordinate to decisions of the city assembly in Assur.

Documents concerning legal issues such as marriage, divorce, inheritance and the sale of houses and slaves, as well as personal letters, a number of which were written by Assyrian and Anatolian women (Günbattı 1992), shed light on cultural and social aspects of two generations of merchant families (Özgüç 2003, with further references). It appears that life in Karum Kanesh was multicultural, at least from a linguistic point of view, with Indo-European Hittite and Luwian as well as Hattic and Hurrian spoken alongside the Semitic Assyrian and Syrian. Assyrian merchants, who often left a family behind in Assur, maintained a second family with offspring in Karum Kanesh implying bilingual habits.

The tablets also provide the earliest historical dates for the Anatolian realm, as the Assyrians named years after a person holding an office, called *limmu* in Assyrian, a term for a rotating office (Veenhof 1995, 2003a; Veenhof & Eidem 2008). Some rulers of Anatolian city-states are named, and an unnamed female ruler of Kanesh is also attested, substantiating a tale about a queen of Kanesh preserved in later Hittite archives. Names of as yet mostly unlocated Anatolian towns and city-states provide the starting point for research in historical geography. A *karum* was attached to ten of these (Kanesh, Durhumit, Hattush, Wahshushana, Burushattum, Hurama, Hahhum, Nihriya, Urshu, Zalpa), their number slightly rising in level Ib (see later in this chapter) to include Tawiniya (classical Tavium?); a dozen smaller settlements (such as Hanaknak, Mama, Badna, Washhania, Shalatuwar, Ulama, Karahna, Shamuha, Tuhpia and another Zalpa) had a *wabartum*, a trading post of lower rank. The only two clearly identified sites are Kanesh, the mound of Kültepe and Hattush (Hittite Hattushash), at Boğazköy.

Among the tablets are several authored by Assyrian as well as Anatolian rulers. A letter by the ruler of Mama to the ruler of

Kanesh found in the palace of level 7 (see later in this chapter) provides evidence for the earliest political correspondance in Anatolia and a two-generation genealogy (Warshama, son of Inar dated to the first half of the 18th century BCE), albeit written in Old Assyrian (Balkan 1957). A series of successive Anatolian rulers were attested among the Kanesh archives. The earliest named ruler of Kanesh is Labarsha (level 8 Karum II; see later in this chapter). One of the last, Anitta, son of Pithana, is a pivotal figure, as a historical narrative about his and his father's deeds composed in Hittite is preserved in the royal Hittite archive at Hattusha (Neu 1974). This document, known as the Anitta Text, provides a historical thread linking the MBA to Late Bronze Age Hittite dynastic history. It is worth noting that the Indo-European language Hittite was labelled Neshili, in other words, the language of Nesha (= Kanesh), by contemporary speakers, which took its name from the city of Kanesh, also known as Nesha (Güterbock 1958). Historical figures are also attested on seal impressions found on lumps of clay (bullae) used to secure tied-up amounts of merchandise. The seal impressions of foreign dignitaries such as the Old Assyrian rulers Erishum I (1974–1935 BCE), his grandson Sargon (1920–1881 BCE) and his grandson Naram-Sin (1872–1829/19 BCE) are attested from Kanesh (Özgüç 2003), and the seal impressions of the well-known Old Assyrian king Shamshi-Adad (1808–1776 BCE), of Dugedu, the daughter of Iakhdunlim, King of Mari, and of king Aplakhanda of Karkamish are attested on bullae excavated at Acemhöyük (Özgüç 1980).

The MBA levels 6–10 of the circular city mound of Kanesh (c. 500 m in diameter) at Kültepe correspond to Kanesh Karum levels Ia, Ib, II, III, IV. There was no outer town or Karum in the Early Bronze Age. Most of the merchants' archives were found in Karum II level houses (only c. 350 tablets come from level Ib). Kanesh level 8 (= Karum II = c. 1974–1835 BCE) contains two monumental structures, palaces, one measuring c. 100 m in diameter or $\frac{3}{4}$ ha, on an elevated inner citadel consisting of groups of rooms in a circular pattern surrounded by a separate stone-built fortification wall with a serrated exterior face, also known from Alişar and Karahöyük; the second is on a terrace to the southwest of this citadel, measuring c. 90 m × 50 m or $\frac{1}{2}$ ha, with rooms flanking a corridor and central courtyard. Remains of staircases indicate a second floor. These structures do not seem preplanned (Özgüç 1999). In level 7 (Karum level Ib) a new palace of planned rectangular shape measuring 110 m × 120 m (now more than 1 ha) with a buttressed 4 m-thick exterior wall was built on the ruins of its predecessor (Özgüç 1999). This new type of building consisted on its groundfloor of a series of rooms, used for the storage of merchandise arranged around a large central courtyard, perhaps inspired by the Old Assyrian palace at Assur of comparable size and layout (Fig. 3.10.1). This unique building, the largest known of its kind, is identified as the palace of the Inar/Warshama dynasty by a letter (see earlier in this chapter) found in its debris. A bronze spearhead with the inscription "Palace of Anitta", found in a building with projecting lateral walls (*antae*) forming porticos like in a megaron or Greek temple in the same level, seems to confirm the later textual tradition (see Anitta text, earlier in this chapter) which claims that the palace of Kanesh was

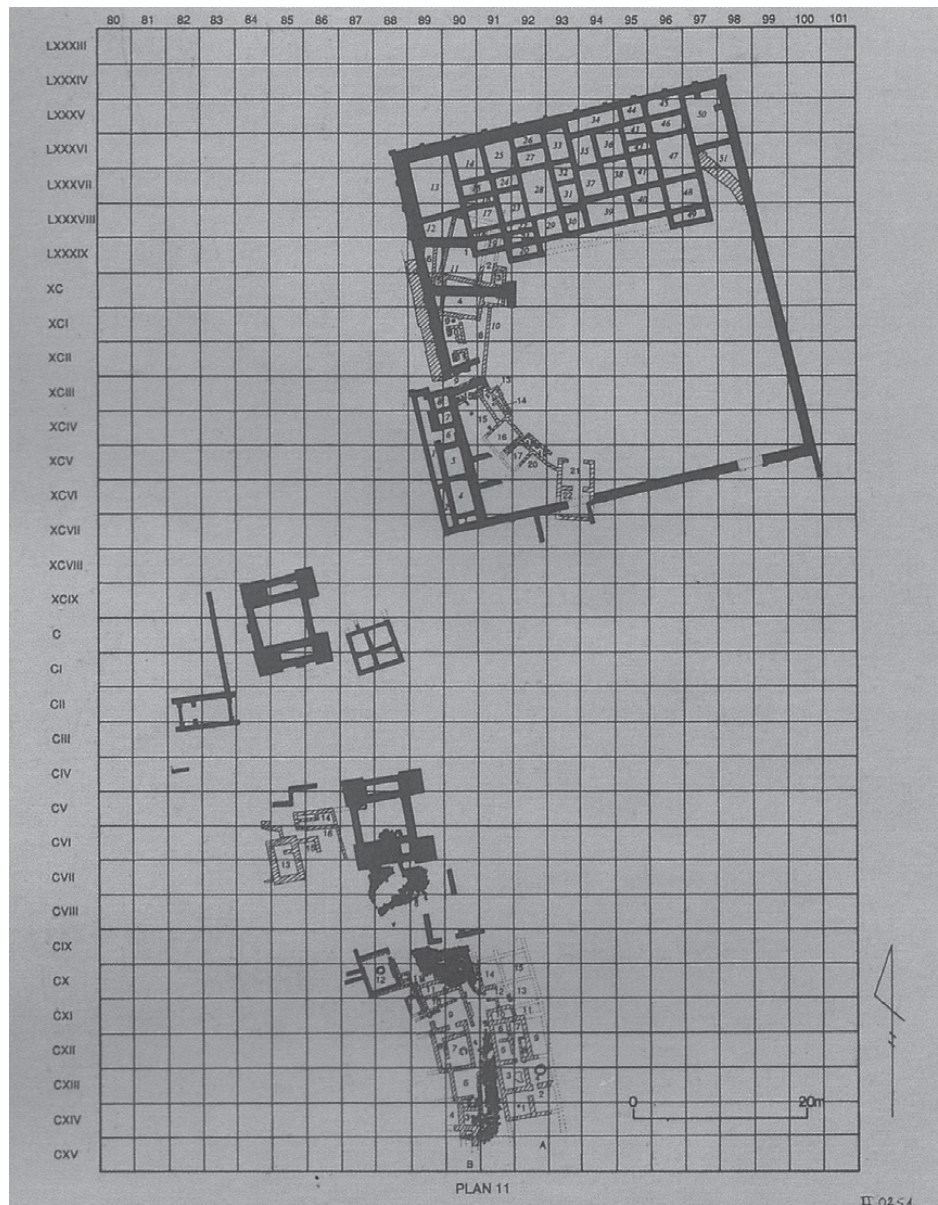


FIGURE 3.10.1. MBA monumental architecture inside the fortified city of Kanesh level 7 (Kültepe), including palace and several free-standing structures, two with towers (temples?) and one resembling a megaron (from Özgüç 1999: Plan 6).

taken over by Pithana, who was succeeded by his son Anitta of Kushshara in a coup without destruction. Four monumental structures, two of them probably palaces, were excavated at Acemhöyük near the Salt Lake. One of them, with more than fifty rooms (Sarıkaya), measures 3600 sq m and is clearly pre-planned, with porticos built on three sides (east, north and west) facing open space. Here, too, the ground floor was used for storage purposes (Özgüç 1980). In Kültepe Kanesh mound level 7, two free-standing structures interpreted as temples (Özgüç 1993) measuring 27 m × 22 m (remains of two further similar structures suggest the existence of at least four temples) consisting of a single long-room cella with an axial entrance, and towers protruding on all four corners (Fig. 3.10.1) display similarities to the tower (“migdal”) temples or fortress-temples of Syria and Palestine (Schachner 2006). The free-standing

megaron-like rectangular building, with *antae* on either end, has been identified as official storage space (Fig. 3.10.1). No monumental structure has so far been located in the Karum outer town.

Walls of MBA monumental structures are constructed on a stone foundation with a mud-brick superstructure in a wooden frame, with large beams used horizontally and vertically (Naumann 1971). The ample use of timbers such as pine, juniper, cedar and boxwood confirms the once dense forest cover on the now barren Central Plateau. Remains of architectural wood from Kültepe, Acemhöyük and Karahöyük have been used in the Bronze/Iron Age master chronology of the 2nd millennium based on tree rings (dendrochronology) (Manning *et al.* 2001, 2003). The construction date of the Warshama palace is established as 1832 ±4/–7 cal BCE with a lifespan of at least

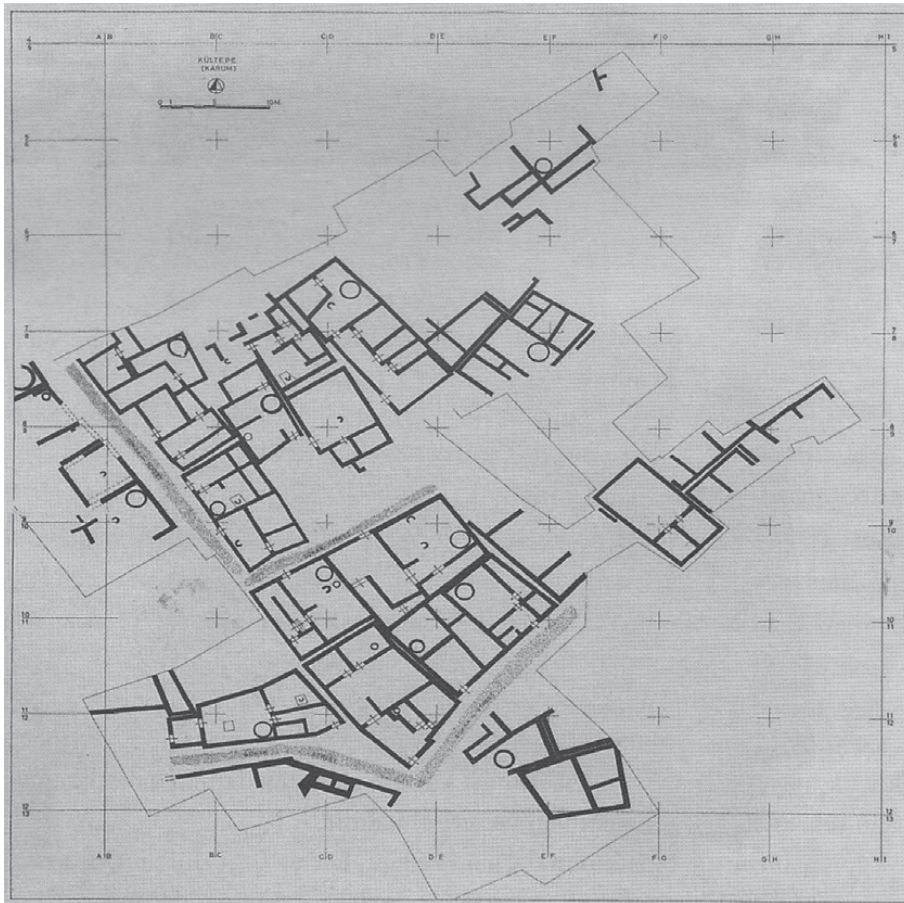


FIGURE 3.10.2. MBA residential architecture in Kültepe Kanesh Karum level II (from Özgüç 1986: Plan 2).

sixty-one years. Both palaces at Acemhöyük were constructed in 1766 \pm 4/–7 cal BCE with a minimum lifespan of eight years (Kuniholm *et al.* 2005). All palaces were destroyed and ended in a conflagration.

The residential architecture of the outer town (Karum area) is made up partly of two-storey, flat-roofed houses with three to five rooms, one of them often larger, and all of irregular shape. Ranging in size between 70 and 130 sq m, these stand in densely built neighbourhoods (Fig. 3.10.2), sometimes sharing walls with neighbours (Özgüç *et al.* 1999). Houses were used as living and work spaces, with office, storage, kitchen, archive and safe rooms on the ground floor and the second floor serving as the residence. Some houses were also used as workshops, as indicated by furnaces, crucibles and moulds specialising predominantly in the production of metal objects, especially a variety of weapons except long swords, but also stone and bone tools, and seals on the ground floor. Large amounts of raw materials such as imported ivory (elephant and hippopotamus) and rock crystal (both in Acemhöyük) and obsidian (3 tonnes found in Kültepe mound, level 7 megaron-shaped official storage building) and, in addition, the finished objects in all of these materials attest to the production and need for luxury objects among the Anatolian elite who were competing for power (Mellink 1993). Imported finished products came from the east, such as glazed faience votive figurines and vessels from north Syria

(Özgüç 1986, 2003) or roller-frames (spools) from Babylon or Iran (Özgüç 1986, 2003; Harper 1989).

Intramural burials are attested in Kültepe from the Karum area: inhumations were found under kitchen floors in stone-lined cist graves or in pithoi (large storage jars). Mostly the cist graves contained a variety of locally produced bronze, silver and gold vessels, weapons, and gold jewellery decorated with precious stones such as lapis lazuli. Iron, first attested in the 3rd-millennium elite burials at Alacahöyük (Yalçın 1999), continued to be used for precious objects (it is worth noting that in the Anitta text the “man” from Purushhanda [= Burushhattum] brings to him an iron throne!) but is rarely in evidence. More common are extramural cemeteries which continue 3rd-millennium practices of pithos burials, inhumations and increasingly cremations. For example, in the MBA cemetery at Acemhöyük, 500 m from the mound (Arıbaş) dated to the 18th–17th centuries BCE, c. 70% of the 167 burials were cremations, some in urns, and the remainder inhumations, some in pithoi (Özkan 1998). Other cemeteries have been found at Alişar, Ilıca, Seydiler, Yanarlar (Emre 1978), Gordion (Mellink 1956), Büğet (Çorum) and Kazankaya near Maşat. It is conceivable that the differences in burial practices reflect culturally distinct population groups living together. In terms of infrastructure, stone-paved streets, sometimes even with border stones, were often wide enough for single carriages; and built-in drainage channels as well as

open yards and disposal pits limited to peripheral areas are common features of developed urban life in the MBA.

As for mercantile activity, the archaeological record reflects only a fraction of the complex set of interactions outlined in this chapter. No remains of the main commodities of trade – that is, ingots of tin, copper, gold, silver, finished textiles and wool – are preserved in the archaeological record. The Assyrian traders and their families lived in houses constructed by local craftsmen to look like the houses of their Anatolian partners, and they used locally produced Anatolian household utensils, so that it would be difficult, if not impossible, to recognise the residing foreign merchants and traded commodities without the archival documentation. The archive of each merchant was stored in clay vessels, baskets, textile bags and wooden boxes and organised on shelves and along the walls of a room reserved for this purpose in his house (Veenhof 2003b).

Seals of the period are best known from their impressions preserved on bullae and tablets, because few original seals have been preserved. The main types of seals in use were cylinder seals of Mesopotamian origin and Anatolian stamp seals. The use of cylinder seals was introduced to Central Anatolia by the Assyrian traders together with the practice of writing on clay tablets. Stylistic variations are distinguished as Old Assyrian, Old Babylonian, Old Syrian and Old Anatolian, the last being a local adaptation of Mesopotamian imagery in an idiosyncratic, bold style; the earliest corpus of Anatolian iconography presents minute details of costume, furniture, cult installations and vessels in addition to images of deities, most of which continued through the Bronze and Iron Ages (Özgüç 1965, 1968, 1980, 1989; Teissier 1994; Özgüç & Tunca 2001). Stylistic differences do not necessarily reflect the cultural identity of the owner or where they were produced. On the other hand, an increase in the use of stamp seals on envelopes in Karum level Ib does indicate a rise in the Anatolian component of trade. The iconography of the stamp seals shows regional differentiation within Central Anatolia and introduces elements of what will constitute the Hittite glyptic repertoire. Affinities with sealings from Phaistos (Crete) and Karahöyük (Konya), another MBA mound with remains of a building of palatial calibre, also attest to sustained contact to the west across the sea (Aruz 1993). Lead figurines and their moulds are found frequently and constitute another artifact type with figurative representations (Emre 1971). These begin to be popular from the end of the 3rd millennium onwards and were used over a wide area, probably for cult purposes, perhaps as votives.

Wheel-made ceramic production was introduced to the Anatolian Peninsula beyond the Uruk penetration along the Euphrates in Cilicia in the early 3rd millennium (Goldman 1956). In EBA III it began to spread west (Troy, Aphrodisias, Külliöba) but remained isolated. During the MBA the city-states of Central Anatolia introduced their own wheel-made shapes, typically with sharp carinations, exaggerated beaked spouts and abundant handles, that emulated metal prototypes in shape as well as in terms of decoration which was monochrome with reddish slips (Fig. 3.10.3); all were polished except for cooking pots. These constitute the standard repertoire which continued with no break through the Old Hittite

Kingdom into the mid-2nd millennium. A small percentage of these shapes are painted with brown linear, geometric or figurative (birds) designs; smaller vessels are completely covered with a light slip, while large ones only have it on the shoulder in panels within the red polish. A polychrome painted tradition (Cappadocian Ware) with geometric designs that echo textile patterns does not last beyond the MBA. Handmade vessels continued to be produced: some rhyta (libation vessels) are in imaginative shapes such as fully sculpted animals (birds of prey, lions, bulls, boars, partridges, etc.), fruit (grapes), and there are even shoe-shaped ones. Some are stylised, others rather naturalistic. In addition to the duplicated shapes which are hallmarks of this period, there are vessels with animal and human figures, often superimposed and attached to the handle, spout or rim. Sieved jugs are common, indicating that a lot of liquids were filtered prior to consumption – probably beer or sweetened and flavoured wine.

In the West, the Anatolian Grey Ware tradition (Pavúk 2002b, 2005, 2007a, 2007b) corresponds to a similar ceramic convention (Grey Minyan Ware) on the Greek mainland: local grey wares (from inland centres) of the 3rd millennium BCE, often burnished to a metallic lustre (imitating silver vessels?) continue to develop in the Middle Bronze Age especially in the West Anatolian (East Aegean) coastal zone.

The Late Bronze Age (1650–1200 BCE)

Introduction

The Late Bronze Age (LBA) in Anatolia refers to the period which begins with the rise of the Hittite state and ends with its destruction in tandem with the widespread devastations attested in the archaeological record around the coastal Eastern Mediterranean and its hinterland. Many sites with MBA levels continued into the LBA with little change in cultural assemblages or technologies. On the other hand, the end of the MBA is often marked by a destruction level, and former MBA centres such as Kültepe/Kanesh or Acemhöyük do not survive in the LBA as centres. Archival texts inform us about the rise of a political dynasty, the Hittites, which expanded its rule from the MBA political scale of a city and its hinterland (city-state) to a regional, territorial state which eventually exerted its power and influence beyond the boundaries of Central Anatolia, reaching south to the Mediterranean coast, southeast into north Syria including the Euphrates bend, north up to the Pontic range, and west to the Aegean as far north as Troy. The cultural assemblages of Central Anatolian sites show a gradual internal development, ultimately leading to a standardised, idiosyncratic repertoire. The main characteristics of residential architecture and construction techniques continued into the LBA, in contrast to new forms of preplanned monumental structures and public buildings introduced in the heartland of the new kingdom (Naumann 1971; Schachner 1999). Planning ranged in scale from the individual building



FIGURE 3.10.3. a. MBA beak-spouted, red-slipped, polished jug imitating metal prototype, Boğazköy-Hattusha, c. 18th century BCE (from Bittel 1976: 79 fig. 52). H.: 0.384 m; b. MBA red-slipped, polished teapot with exaggerated spout, Kültepe, Karum level II. After Özgüç, T. 2005. *Kültepe-Kaniş/Nesa. Yapı Kredi Yayınları*: İstanbul, p. 126 fig. 118. H.: 0.134m D.: 0.083m; c. MBA red-slipped, polished vessel in the shape of bird of prey to receive and pour liquid (wine?) during cultic activity, Kültepe Karum level II. After Özgüç, T. 2005. *Kültepe-Kaniş/Nesa. Yapı Kredi Yayınları*: İstanbul, p. 175 fig. 197. H.: c. 0.207m; d. MBA red-slipped, polished, pair of teapots with bird of prey on connecting bar between handles, Kültepe Karum level II (after Özgüç, T. 2005. *Kültepe-Kaniş/Nesa. Yapı Kredi Yayınları*: İstanbul, p. 160, fig. 181). H. (base to rim): 0.18 m.

to entire neighbourhoods of a settlement. In fact, the LBA site as a whole reflects careful planning, including its monumental fortifications. The new forms mark a change in economic, administrative and representative needs, an indication of developing sociopolitical complexity. The uniformity of these changes over the entire core of Central Anatolia attests to the rise of a centralised state. The political manifestation of this growing state which, according to archival sources, derived its power from its military capacity, is corroborated by abrupt

changes in architectural and material culture in regions that came into contact with, and yielded to, this expanding polity, such as in Tarsus-Gözlükule, Mersin-Yumuktepe and Kinet Höyük in Cilicia (Goldman 1956; Garstang 1953; Jean 2006; Gates 2001, 2006) and İmikuşağı and Korucutepe in the upper Euphrates region (Konyar 2006).

Chronologically the period is subdivided into LBA I and II, a subdivision based on a combination of historical and archaeological evidence. Historically, LB I (c. 1650–1400) refers to the

Hittite Kingdom Period (including Old and Middle Kingdom – albeit a differentiation that is not accepted by all: see Archi 2003 and Müller-Karpe 2003) and corresponds to the first phase of the polity as a regional state. LB II (c. 1400–1200) implies the Hittite Empire Period, when the state expanded beyond its core area. The absolute chronology of the period is debated and under construction: C14 dates are accumulating for stratified levels of the LBA from a number of sites including Boğazköy/Hattusha (Schoop 2006). Dates are also provided by the dynastic succession of Hittite rulers and historical synchronisms with the Near East, although the interpretation of available evidence continues to be discussed and elaborated (Dinçol 2006; Schoop 2006). Archaeologically, the transition from LBA I to II is characterised by the decline of the typical Central Anatolian ceramic assemblage established in the MBA, and the introduction of an extremely standardised, plain ceramic repertoire with a limited number of simple forms (Parzinger & Sanz 1992; Müller-Karpe 1998, 2002). Recently the chronology of the Hittite capital city has begun to be revised (Seeher 2006a, 2008).

There is a marked discrepancy here between the archaeological record and the archival sources. The former preserves evidence for impressive yet abrupt accomplishments in town planning, engineering and landscape management, but little of the splendour and intricacies of this powerful polity. The latter, on the other hand, reveals an elaborate state apparatus with a strong sense of political and historical continuity and disciplined record keeping, a multilingual scribal tradition, an interest in law and literature, complex rituals and cult as well as remarkable accumulation of wealth. The written record further exposes the widespread interregional contacts and communications of the polity, and sheds light on contemporary Eastern Mediterranean and Near Eastern interaction. Hittite archives also inform us about contemporary historical figures, events and the historical geography of the world to the west where written records have not yet been recovered, such as the Anatolian coast of the Aegean (Hawkins 1998, 2009), or where writing serves purely administrative purposes with little narrative to flesh out politics and history, as beyond the eastern Aegean realm.

Archival sources

The Hittite state employed writing in the form of cuneiform on clay tablets to record official documents from the very beginning. The practice of writing did not develop from MBA contact with the Old Assyrian script, but was reintroduced following military penetration into Mesopotamian lands leading to encounters with the Babylonian scribal tradition (Hawkins 1986). Parallel to writing in Akkadian, the lingua franca of the period, Hurrian and venerable Sumerian LBA Hittite chancellaries began to record their vernacular Indo-European language, Hittite (Neshite or Neshili), in the Mesopotamian script. Other vernaculars, clearly present in spoken form, including two further Indo-European languages, Luwian (Hawkins 2003) and Palaic, and the idiosyncratic and earlier Hattic (reference to Central Anatolia by the Hittites as the land of Hatti is taken

to imply a pre-Hittite Hattic presence), occur only sporadically in the written record. This linguistic plurality does not correspond to specific cultural assemblages or any such distinctions in the material record, and would be entirely unsuspected without textual evidence. The study of place names suggests that Luwian extended along the southern and western coastal zone of Anatolia, whereas Palaic is assigned to the Black Sea coast.

In addition to cuneiform on clay tablets, a locally developed pictographic and syllabic script was used to record Indo-European Luwian (Hieroglyphic Luwian, HL). It is preserved on seals or their impressions on clay, where it records short information such as names, title, genealogy and the office of the seal holder. This script was also carved on stone objects such as altars (Emirgazi), a variety of stone-built monuments such as a pool (Yalburt) (Hawkins 1992) or a sacred chamber built into the dam wall of a water reservoir (Südburg, Boğazköy) (Hawkins 1995), and on natural rock outcrops. Some inscriptions are extensive texts with a political content. It is noticeable that no archival material is preserved in this script. This absence may be explained by writing on perishable materials, and this is supported by information provided on clay tablets that mention wooden tablets and their scribes. None survives in the archaeological record from Central Anatolia. The only LBA example of a wooden folding tablet with two hinged parts, but with no writing preserved, comes from the Uluburun shipwreck (Payton 1991). Thus, even if it is not conclusively proven that HL was incised on wax-coated, hinged wooden tablets, it seems very likely. Wooden tablets may have been used in the Aegean as well, thus accounting for the paucity of the preserved written record in this part of Anatolia. The practice of writing on wax-coated wooden tablets did survive the fall of the LBA Hittite world and remained common in the Graeco-Roman world.

Hittite rulers and administration used stamp seals (Fig. 3.10.4) following Anatolian tradition (Güterbock 1940, 1942; Beran 1967; Boehmer & Güterbock 1987). They introduced writing onto the seal face and developed a new idiosyncratic iconography influenced by Egyptian and Syrian motifs. The Mesopotamian-inspired Anatolian-style cylinder seal of the MBA does not continue to be used after the mid-2nd millennium BCE – that is, it disappears together with writing in the Old Assyrian dialect. LB I seals only use writing, with Akkadian cuneiform as the official language reserved for the ruler and HL for the administration. Iconography was added in the Empire Period. Large quantities of lumps of clay with seal impressions (bullae) were excavated in Hattusha (Herbordt 2005; Dinçol & Dinçol 2008). Seals and/or seal impressions with HL inscriptions are attested beyond the Hittite core-land in the west at Troy (Hawkins & Easton 1996) and Çine-Tepecik (Günel & Herbordt 2010), in the south at Soli (Yağcı 2007) and Tarsus (Gelb 1956), and in the east at Korucutepe (Van Loon 1978), Ugarit (Schaeffer 1956) and Emar (Beyer 2001).

Information provided in the clay tablet archives at Boğazköy/Hattusha confirms the site as the capital city of the Hittite kingdom (Bittel 1970), replacing the former central role of Kültepe/Kanesh. Further LBA archives were located at İnandık



FIGURE 3.10.4. Impressions on clay stoppers of Late Bronze Age Hittite seals of administrative officials with Hieroglyphic Luwian writing, from Sankale, Boğazköy-Hattusha. (Courtesy Boğazköy Archive, German Archaeological Institute.)

Tepe (Özgüç 1988; Alp 1991; Wilhelm 2005) Maşat/Tapigga (Özgüç 1980, 1982), Ortaköy/Shapinuwa (Süel 2002), Kuşaklı/Sarissa (Wilhelm 1997) and Tarsus/Tarsa (attested by a land-deed tablet: Goldman 1956; Wilhelm 2005). Cultural continuity is implied by the Hittite name for their language as Neshili, the language of the town of Nesha, another name for Kanesh (Güterbock 1958). The figure of the ruler Anitta (see earlier in this chapter) provides historical continuity for the MBA and LBA polities in Central Anatolia. Anitta and his father Pithana appear on archaeological material dated to the MBA as well as in the royal Hittite archives. Both Anitta and Hattushili I, the earliest attested ruler of the Hittite dynasty, connect their own dynasty to the same, as yet unlocated town of Kussara-

Kushshara. Moreover, Hattushili's name, clearly a throne name, means "the man from Hattush", which may be read as a concern to emphasise the new capital within a context of cultural continuity using its old name. The term Hittite is modern and derived from biblical references to Iron Age successors of the empire.

In contrast to the mercantile private archives found in residential structures of the MBA, LBA Hittite texts are mostly located in public monumental structures such as palace or temple archives. These texts are official documents and shed light on historical figures and geography, internal and international politics and military events, palatial administration and hierarchy, as well as the cultic domain and its practice and

organisation, including literary and mythological compositions. Economic texts about taxation and trade are rare; one exception is the genre of land-deeds where the Hittite king grants land to individuals in return for goods and services.

Annalistic recording is a hallmark of the Hittites and may constitute the earliest example of this genre (Van de Mieroop 2007). Moreover, there is a tradition of concluding treaties in writing, and historical preambles to such treaties record past events. Even though these presentations must be biased in their perspective and selection (*ibid.*), the concern to reiterate past events in order to justify current actions or decisions reveals an interest in the past in near historical terms. Clay-tablet fragments inscribed with the famous Hittite peace treaty concluded with Egypt, the well-known Qadesh treaty (Edel 1997), were found in the Hattusha archives. These belong to the Egyptian version written in Akkadian, one of several copies, two of which – the officially exchanged and perhaps displayed ones – are known to have been inscribed on silver tablets, according to texts. One such metal tablet, although in bronze, bearing the text of another treaty, was unearthed in Hattusha near one of the ceremonial city gates (Otten 1988). Chains found attached to the tablet may have been used to attach seals (Herbordt 2005). Bilingual recording is frequently attested, using Akkadian, the *lingua franca* of the period as the second language/script, both on tablets as well as on seals, but never on public monuments. Hittite itself is attested once as an *ersatz lingua franca* in a letter from a west Anatolian ruler to the Egyptian pharaoh, found among the Amarna Letters.

Archaeological record

Where settlement size and location are concerned, LBA Central Anatolian sites can vary between 1–2 ha (small villages) and 18–26 ha (cities such as Kuşaklı/Sarissa), the capital city Hattusha measuring an immense 180 ha (Ökse 2006). Hittite sites of the LBA are found either in hilly terrain or in plains, often continuing habitation on ancient settlement mounds. The location of sites is determined by a combination of access to fresh drinking water, agricultural land, pasture land, in addition to hunting and gathering options (dry-farming agriculture in Central Anatolia is not stable and reliable, with drought years leading to famine), such as in nearby forests (now deforested), and finally considerations of mobility via transit roads and visibility for defensive purposes. Hattusha represents the best example of such a site, in stark contrast to traditional sites on top of ancient settlement mounds on plains (Fig. 3.10.5).

Residential architecture of average households in the urban centres of Central Anatolia in the LBA was a continuation of a development which began in the EBA: partly two-storey houses with multiple rooms of varying size, one often larger, an irregular exterior and interior, sometimes an inner courtyard (Schachner 2006). Houses in urban areas line streets which mostly do not seem preplanned. Building materials continued to be stone for the foundations with a mud-brick superstructure on a wooden frame. Fresh water was available in communal fountains, and waste water was drained out of

houses through clay pipes into sewage channels which ran under the streets.

A new development was free-standing urban mansions with roofed halls (*Hallenhäuser*) of unprecedented size and planning, which suggest the rise of a new urban elite presumably serving in the administration of the central state apparatus, at least as by the 15th century BCE (Neve 1979). Recent excavations have also revealed standardised housing units, perhaps military barracks, in a grid-shaped street layout dating to the 16th century BCE, one of which was inhabited by the chief military commander according to a tablet found in the structure (Schachner 2009). In the course of the LBA, Hittite monumental architecture introduced a series of unprecedented building types that are nevertheless so clearly attuned to the topographical conditions that they do not seem imported conceptually, but must have developed locally (Naumann 1971; Neve 1995/6; Schachner 2009). Temples in LBA Hittite Anatolia were conceived in the Near Eastern tradition as the residence of deities and can usually be confidently identified as such based on standardised features (Neve 1999) and the presence of a cult room, or *cella*, often with a podium on which the statue of the deity stood. No such statues have been found so far, but temple inventory texts give a vivid description of temple statues and other cult objects of value (Von Brandenstein 1943; Jakob-Rost 1963a, 1963b). No Hittite temple has been clearly identified with a specific deity through an inscription or archival information, but nevertheless some attributions exist: it has been suggested that the largest building (C) in Kuşaklı-Sarissa was dedicated to the Weathergod, the main deity of the Hittite pantheon (Müller-Karpe 2002b). The hallmark of all monumental (varying between 20 m × 20 m to 40 m × 60 m) free-standing Hittite temples is the open rectangular courtyard in the centre lined with a portico on one or more sides. Clusters of rooms were grouped around this courtyard. In contrast to Mesopotamian or Greek temples, large windows are in evidence, indicating that daylight flooded the interior space. The cult room, placed at an angle and never across the main entrance into the temple, could be accessed only after turning around and is never visible from the courtyard. Large, partly worked stone blocks fitted without mortar were often employed for the lower part of the walls above ground level (Neve 1995/6; Seeher 2009b). Dowel holes drilled with a mechanical drill are widespread on large stone blocks, as across the Eastern Mediterranean during the LBA (Naumann 1971; Seeher 2005). A typological development of temples – the earlier ones with irregular exterior facades which reveal interior subdivisions and clusters, the later ones with straight facades in tandem with a diminishing size – has been suggested (most structures are difficult to date) based on the plans and location of the thirty-one temples in Hattusha and Kuşaklı/Sarissa which have been dated and identified (Neve 1995/96; Müller-Karpe 2003; Schachner 2009). Like Mesopotamian temples, Hittite cult buildings also functioned as households of deities, that is, as economic centres with material remains indicating production (workshop areas and kitchen facilities, breweries), storage (large containers and space for agricultural surplus) and recording (scribes and archive) in designated areas. Temples and residential large

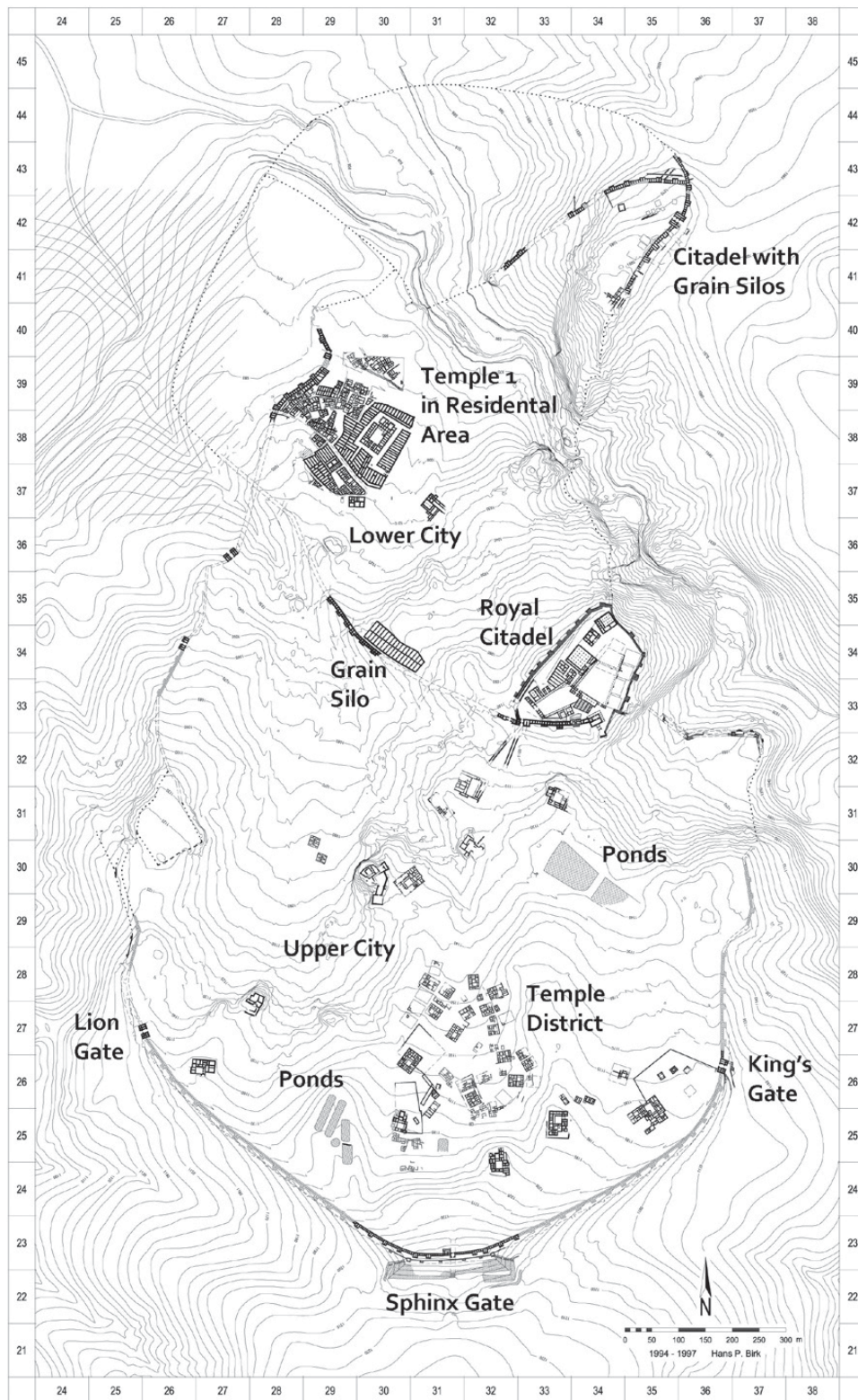


FIGURE 3.10.5. Boğazköy-Hattusha topographical site plan with contour lines at 5 m intervals. (Courtesy Boğazköy Archive, German Archaeological Institute.)

buildings were often built on slopes accommodating the hilly terrain, allowing for a partial cellar or a lower floor level down the slope. LBA Central Anatolian monumental buildings had flat roofs. Water from roofs and courtyards was drained out of

the building in clay pipes or open water channels. Clay piping also served to bring in fresh water. Hittite types of official buildings are also found at sites which came under Hittite political control (Tarsus, Korucutepe, Kinethöyük). A structure built



FIGURE 3.10.6. Late Bronze Age Hittite architectural sculpture. Lion Gate, Hattusha. Scale provided by human figure. (Courtesy Boğazköy Archive, German Archaeological Institute.)

to control access to the open-air relief-bearing rock sanctuary (Yazılıkaya) outside Hattusha complements the sacred space and transforms the natural rock outcrop into a formal space akin to a temple.

Palaces of the MBA did not survive into the LBA. A new architectural concept was introduced: palaces were built as a conglomeration of different buildings around a series of interconnected colonnaded courtyards. Buildings catered to a variety of representative, administrative, archival, residential and cult functions, each housed in a separate structure. In the large urban centre of Hattusha a very large palatial complex was erected in a citadel on a rock outcrop (Neve 1982), using extreme conditions of topography to suit the representational and defensive needs of the ruling dynasty. Further palaces have been found at Maşathöyük (Özgüç 1980) and Alacahöyük (Koşay/Akok 1966/1973), respectively.

Standardised systematic fortifications are among the most distinctive and visually impressive features of LBA Central Anatolian urban planning (Seeher 2010). The typical Hittite fortification is constructed of an 8–10 m-wide casemate wall with a stone-built shell and rubble fill which supported a mud-brick superstructure with crenulation of an estimated height of 7–8 m, interspersed with 9 m-long regular rectangular towers

jutting out at every 20 m stretch of wall, rising to a height of approximately 12–13 m (*ibid.*). Seeher draws attention to the regularity of this particular type of fortification as a manifestation of Hittite political presence in a given landscape. Peculiar to Hittite fortification systems are stone-lined, corbelled-arched postern tunnels which pierce the defensive walls in some areas, although their function is unclear. Traffic in and out of the fortifications was controlled through arched-gate complexes constructed of megalithic stone blocks (Fig. 3.10.6) and protected by towers. Relief decoration carved on some of these blocks (Lion Gate, King's Gate, Sphinx Gate at Hattusha) or the adjacent row of building blocks (Alacahöyük) clearly indicates that gates were also conceived as ceremonial space. In Hattusha an earthen ramp (height: 30 m; width: 80 m; length: 250 m) built in the shape of a truncated pyramid and covered with stone glacis (Yerkapı at the Sphinx Gate), to reinforce the highest point in urban topography, is the crowning pinnacle of power manifestation marking the boundary of the urban and natural landscape on a gigantic scale reminiscent of Egyptian pyramids (Neve 2001).

In recent years large, official grain silos built with technical expertise to store enormous amounts of grain (with a combined capacity of more than 8000 tonnes, feeding a population

of more than 40,000 people in the case of Hattusha) were discovered inside several fortified LBA Hittite urban centres (Seeher 2000, 2006). Such silos are not attested prior to this period. Water reservoirs, produced through damming streams to create dam lakes, were another novelty of the period employed both in and around fortified urban centres (Hüser 2007). The technical expertise indicates skilled specialists and experience in landscape engineering. Schachner (2009) points out that the collection of water and grain reflects the economic safety net of the recently centralised state, with its administration and social hierarchy depending on the regular supply and redistribution of agricultural surplus in the precarious ecological balance of the Anatolian Plateau.

LBA burials are in extramural cemeteries, but few have been found: at Osmankayası (Bittel *et al.* 1958), a cemetery of the Hittite capital city located outside the urban fortification on either side of the road that leads to the rock sanctuary (Yazılıkaya), both simple inhumations and cremation burials in urns placed in rock crevices and niches have been unearthed. Grave-goods are simple and include animal bones, perhaps indicating offerings of food. Texts inform us about cremation burial rites for the ruling elite, about a “house of stone” (*hekur* house) where the bones of the cremated rulers would be put to rest. No such place has yet been identified with any certainty. There are no clear cultural boundaries in Central Anatolia defined by burial practices; on the contrary, extramural cemeteries often include different types of burials together. Cremation burials are less common before the mid-2nd millennium; otherwise, there is continuity from MBA to LBA in extramural cemeteries, with inhumations in pithoi remaining more common in western Anatolia. No elite burials have been located.

Anatolian art of the LBA is best known for its architectural sculpture and rock reliefs. Architectural sculpture occurs in the form of large portal figures (lions, sphinxes) or friezes carved on monumental building blocks displaying cult narratives (Alacahöyük) paralleling similar scenes on relief vases (Mellink 1974). Reliefs and/or short inscriptions are carved on rock facades in the rural landscape (Fig. 3.10.7), often located near streams, water sources or roads (Kohlmeyer 1983). Seeher (2009a) compares rural rock reliefs and their inscriptions to the use of seals, which they echo in appearance, in that both demonstrate power and territorial claims. Rock reliefs (Karabel, Akpınar) and inscriptions (Suratkaya: Peschlow-Bindokat 2002) have been found from the Aegean coast to Cilicia (Sirkeli, Hemite) and in between. Fragments of fresco wall painting of Aegean type have been discovered at Boğazköy/Hattusha in Temples 5 and 9. Anthropomorphic cult figurines and statuettes are made out of ivory, rock crystal (Tarsus), bronze, silver and gold (Bittel 1976). Relief-decorated bronze and silver vessels were produced, in addition to cultic animal-shaped metal cups which continue the MBA tradition of similar objects made out of clay. None of these metal vessels has been discovered in context.

A surmised Hittite monopoly in the production and trade of iron objects during the LBA suggested by textual rather than archaeological evidence continues to be debated (Yalçın 2005).



FIGURE 3.10.7. Late Bronze Age Hittite rock relief: deity Sharruma (tall) embraces King Tuthalya IV (smaller). Boğazköy, open-air sanctuary Yazılıkaya, chamber B east wall. Height of deity figure 1.64 m. (Courtesy Boğazköy Archive, German Archaeological Institute.)

Ceramic production continued from the MBA to LB I exhibiting typical Anatolian traits such as the use of mineral-tempered clays, red slips and heavy burnishing, and sharp carinations often thought to imitate metal vessels. In LB I a greater variety of forms existed: most characteristic are various types of elegant, tall jugs on disc-shaped bases with extremely beaked spouts. The hallmarks of this period are tall funnel-rimmed vertical-handled vessels decorated with mould-made polychrome bands of reliefs depicting narrative scenes of cult activities. Themes included festivals with food preparation, music, dance, acrobats, “sacred marriage” scenes (Bitik and İnandık Vases, Özgüç 1988) and bull-jumping (Hüseyindede Vase, Sipahi 2000), which is best known from the Minoan world, but is attested in north Syria even earlier on cylinder seals. Monumental architecture is shown in elevation, with details such as balustrades and wooden posts that are usually not preserved in the excavated foundation levels. By the 15th century BCE a steady decline in red-burnished, beak-spouted, and carinated vessels had occurred. Vessels in the shape of animals continued to be produced, now on a larger scale, acquiring the proportions of sculpture in the round, such as libation vessels in the form of standing bulls, mostly encountered in pairs (Boğazköy/Hattusha, İnandık, Kuşaklı/Sarissa). The LB II ceramic repertoire exhibits a break from the continuous tradition of pottery production as the domain of artistic craftsmen



FIGURE 3.10.8. Late Bronze Age Empire Period Hittite vessels from the residence of a local elite south of Sarıkale, upper city, Boğazköy-Hattusha. (Courtesy Boğazköy Archive, German Archaeological Institute.)

which was characteristic for the MBA–LB I Period (Müller-Karpe 2002a). LB II is marked by mass-produced plain ware, sometimes referred to as Hittite monochrome ware or “drab” ware in light clay, with no or minimal surface treatment, reduced to basic rounded shapes and no carinations (Fig. 3.10.8): shallow round-based bowls are dominant, together with plates, one-handled amphorae, pilgrim flasks, globular cooking pots and deep straight-sided tubs. Former affinities to metal forms completely disappeared, as did the once ubiquitous beak-spouted vessel. Miniature cult vessels are a new addition to the LB II Period repertoire. This standardised yet uninspiring assemblage spread geographically with the growing political impact of the Hittite Empire, displaying uniformity in shapes and assemblages over wide regions. The manufacture of pottery may have been centrally controlled during the Empire Period (LB II) which might explain various potters’ marks encountered at different sites on open-shaped vessels (Gates 2001). There were some ceramics such as spindle bottles and arm-shaped vessels (suggested to have been used for libations) in Red Lustrous Ware also found on the island of Cyprus, formerly thought to be the source. Current studies propose production in Cilicia (Kilisetepe) that defines this ware as an Anatolian export (Kozal, forthcoming). In contrast to Cyprus and the Anatolian and Syro-Palestinian Levantine coast, only minimal amounts of Mycenaean pottery have been found at some sites on the plateau (Maşat, Firaktin).

Faunal assemblages from Anatolian sites generally consist of about 50–70% of sheep and goats, 15–20% each of cattle

and pigs, and 5% or less of wild animals, a pattern established by the Late Neolithic and which continued through the Middle Ages (Hongo 2003: 259). In the LBA to IA transition of Central Anatolia generally, an increase in goats and red deer is attested, perhaps indicating deteriorating environmental conditions (*ibid.*: 266). At the Mediterranean coastal site of Kinet in eastern Cilicia hunted and marine species increase dramatically in the Bronze Age levels and decrease in the Iron Age, whereas domestic species remain mostly in similar proportions, except for a rise in pig bones in the Iron Age (Ikram 2003: 292).

Indications of rising social complexity in West Anatolia, in the form of fortified towns with cultural contacts beyond their own region, a central administration and an agricultural hinterland, are beginning to emerge as more investigations focus on Bronze Age remains. The picture is far from clear, and with no archival documents observations rest on the interpretation of preserved material remains, which often reflect a mere fraction of existing conditions and intricacies. Few regional centres have been located so far. Stratified mounds in the Near Eastern tradition are generally characteristic of the inland river valleys, which all flow east–west, draining into the Aegean. The coastal zone, with the exception of Troy, does not exhibit tall mounds, but shallow remains of settlements; clearly many important ones have been submerged by the constant silting of the numerous alluvial plains or sealed by the overlying Classical remains. The overall picture indicates continuous development in the area at least from the EBA if not Chalcolithic, but does not reach

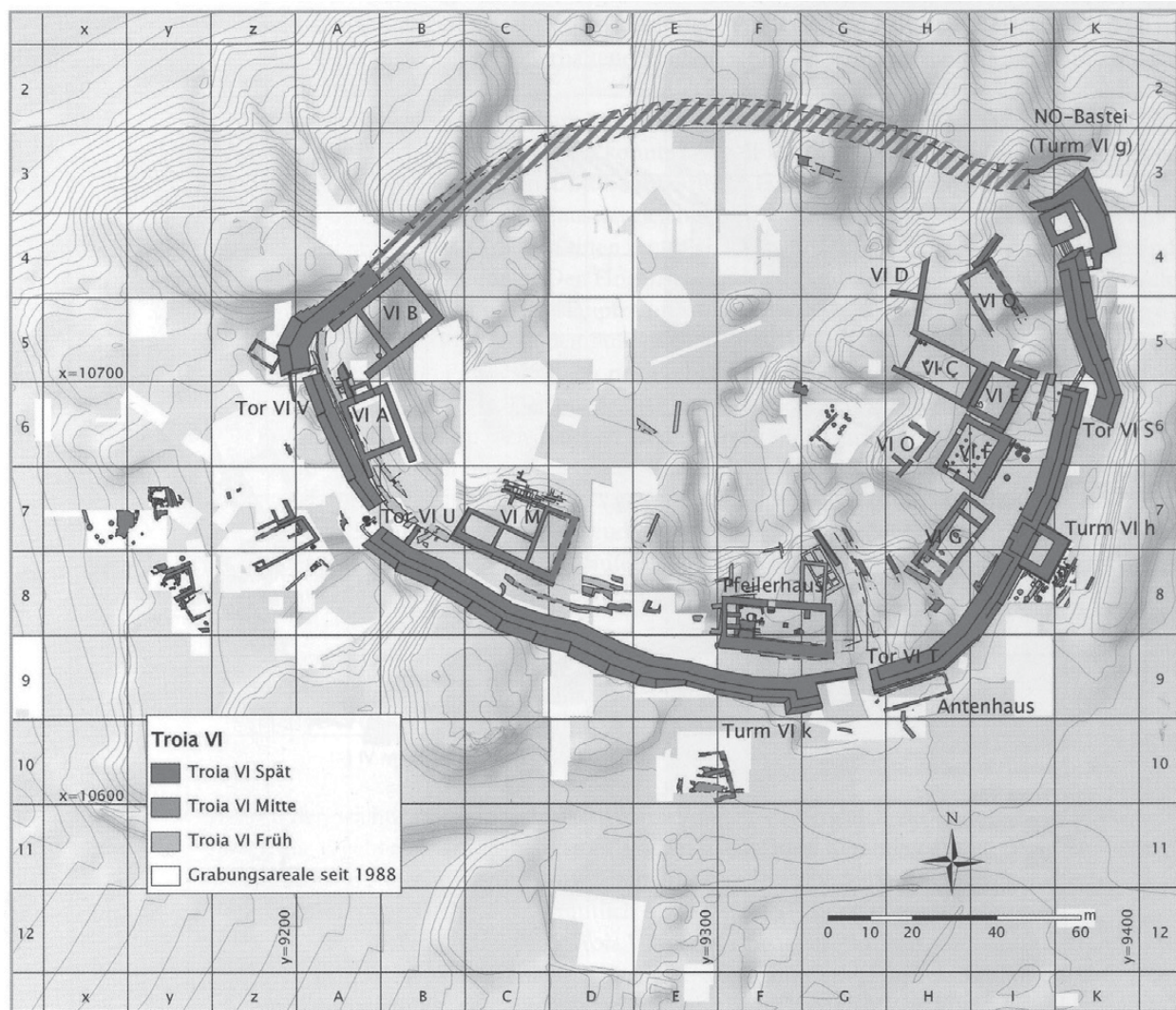


FIGURE 3.10.9. LBA Troy site plan (Troy VI citadel). (From Becks 2006: 157, fig. 2.)

the level of complexity encountered in contemporary Central Anatolia or Crete. Developments during the 2nd millennium BCE in west Anatolia were first investigated at Troy (Blegen *et al.* 1958; Korfmann 2006). In levels VI–VIIa (c. 1750–1180), dating to the late MBA–LBA (Becks 2006), the citadel (c. 2 ha) was protected by an idiosyncratic fortification with a few square towers (Fig. 3.10.9). The circuit wall continued local traditions that started in the EBA. The centre of the site was dug away in Roman times and in the 19th century, so that the public buildings of monumental size, to be expected in a fortified town of this scale, were not found. The preserved buildings are of megaron type or rectangular free-standing structures with few internal subdivisions, some with rows of pillars. They follow the fortification wall and do not resemble Central Anatolian multiroomed structures organised along streets. Recent research has established the existence of a lower town partly protected by a moat which was enlarged in Troy VIIa. A new type of ceramic, Anatolian Grey Ware, initially imitating silver vessels, appeared in Troy VI (Pavúk 2007b), later followed by Tan Ware. Imported Mycenaean ceramics soon gave way to locally

produced imitations (Mountjoy 2006). Late Cypriot II ceramics were found in Troy in the 15th century BCE, and the site ranks high among Anatolian counterparts with Cypriot pottery finds for the next two hundred years (Kozal 2006). Moulds indicate the production of metal objects. Textile production and purple dyeing would cater for elite groups competing for prestige goods. The sudden appearance of the horse, which had been domesticated long before, is noteworthy. An extramural cemetery, dating to the end of Troy VI, was located beyond the moat surrounding the lower town and contained both cremations in urns and inhumations with few grave-goods. On the other hand, the nearby cemetery at Beşik-Yassitepe – again with a variety of burial types such as cremations, inhumations in earthen pits, pithoi or grave chambers – contained jewellery, seals and weapons (Basedow 2001). A bronze biconvex seal with a HL inscription identifying the owner as a scribe and his wife (Troy VIIb) is to date the only inscribed object from the site (Hawkins & Easton 1996). The site is unique in the Troad, with no sites of comparable calibre within a day's walking distance (Özdoğan 1993), in contrast to settlement patterns with

more frequent sites in Central Anatolia. Even without textual evidence and monumental buildings the site can be characterised as a large centre for the Troad, with a two-tiered (citadel, lower town) settlement pattern in the Anatolian tradition.

Hittite archival sources refer to a vassal treaty of the early 13th century BCE signed by Muwatalli II and an Alakshandus of Wilusa. The equation of Wilusa and Ilion (and Taruisa with Troy) is generally accepted (Hawkins 1998). Hittite interest in West Anatolia dates back to the beginning of the Old Kingdom or LBA I. Hittite letters on clay tablets from Boğazköy/Hattusha with references to people and places in western Anatolia have allowed philologists to piece together historical geography and some political developments (Güterbock 1986; Hawkins 1998, 2009b). Briefly, the land of Arzawa (later Mira) refers to the central Aegean area, with Apasa (= Ephesus) as its capital; the Assuwa (= Assos) lands to the northwest include Wilusa/Taruisa; the Seha River land is equated with the Hermos River, perhaps including the Caicos River; Millawanda (= Miletus) lies in the now silted-up lower Meander Valley; and the Lukka lands refer to Lycia. The much debated reference to Ahhiyawa must represent the Mycenaean Greeks, whether on the Aegean islands or on the Greek mainland (Hawkins 1998; Mountjoy 1998). No comparable textual evidence has yet appeared from west Anatolian sites.

Research during the last few decades has begun to unearth Bronze Age sites on the eastern shores of the Aegean, previously terra incognita. The only site with Bronze Age stratification known up to the 1980s was Beycesultan in the upper Meander Plain, in the land of Arzawa (Lloyd & Mellaart 1965), where the remains of a large two-storey monumental structure were unearthed. The building consists in plan of various multi-roomed units grouped around a porticoed courtyard. This building continues a West Anatolian architectural tradition, already encountered in the EBA at Küllüoba (Efe 2007). Along the Çine (= Marsyas) River, a southern tributary of the Meander, is the site of Çine-Tepecik, with MBA and LBA levels in a fortified citadel (Günel 2010). Local plain wares are found together with imported and locally produced Mycenaean LH IIIB–C ceramics, some with pictorial scenes. The fortification is of a local type with square towers at regular intervals. The plot thickens with a recently found HL-inscribed seal impression on a clay lump (bulla) bearing the name of a prince of the land of Mira (Günel 2010). Connections to Cyprus have also been attested. At Miletus/Millawanda in the lower Meander Valley locally produced Minoan ceramics and the presence of Minoan seals and seal impressions suggest a Minoan trading post (in Miletus III) connecting Crete with the MBA Central Anatolian/Assyrian trade in metals (Niemeyer 2006, with further references). Minoan influence on contemporary seal impressions of Karahöyük, a MBA-LBA site with remains of a palace located on the Konya Plain, halfway to Kanesh, corroborate this connection (Aruz 1993). A MBA Minoan cultural presence was also recently confirmed to the north on the mainland across the island of Chios, in the residential and workshop district of a settlement at Çeşme-Bağlararası (Şahoğlu 2007). In Miletus V Mycenaean contacts and presence replace former Minoan affinities in the course of the 15th century BCE, and compete for

control over the area with the Hittites. Mycenaean-type chamber tombs, alien to the Anatolian burial tradition, indicate a long-term engagement in Millawanda and its environment. Some degree of Hittite impact is reflected in a fortification (Miletus VI) resembling Hittite construction techniques (Seeher 2010).

Moving north to the Küçük Menderes/Cayster Plain, both local LBA ceramics and Late Mycenaean pottery and a Mycenaean grave were unearthed at Ephesus/Apasa. North of Ephesus, halfway to İzmir at Bademgediği/Metropolis, the remains of a fortress (Meriç 2003) and LH III A2 and LH III C pottery have been recovered (Meriç & Mountjoy 2002).

At Limantepe/Klazomenai, in the region of İzmir, MBA and LBA remains are currently under investigation (Erkanal 2008). To the north of the peninsula, in the silted-up bay at the lower Gediz/Hermos, lies the harbour site of Menemen-Panaztepe, formerly located on an island but now surrounded by alluvial sedimentation (Erkanal-Öktü 2004). A large MBA structure has been found on the acropolis, and a LB II large complex with multiple rooms in the lower harbour area (Çınardalı-Karaaslan 2008). The 14th-century BCE cemetery with Aegean-type tholoi and chamber tombs is sealed by a 13th-century BCE cemetery with pithos burials and stone-cist graves, including combinations of both (Erkanal-Öktü 2008). This stratified change in burial tradition is unique to date. The securely stratified LBA ceramic recovered is key to understanding the west Anatolian pottery tradition (Günel 1999).

In the eastern part of west Anatolia along the Mediterranean coast the bronze tablet (see earlier in this chapter) defined the land of Tarhuntassa, with its eastern boundary at Parha (=Perge) and abutting to the east Kizzuwatna which stretches down the Taurus mountains along the Saros and Pyramos rivers, including the alluvial plain of Cilicia. Excavations at Tarsus-Gözlükule (Goldman 1956) revealed a stratified site with Middle and Late Bronze Age levels, where the Hittite annexation of the plain, as indicated by a vassal treaty found in Boğazköy/Hattusha, is apparent in an abrupt change in the ceramic repertoire culminating in the construction of a monumental building resembling in scale and layout Hittite temples of Central Anatolia. Among the HL-inscribed seal-impressed clay lumps (bullae) found at this fortified site (Gelb 1956), the name of Ishputahsu, who signed the treaty with the Hittite king Telipinu (c. 1500), appears, alongside a seal impression of the famous Puduhepa, queen of Hattushili III, who personally signed political documents and corresponded with the Egyptian pharaoh Ramesses II. The typical repertoire of Hittite plain wares was also present. The presence of stone and clay moulds and metal weapons points to the settlement's role in metal production and trade.

The Iron Age (c. 1200–550 BCE)

Introduction

With the decipherment of cuneiform and ancient Near Eastern languages in the course of the 19th century, western

scholarship recognised Mesopotamian historicity in tandem with the development of archaeology as a scholarly discipline. The Mesopotamian archaeological discourse, therefore, does not draw on terms of technological subdivisions developed for prehistoric periods. Rather, a political/historical framework, itself problematic and debated, is applied as soon as writing begins in the region. However, scholarship on Anatolia, a region long perceived as peripheral from the Mesopotamia-centric perspective, employs prehistoric terminology, often used together with political/historical designations (Hittite, Phrygian, Lydian), until the peninsula culturally begins to slowly Hellenise, spreading inland from the Aegean and Mediterranean coastal zone, but politically becomes part of the expanding Persian/Achaemenid Empire in the mid-6th century BCE.

The end of the LBA in Anatolia is historically defined by the collapse of the Hittite state and the cessation of its administrative system, including official archives. The Hittite official language (Neshili) and its script (cuneiform) were never used again in Anatolia. Luwian and HL script were the surviving linguistic components until c. 700. The Hittite state is one among several that succumbed to the unstable conditions around the Eastern Mediterranean. Archaeologically, the end was not instant, and no single destruction level seals the last levels of the LBA in Hattusha (Seeher 2001). Many sites with destruction levels are dated to c. 1200 to 1180 BCE, following the historical framework, which results in circular arguments. The transition to the Iron Age remains a subject of debate and in need of further investigations all across Anatolia (Fischer *et al.* 2003). Overall one can say that the regional chronology and assessments of the impact of the disintegrating empire need fine tuning. Boğazköy/Hattusha seems to have been gradually abandoned and began to be inhabited by people who lived in simple houses and reverted to handmade pottery (after more than half a millennium of wheel-made production in the area), producing painted pottery in local styles, reminiscent of earlier periods, indicating the breakdown of centralised organisation and a drop in the level of social complexity.

The East (c. 1200–700 BCE)

The Early Iron Age was formerly referred to as the Dark Ages for lack of historical continuity. New discoveries and studies have now thrown more light on the period and point to dynastic links between the imperial dynasty and some of the successor city-states (Hawkins 1988, 1992). The vacuum left by the disintegrating Hittite Empire was filled in the course of the Iron Age by competing polities, each with a central town and its hinterland. In contrast to the MBA Anatolian city-states, the Iron Age city-states clustered south of the Kızılırmak/Halys. They were located along the Taurus mountains, the Cilician Plain, the west bank of the upper Euphrates including the bend, along the Orontes/Asi River and in the Amuq. This reversion to the MBA urban scale has not been studied from a sociopolitical perspective. The continuation of HL writing has enabled philologists to establish the historical geography and dynastic succession, and at times even the course of some political developments,

for several sites. Local Iron Age potentates sponsored genealogical and annalistic inscriptions (Hawkins 2000) carved in stone on buildings, city-gates (Çambel 1999), stelae, statue bases, funerary monuments (Bonatz 2000) and rock outcrops. The bulk of HL writing, however, is missing, as was the case in the LBA. Contemporary reliefs depict what seem to be wooden folding tablets, which suggests the continuation of the LBA tradition. An alternative medium for recording HL was small strips of lead on which the text was incised, and which were then rolled up when not in use. To date, seven such lead rolls have been found in Anatolia (near Kululu, Kayseri; Boğazköy/Hattusha; Kırşehir-Yassıhöyük; Akdoğan & Hawkins 2009). Six lead rolls were found in Assur (Payne 2005) and indicate their use also for long-distance communication. The quantity of public inscriptions increases noticeably in the Iron Age in tandem with a similar rise in the public display of representations. In contrast to the LBA, where long HL inscriptions were separated from figurative representation, Iron Age images and writing often complement each other in arrangement, although not necessarily in content (Özyar 2003; Çambel & Özyar 2003, Özyar 2012).

Historical links to the Hittite imperial dynasty were claimed in several sites. First thought to be exaggerations by local rulers, these claims have been substantiated to a large degree: in Karkamish on the Euphrates, a descendant of the Hittite king Shuppiluliuma I, Kuzi-Teshup, has been shown to have survived the fall of the empire and to have claimed the title of Great King, which was reserved in the Empire Period for the head of the Hittite Dynasty. Descendants of Kuzi-Teshup continued to rule in Malatya/Melid farther upstream, claiming the same title (Hawkins 1988, 1995). Similar claims were also made on the Konya Plain (Kızıldağ) by Hartapus, a ruler who is now also suggested to be a descendant of the imperial line (Hawkins 1992). Architecture, sculpture and inscriptions were the domain in which each of these urban polities overtly advertised the power and legitimacy of the ruler: the LBA settlement grammar of double or triple fortified towns with multiple monumental buildings located in the often elevated centre and formal temple structures continued. There is a change in building types: palaces were built with colonnaded porticos approached by a flight of steps, an architectural feature associated with the term “bit-hilani” used by Neo-Assyrian rulers to indicate the construction of a portico, styled specifically after (Neo-)Hittite palaces. The increase in sculptural decoration and inscription is a hallmark of this period. Architectural relief sculptures on stone revetments in buildings continue a North Syrian tradition already attested in the MBA (Aleppo, reused slab in the temple of the Weathergod). Monumental sculpture in the round or half-round, including portal figures, reveals a LBA Hittite tradition. In contrast to the Hittite tradition, where the style of the capital city extended supra-regionally, perhaps with the aid of travelling craftsmen, marking the spread of Hittite influence, in the Iron Age regional sculptural schools prevailed and point to resident or regional sculptors and scribes. Iconographical themes now went beyond cult scenes and included military and courtly subjects. Funerary monuments were not reserved for the ruling dynasty: a number of individuals – perhaps members

of the local elite – now chose to represent themselves with inscriptions and/or images on funerary monuments (Maraş stelae). The material culture of these principalities is less well studied so far, and attention has focused on their rich architecture, sculpture and inscriptions; many were excavated in the early 20th century. Karkamish (Hawkins 1995a) was undoubtedly in a leading position until Assyrian power and expansion put an end to its independence.

Wheel-made pottery continued, regional differences prevailed, and local painted ceramic repertoires developed. A new introduction was Late Helladic III C pottery attested in either the Early Iron Age or the latest levels of LB II in Cilician sites (Tarsus, Soli, in small amounts at Kinet and Kilise-tepe; for the latter see Postgate & Thomas 2007) and the Amuq (Atchana, Tayinat). The bulk of it was locally produced, and it has mostly open shapes (for the Tarsian corpus; see Mountjoy 2005). New settlers from the Aegean region, who arrived in the turbulent period at the end of the LBA and in a short period were absorbed into the local culture, may explain this sudden demand for Aegean-style tableware. Recent discoveries and readings of inscriptions from Aleppo and Tell Tayinat have identified the land of Palistin (c. 1100–1000 BCE) and its ruler Taita as extending from the Amuq to Aleppo and Hama in the south, with the capital city at Tayinat (Hawkins 2009a; Harrison 2009). The plain of Adana was referred to as the Plain of Hiyawa (=Ahhiyawa; see Tekoğlu & Lemaire 2000), which also indicates Aegean settlers who named the plain. The large mound in the centre of the city of Adana remains unexcavated. After the 9th century BCE, bilingual inscriptions began to appear. Texts in HL are now translated into alphabetic Phoenician. The longest bilingual inscription (the HL being also the latest known so far) was found on the gates of Karatepe-Aslantaş/Azatiwataya (c. 700 BCE), a citadel in the foothills of eastern Cilicia (Çambel 1999; Hawkins 2000). Ultimately (in the course of the second half of the 8th century BCE) the entire region succumbed to Assyrian military and administrative control. The new world order, in which the region was strictly governed by Assyrian governors installed in urban areas, is attested in the Neo-Assyrian archives and narrative monuments, and confirmed by the archaeological record through the appearance of Assyrian stelae, ceramics and cuneiform tablets.

The West (c. 1200–550 BCE)

In Central Anatolia, the collapse of the Hittite state resulted in the discontinuity of urban planning and infrastructure, planned architecture and monumental buildings, and the cessation of central state archives indicating a total collapse of the administrative system. The next polity with an impact on the region is ascribed to the Phrygians, referred to by this name in later Greek sources. Gordion, the capital city, was located west of Boğazköy and beyond the Halys bend, on a tributary of the Sakarya/Sangarios, and is the type-site providing stratified urban and material culture juxtaposed to a large cemetery. The Early Iron Age evidence (Voigt & Henrickson 2000) suggests a simple lifestyle, reverting to handmade pottery and wattle-and-daub structures at Gordion/Yassihöyük, or

semi-subterranean structures (Grubenhäuser) in Boğazköy. After 950 BCE, new developments can be observed in the material record: at Gordion/Yassihöyük, domestic architecture on the mound gave way to public-space mud-brick buildings with stone foundations, and, in the 9th century BCE, large-scale urban planning resulted in series of megaron-shaped large buildings with pitched roofs used for organised production (textiles, food, etc.) and storage. Large-scale terracing, open public spaces and a monumental gateway allowing entrance through a fortification wall were uncovered, while recent geophysical investigations have revealed that there was also a fortified lower town. The architectural tradition in EIA Gordion was anchored in west Anatolia: the construction of the fortification wall can be compared to the fortification system of Troy VI: the walls slant in slightly as they rise, with slivers of stones filling crevices between larger stones. The key architectural units are rectangular buildings with a single hall behind an entrance porch or *antae*. Large free-standing structures seem to be special buildings. Others are built in a row, sharing walls, and were used for centralised production (textiles, baking) and storage for which no administrative records are preserved. Megaron-type buildings are closer to West Anatolian structures (Karataş-Semayük, Troy) than to the Central Anatolian tradition.

The construction of this carefully planned citadel has been redated based on new dendrochronological evidence in combination with C14 dates (Voigt 2005; Kuniholm, et al. 2011). The new stratigraphic sequence of YHSS 5–7 (Henrickson & Voigt 1998) – YHSS 7 (EI 1100–950 BCE), YHSS 6B (Initial Early Phrygian 950–900), 6A (Early Phrygian 900–800), 5 (Middle Phrygian 800–540) – dates the destruction of the EIA citadel to c. 800 BCE, one hundred years earlier than the traditional dating ascribed to the historically attested Cimmerian raid (Voigt 2009, 2012). The pottery was wheel-made; grey wares predominate, some are elaborately painted, echoing textile designs and recalling Greek geometric styles. Side-spouted, sieved pouring or drinking vessels are the hallmark of the period (Sams 1994).

There is little continuity from the Late Bronze Age in terms of cult buildings and traditions. The Hittite/Luwian/Hurrian pantheon and its LBA iconography did not continue in this region as opposed to the Neo-Hittite world. The name of a female deity, Matar Kubileya (later Greek Kybele, Roman Magna Mater; connections to Kubaba of Karkamish have been both suggested and disputed), appears in conjunction with rock reliefs. She is, however, not represented in rock reliefs but shown on stelae which represent her in a niche, sometimes associated with (temple?) architecture. A new tradition of rock carving developed, particularly at home in the Phrygian highlands (Haspels 1971) (between Eskişehir, Afyon and Kütahya): instead of figurative representations of rulers and deities, as known in the Syrian/Hurrian/Hittite/Neo-Hittite/Assyrian tradition, elevations of buildings – that is, the decorated short end of gabled, rectangular structures (Fig. 3.10.10) – are carved on rock outcrops. These representations, together with stone fragments of an acroterion (i.e., an architectural ornament to be placed on the apex of a pediment) found at Gordion, confirm that megaron-shaped buildings had a pitched roof, in



FIGURE 3.10.10. Iron Age rock-cut facade (Yazılıkaya at Midas City, between modern Afyon and Eskişehir) imitating front view of a building with a pitched roof. H.: c. 16.7 m; W.: c. 16.40 m. Photo: Şemsi Güner. Courtesy Arkeoatlas Archive.

stark contrast to the Central Anatolian and Near Eastern flat-roofed structures. The decoration, including false entrances and niches, seems to reflect actual building facades of the period, with designs and details representing wooden ornamentation, the use of tiles, and even windows in the pediment. The function of the facades is debated: associated cult practices related to divination and oracles have recently been suggested (Berndt-Ersöz 2006) in a comprehensive reevaluation. Rock sanctuaries with stepped altars and cult idols are present in the same region. In spite of the lack of figurative designs, lions do occur, one particular arrangement echoing the Lion Gate at LBA Mycenae (see Chapter 3.24).

Inscriptions in large letters were carved on some facades, indicating a new beginning in literacy (Brixhe & Lejeune 1984). The language used is Indo-European Phrygian, which is closer to Greek than to Hittite or Luwian and its 1st-millennium continuation Lydian. One should also note the use of the terms *wanax* and *lawagetas* for rulers in Phrygian (cf. inscriptions in Linear B). This is the earliest alphabetic recording (9th century BCE) of an Indo-European language, since the earliest attested Phrygian inscriptions predate the earliest archaic Greek alphabetic writing, which it resembles, in the new Yassıhöyük stratigraphy (Brixhe 2004). It has been suggested that Phrygian and Greek adopted the alphabet independently from the Phoenicians, perhaps sparked by encounters of all three in the Cilician realm and its hinterland, where bilingual public

inscriptions are common (Mellink 1998). In fact, one of the longest texts in early Phrygian, a public inscription on a black stone stela, was found in Tyana/Tuwanuwa (Mellink 1979) just north of the Cilician Gates. Phrygian inscriptions are also known from Daskyleion (Bakır 1997) in the west to Alacahöyük (Brixhe & Lejeune 1984) and more recently at Kerkenes (Draycott & Summers 2008) in the east. Inscriptions preserved on wax applied to vessels (Young 1981) may indicate that the bulk of writing was on wooden tablets covered with wax, perhaps a continuation of a surmised LBA Luwian practice.

Contemporary Assyrian historical sources (annals, letters) record the activities of a Mita of Mushki (Mellink 1965; Postgate 1973) during the reign of Sargon II (722–705 BCE), who is possibly to be equated with Midas of Phrygia as attested in local inscriptions and mentioned in later Greek historiography. Phrygian contact with the Neo-Hittite world is reflected in the costume of Warpalawas, the ruler of Tuwanuwa (Tyana), in the Ivriz rock relief (Boehmer 1973).

Elite burials in tumuli ranging from modest to monumental were a new introduction in this period and region, perhaps via Thrace and beyond, reminiscent of the kurgan tradition known from Central Asia in the east to the Balkans in the west, and unknown in earlier Near Eastern and Mediterranean traditions. A series of such burials was discovered in a cemetery at Gordion, and several have been excavated (Young 1981). Both inhumations (Kohler 1995) and cremations were

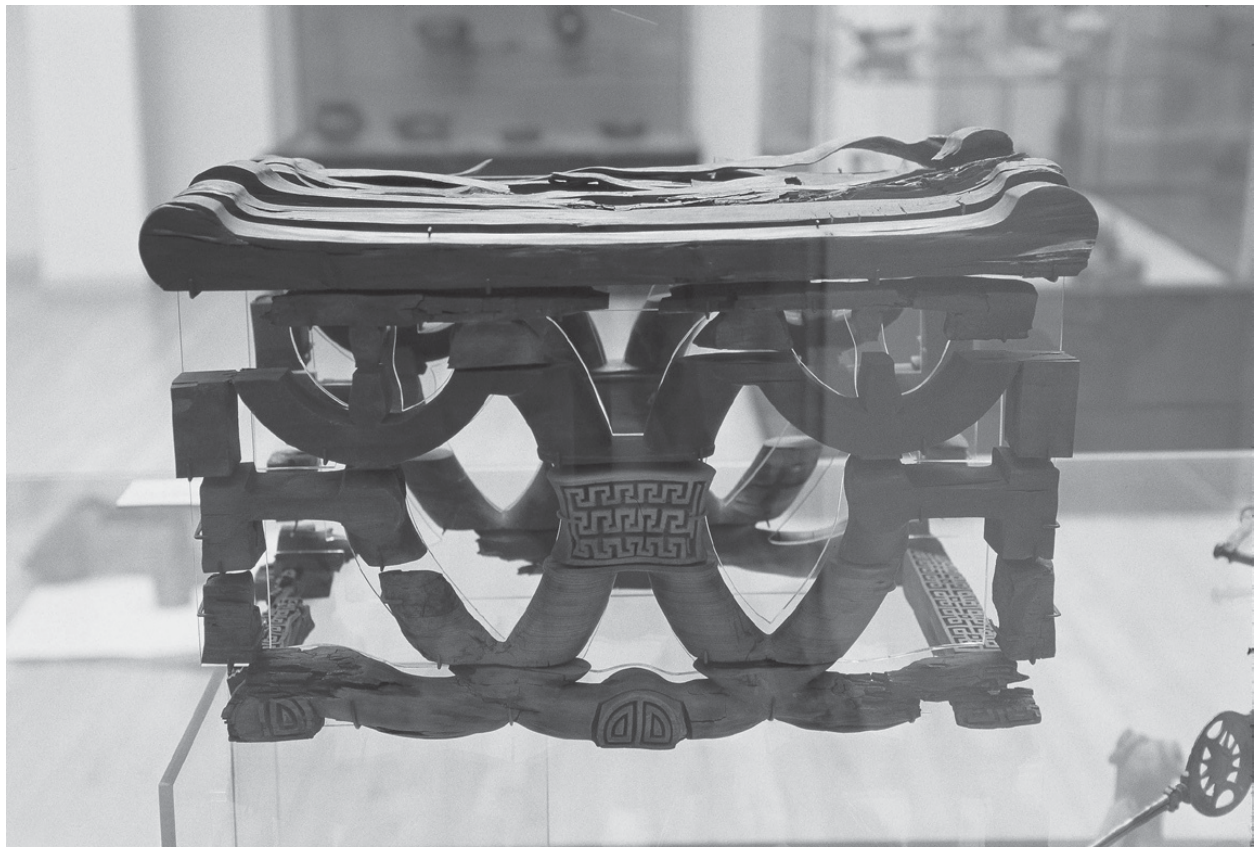


FIGURE 3.10.11. Inlaid wooden stool from Tumulus P, Gordion, after conservation, as reconstructed for display in the Museum of Anatolian Civilisations in Ankara. H.: max. 0.31 m; W.: max. 0.52 m. Photo: Güneş Kocatepe. Courtesy Arkeoatlas Archive.

found concealed under man-made earthen mounds, and some very special (perhaps royal) burials were placed in wooden chambers: the largest among these, tomb MM, contained the remains of an aged male accompanied by lavish grave-goods including utensils for a funerary symposium or feast, such as flat drinking bowls (phialae), cauldrons, jugs, animal-shaped buckets (situlae), ladles, as well as a fibula (a safety pin-shaped device for fixing garments; see Muscarella 1967), all made of bronze, together with iron rods and remains of textiles. No gold or silver objects were found, which is unusual in the context of Eastern Mediterranean and Near Eastern modes of elite representation. Analysis showed that the consumed beverage was a mixture of grape wine, barley beer and honey mead. Some burials contained remains of horses (bones and trappings).

A range of elaborate wooden furniture (Simpson & Spirydowicz 1999), such as a bed, tables, stools (Fig. 3.10.11) and serving stands, exhibits sophisticated construction and inlay techniques as well as intricate geometric designs. This demonstrates a high level of craftsmanship indicative of a longstanding tradition, in this otherwise rarely preserved category of artifacts made of perishable materials, and sheds light on the elite lifestyle and representations.

The tomb was once attributed on historical and chronological grounds to Midas/Mita, but with the recent redating of the construction to 740 BCE this idea has been abandoned.

The impact of this new type of burial continued in Anatolia in the following centuries. Local elites preferred burials in tumuli, marking the landscape with insignia of power, alongside other elite burial types such as rock-cut chambers (Caria) and stone sarcophagi imitating wooden (Lycia) structures. They were locally modified, with the wooden tomb chamber replaced by stone-built ones, both found with painted decoration (Kızılbey, see Mellink 1998; Karaburun, Tatarlı, Uşak, Bayındır, see Özgen 1996), and extending as far south as Lycia and the region in between.

The political, economic and administrative organisation of this new polity remains elusive due to the lack of Phrygian archival sources. Although the adoption of a new script for their vernacular language – indicating recorded spoken language – is better known from the realm of cult, the potential of recording for bureaucratic needs was present. Comparisons and influence are measured against the archaeological evidence outlined in this chapter, which indicates a highly stratified society with hereditary status (child burials in tumuli), centralised production, storage facilities of surpluses to finance monumental structures and maintain the production and display of prestige goods, and idiosyncratic cultural traits.

The west Anatolian kingdom of Lydia, the last independent polity of Anatolia with linguistic links to Anatolian Indo-European Bronze Age languages, succeeded the Phrygian kingdom at the beginning of the 6th century (Cahill 2010).

Historically, a Lydian ruler (Gugu/Gyges) is attested in Assyrian records (Assurbanipal), confirming and dating later Greek narratives (Herodotus) about the Lydian dynastic succession and their military enterprises. The capital city was at Sardis on the Hermus River (Hanfmann 1983; Rammage 1987); stratified remains have also been exposed at Gordion, which yielded to the Lydian expansion. No contemporary archival records of the state administration or any other narratives survive. The earliest Lydian writing (Melchert 2004a), alphabetic with some signs developed to record this particular vernacular, is attested on coins, and on masonry associated with burials. In later centuries, inscriptions are found mainly as epitaphs on tombstones (Gusmani 1975). The bulk of Lydian writing was most likely on perishable materials (such as perhaps wooden tablets, continuing an earlier tradition, as already mentioned for the Phrygians). Archaeological evidence from Sardis is limited, with excavations concentrating mostly on later remains. Some architectural structures such as terraces and fragments of a mud-brick fortification wall date to the period in question. An open-air workshop for metal refinement has been found, confirming the legendary riches of the Lydian king Croesus. In the Near East silver has traditionally served for more than a millennium as a medium of exchange close to a monetary function; but the kingdom of Lydia is claimed to have developed metal coins as money, an economic practice which continued to be used in most later civilisations. The earliest known struck coinage is Lydian electrum coins (Rammage & Craddock 2000).

Common cult practices are suggested: a cult of Kybele is attested, and the Lydian elite, including their rulers, chose to be buried in tumuli, emulating Phrygian funerary monuments which they adapted to their own needs: burial chambers of ashlar stone masonry and built-in stone benches replaced the formerly preferred wooden arrangement of Phrygian custom.

The Achaemenid/Persian advance into the Anatolian Peninsula annexed the region to a vast empire (Allen 2005) imposing a new bureaucracy and language, Semitic Aramaic written alphabetically, thus institutionally unifying Anatolia even beyond previous Hittite ambitions. Most urban centres that were in existence by this time continued to develop and flourish well into the Roman Period.

References

- Akdoğan, R. & Hawkins, J. D. 2009. Kırşehir-Yassıhöyükte ele geçen Luvi Hiyeroglif Yazılı Kurşun Levha. *Anadolu Medeniyetleri Müzesi 2007–2008 yılı* 21: 7–14.
- Allen, L. 2005. *The Persian Empire*. British Museum: London.
- Alp, S. 1991. *Hethitische Keilschrifttafeln aus Maşat-Höyük*. Türk Tarih Kurumu Yayınları: Ankara.
- Archi, A. 2003. Middle Hittite – Middle Kingdom, pp. 1–12 in (G. Beckman, R. Beal & G. McMahon, eds.) *Hittite Studies in Honor of Harry A. Hoffner, Jr. on the Occasion of His 65th Birthday*. Eisenbrauns: Winona Lake.
- Arnhold, S. 2009. *Das hethitische Gebäude E auf der Akropolis von Kuşaklı*. Kuşaklı-Sarissa, vol. 4. Rahden, Westfalen.
- Aruz, J. 1993. Crete and Anatolia in the Middle Bronze Age: Sealings from Phaistos and Karahöyük, pp. 35–54 in (M. J. Mellink, E. Porada & T. Özgüç, eds.) *Aspects of Art and Iconography: Anatolia and Its Neighbors. Studies in Honor of Nimet Özgüç*. Türk Tarih Kurumu Yayınları: Ankara.
- Bakır, T. 1997. Phryger in Daskyleion, pp. 229–38 in (R. Gusmani, M. Salvini & P. Vannicelli, eds.) *Frige e Frigio*. Consiglio Nazionale Delle Ricerche: Rome.
- Balkan, K. 1957. *Letter of King Anum-Hirbi of Mama to King Warshama of Kanish*. Türk Tarih Kurumu Yayınları: Ankara.
- Basedow, M. 2000. *Beşiktepe. Das spätbronzezeitliche Gräberfeld*. Studia Troica Monographien 1. Philipp von Zabern: Mainz.
- Bass, G. F. 1986. A Bronze Age shipwreck at Ulu Burun (Kaş): 1986 campaign. *American Journal of Archaeology* 90: 269–96.
- Bass, G. F., Collon, D., Pulak, C. & Weinstein, J. 1989. A Bronze Age shipwreck at Ulu Burun (Kaş): 1984 campaign. *American Journal of Archaeology* 93: 1–29.
- Becks, R. 2006. Troia in der späten Bronzezeit – Troia VI–Troia VIIa, pp. 155–66 in (M. O. Korfmann, ed.) *Troia – Archäologie eines Siedlungshügels und seiner Landschaft*. Philipp von Zabern: Mainz.
- Beran, T. 1967. *Die hethitische Glyptik von Boğazköy, 1. Teil. Die Siegelabdrücke der vor- und althethitischen Perioden und die Siegel der hethitischen Grosskönige*. Boğazköy-Hattuša V. Wissenschaftliche Veröffentlichungen der Deutschen Orient Gesellschaft 76. Gebrüder Mann: Berlin.
- Berndt-Ersöz, S. 2006. *Phrygian Rock-Cut Shrines: Structure, Function, and Cult-Practice*. Culture and History of the Ancient Near East 25. Brill: Leiden.
- Beyer, D. 2001. *Emar IV. Les Sceaux*. Orbis Biblicus et Orientalis. Series Archaeologica 20. Fribourg.
- Bittel, K. 1970. *Hattusha, the Capital of the Hittites*. Oxford University Press: New York.
1976. *Die Hethiter*. C. H. Beck Verlag: Munich.
- Bittel, K., Boessnek, J., Damm, B., Güterbock, H. G., Hauptmann, H., Naumann, R. & Schirmer, W. 1975. *Das Hethitische Felsheiligtum Yazılıkaya*. Boğazköy-Hattuša IX. Gebrüder Mann: Berlin.
- Bittel, K., Herre, W., Otten, H., Röhre, M. & Schaeuble, J. 1958. *Die hethitischen Grabfunde von Osmankaya*. Boğazköy-Hattuša IV. Wissenschaftliche Veröffentlichungen der Deutschen Orient Gesellschaft 71. Gebrüder Mann: Berlin.
- Blegen, C. W., Boulter, C. G., Caskey, L. & Rawson, M. 1958. *Troy IV. Settlements VIIa, VIIb and VIII*. Princeton University Press: Princeton, NJ.
- Blegen, C. W., Caskey, L. & Rawson, M. 1953. *Troy III. The Sixth Settlement*. Princeton University Press: Princeton, NJ.
- Blocher, F. 2003. Chronological aspects of the Karum Period (Middle Bronze Age), pp. 377–81 in (M. Bietak, ed.) *The Synchronisation of Civilizations in the Eastern Mediterranean in the Second Millennium B.C.* CChEM 4. Austrian Academy of Sciences: Vienna.
- Boehmer, R. M. 1973. Phrygische Prunkgewänder des 8. Jahrhunderts v. Chr. *Archäologischer Anzeiger* 88: 149–72.
1983. *Die Reliefkeramik von Boğazköy*. Boğazköy-Hattuša XIII. Gebrüder Mann Verlag: Berlin.
- Boehmer, R. M. & Güterbock, H. G. 1987. *Die Glyptik aus dem Stadtgebiet*. Boğazköy-Hattuša XIV. Gebrüder Mann Verlag: Berlin.
- Bonatz, D. 2000. *Das syro-hethitische Grabdenkmal: Untersuchungen zur Entstehung einer neuen Bildgattung in der Eisenzeit im nordsyrisch-südostanatolischen Raum*. Philipp von Zabern: Mainz.
- Brixhe, C. 2004. Nouvelle chronologie anatolienne et date d'élaboration des alphabets grec et phrygien. *Comptes-rendus des séances de l'Académie des Inscriptions et Belles-Lettres* 273–89.

- Brixhe, C. & Lejeune, M. 1984. *Corpus des Inscriptions Paléo-Phrygiennes*. Institut Français d'Études Anatoliennes. "Mémoire" No. 45. Editions Recherche sur les Civilisations: Paris.
- Cahill, N. D. (ed.) 2009. *Love for Lydia: A Sardis Anniversary Volume Presented to Crawford H. Greenewalt, Jr.* Archaeological Exploration of Sardis; Report 4. Harvard University Press: Cambridge, MA, and London.
2010. *The Lydians and their World*. T. C. Kültür ve Turizm Bakanlığı, Kültür Varlıkları ve Müzeler Genel Müdürlüğü & Yapı Kredi Yayınları: Istanbul.
- Çambel, H. 1999. *Corpus of Hieroglyphic Luwian Inscriptions II. Karatepe-Aslantaş: The Inscriptions*. Facsimile Edition. Walter de Gruyter: New York & Berlin.
- Çambel, H. & Özyar, A. 2003. *Karatepe-Aslantaş – Die Bildwerke*. Philipp von Zabern: Mainz.
- Çınardalı-Karaaslan, N. 2008. Recent investigations at Panaztepe Harbour Town, pp. 57–68, in (A. Erkanal-Öktü, S. Günel & U. Deniz, eds.) *Batı Anadolu ve Doğu Akdeniz Geç Tunç Çağı Kültürleri Üzerine Yeni Araştırmalar*. Hacettepe Üniversitesi Publications: Ankara.
- Dinçol, A. & Dinçol, B. 2008. *Die Prinzen- und Beamtensiegel aus der Oberstadt von Boğazköy-Hattuša vom 16. Jahrhundert bis zum Ende der Grossreichszeit*. Boğazköy-Hattuša 22. Philipp von Zabern: Mainz.
- Dinçol, B. 2006. Über die probleme der absoluten Datierung der Herrschaftsperioden der hethitischen Könige nach den philologischen und glyptischen Belegen, pp. 19–32 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
- Donbaz, V. 1988. The business of Ased, an Anatolian merchant. *Archiv für Orientforschung* 35: 48–63.
- Draycott, C. M. & Summers, G. D. 2008. *Sculpture and Inscriptions from the Monumental Entrance to the Palatial Complex at Kerkenes Dağ, Turkey*, with contribution by Claude Brixhe; and Turkish summary translated by G. Bike Yazıcıoğlu. University of Chicago Press: Chicago.
- Edel, E. 1997. *Der Staatsvertrag zwischen Ramses II. von Ägypten und Hattushili III. von Hatti*. Gebrüder Mann: Berlin.
- Efe, T. 2007. The theories of the "Great Caravan route" between Cilicia and Troy: the Early Bronze Age III Period in inland western Anatolia. *Anatolian Studies* 57: 47–64.
- Emre, K. 1971. *Anatolian Lead Figurines and Their Stone Moulds*. Türk Tarih Kurumu Yayınları: Ankara.
1978. *Yanarlar: A Hittite Cemetery near Afyon*. Türk Tarih Kurumu Yayınları: Ankara.
- Erkanal, H. 2008. Geç Tunç Çağı'nda Liman Tepe, pp. 91–100, in (A. Erkanal-Öktü, S. Günel & U. Deniz, eds.) *Batı Anadolu ve Doğu Akdeniz Geç Tunç Çağı Kültürleri Üzerine Yeni Araştırmalar*. Hacettepe Üniversitesi Publications: Ankara.
- Erkanal-Öktü, A. 2004. İzmir Archäologisches Museum: Bakla Tepe, Liman Tepe und Panaztepe, pp. 655–71 in (I. Pini, ed.) *Kleinere Griechische Sammlungen und Museen an der Westküste der Türkei: Neufunde, Corpus der Minoischen und Mykenischen Siegel (CMS) 5 Suppl. 3*. Philipp von Zabern: Mainz.
2008. The Late Bronze Age cemeteries of Panaztepe, pp. 69–90 in (A. Erkanal-Öktü, S. Günel & U. Deniz, eds.) *Batı Anadolu ve Doğu Akdeniz Geç Tunç Çağı Kültürleri Üzerine Yeni Araştırmalar*. Hacettepe Üniversitesi Publications: Ankara.
- Fischer, B., Genz, H., Jean, E. & Köroğlu, K. 2003. *Identifying Changes: The Transition from Bronze to Iron Ages in Anatolia and Its Neighbouring Regions*. Eski Çağ Bilimleri Enstitüsü Yayınları: Istanbul.
- Garelli, P. 1994. Le commerce de la Cappadoce au XIXe siècle av. n. e. *Akkadica* 88: 1–17.
- Garstang, J. 1953. *Prehistoric Mersin. Yümüktepe in Southern Turkey*. Oxford University Press: Oxford.
- Gates, M.-H. 2001. Potmarks at Kinet Höyük and the Hittite ceramic industry, pp. 137–57 in (E. Jean, A. M. Dinçol & S. Durugönül, eds.) *La Cilicie: espaces et pouvoirs locaux (2e millénaire av. J. C.–4e siècle ap. J. C.)*. Actes de la table ronde internationale d'Istanbul, 2–5 novembre 1999. Institut français d'études anatoliennes. *Varia Anatolica* XIII. Paris and Istanbul.
2006. Dating the Hittite levels at Kinet Höyük: a revised chronology, pp. 293–309 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
- Gelb, I. J. 1935. *Inscriptions from Alishar and Vicinity*. Oriental Institute Publications 27. University of Chicago Press: Chicago.
1956. Hittite hieroglyphic seals and seal impressions, pp. 242–54 in (H. Goldmann, ed.) *Excavations at Gözlü Kule, Tarsus, vol. II*. Princeton University Press: Princeton, NJ.
- Gernot, W. 1997. *Keilschrifttexte aus Gebäude A. Kuşaklı-Sarissa, vol. 1. Keilschrifttexte, Faszikel 1*. Verlag Marie Leidorf: Rahden, Westfalen.
- Goldman, H. 1956. *Excavations at Gözlü Kule, Tarsus, vol. II*. Princeton University Press: Princeton, NJ.
- Günbatı, C. 1992. Some observations about the commercial activities of women in the light of the Kültepe tablets, pp. 229–34 in (H. Otten, E. Akurgal, H. Ertem & A. Süel, eds.) *Hittite and Other Anatolian and Near Eastern Studies in Honour of Sedat Alp*. Anadolu Medeniyetlerini Araştırma ve Tanıtma Vakfı Yayınları: Ankara.
2004. Two treaty texts found at Kültepe, pp. 249–68 in (J. Dercksen, ed.) *Assyria and Beyond: Studies Presented to Mogens Trolle Larsen*. Nederlands Instituut voor het Nabije Oosten: Leiden.
- Günel, S. 1999. *Die Keramik von Panaztepe und ihre Bedeutung für Westkleinasien und die Ägäis im 2. Jahrtausend*. Türk Tarihi Yayınları: Ankara.
- Günel, S. 2010. Mycenaean cultural impact on the Çine (Marsyas) Plain, southwest Anatolia: the evidence from Çine-Tepecik. *Anatolian Studies* 60: 25–49.
- Günel, S. & Herbordt, S. 2010. Ein hethitischer Siegelabdruck aus Çine-Tepecik. *Archäologischer Anzeiger* 2010 (1): 1–11.
- Guralnick, E. (ed.) 1987. *Sardis: Twenty-seven Years of Discovery*. Archaeological Institute of America: Chicago.
- Gusmani, R. 1975. *Neue epichorische Schriftzeugnisse aus Sardis*. Archaeological Exploration of Sardis Monograph 3. Harvard University Press: Cambridge, MA.
- Güterbock, H. G. 1940. *Siegel aus Boğazköy I. Die Königssiegel der Grabungen bis 1938*. Archiv für Orientforschungen. Beiheft 5. Berlin.
1942. *Siegel aus Boğazköy II. Die Königssiegel von 1939 und die übrigen Hieroglyphensiegel*. Archiv für Orientforschungen. Beiheft 7. Berlin.
1958. Kaneshe-Nesha: two forms of one Anatolian place name? *Eretz-Israel* 5: 46–50.
1986. Troy in Hittite texts? Wilusa, Ahhiyawa and Hittite history, pp. 33–44 in (M. J. Mellink, ed.) *Troy and the Trojan War*. Bryn Mawr College: Bryn Mawr, PA.
- Hanfmann, G. M. A. 1983. *Sardis from Prehistoric to Roman Times 1958–1975*. Harvard University Press: Cambridge, MA.
- Harper, P. O. 1989. Notes on bronze roller-frames and plaques, pp. 183–7 in (K. Emre, M. M. J. Mellink, B. Hrouda &

- N. Özgüç, eds.) *Anatolia and the Ancient Near East, Studies in Honour of Tahsin Özgüç*. Türk Tarih Kurumu: Ankara.
- Harrison, T. 2009. Neo-Hittites in the "land of Palistin": renewed investigations at Tell Ta'ayinat on the Plain of Antioch. *Near Eastern Archaeology* 72 (4): 174–89.
- Haspels, C. H. E. 1971. *The Highlands of Phrygia: Sites and Monuments*. Princeton University Press: Princeton, NJ.
- Hawkins, J. D. 1986. Writing in Anatolia: imported and indigenous systems. *World Archaeology* 17 (3): 363–76.
1988. Kuzi-Teshup and the "Great Kings of Karkamish". *Anatolian Studies* 38: 99–108.
1992. The Inscriptions of the Kızıldağ and the Karadağ in the light of the Yalburt inscription, pp. 259–75 in (H. Otten, E. Akurgal, H. Ertem & A. Süel, eds.) *Hittite and Other Anatolian and Near Eastern Studies in Honour of Sedat Alp*. Anadolu Medeniyetlerini Araştırma ve Tanıtma Vakfı Yayınları: Ankara.
1995. The Hieroglyphic Inscription of the Sacred Pool Complex at Hattusa (Südburg). O. Harrasowitz Verlag: Wiesbaden.
- 1995a. Karkamish and Karatepe: Neo-Hittite city-states in north Syria, pp. 1295–307 in (J. M. Sasson, ed.) *Civilizations of the Ancient Near East*. Scribner: New York.
- 1995b. "Great Kings" and "Country-Lords" at Malatya and Karkamish, pp. 73–85 in (T. Van den Hout & J. de Roos, eds.) *Studia Historiae Ardens. Ancient Near Eastern Studies Presented to Philo H. J. Houwink ten Cate on the Occasion of his 65th Birthday*. Nederlands Instituut voor het Nabije Oosten: Istanbul.
1998. Tarkasnawa King of Mira: "Tarkondemos", Boğazköy sealings and Karabel. *Anatolian Studies* 48: 1–31.
2000. *Corpus of Hieroglyphic Luwian Inscriptions I. Inscriptions of the Iron Age*. Walter de Gruyter: New York and Berlin.
2003. Scripts and texts, pp. 128–69 in (H. C. Melchert, ed.) *The Luwians. Handbuch der Orientalistik* 68. Brill: Leiden.
- 2009a. Cilicia, the Amuq, and Aleppo: new light in a dark age. *Near Eastern Archaeology* 72 (4): 164–73.
- 2009b. The Arzawa letters in recent perspective. *British Museum Studies in Ancient Egypt and Sudan* 14: 73–83.
- Hawkins, J. D. & Easton, D. F. 1996. A Hieroglyphic seal from Troia. *Studia Troica* 6: 111–18.
- Henrickson, R. C. & Voigt, M. 1998. The Early Iron Age at Gordion: the evidence from the Yassihöyük stratigraphic sequence, pp. 79–106 in (N. Tuna, Z. Aktüre & M. Lynch, eds.) *Thracians and Phrygians: Problems of Parallelism. Proceedings of an International Symposium on the Archaeology, History and Ancient Languages of Thracia and Phrygia*, Ankara, 3–4 June 1995. Middle Eastern Technical University, Faculty of Architecture Press: Ankara.
- Herbordt, S. 2005. Die Prinzen- und Beamtsiegel der hethitischen Großreichszeit auf Tonbulln aus dem Nişantepe-Archiv in Hattuša. Boğazköy-Hattuša 19. Philipp von Zabern: Mainz.
- Hongo, H. 2003. Continuity or changes: faunal remains from stratum Id at Kaman-Kalehöyük, pp. 257–69 in (B. Fischer, H. Genz, E. Jean & K. Köroğlu, eds.) *Identifying Changes: The Transition from Bronze to Iron Ages in Anatolia and Its Neighbouring Regions*. Proceedings of the International Workshop Istanbul, 8–9 November 2002. Türk Eski Çağ Bilimleri Enstitüsü: Istanbul.
- Hüser, A. 2007. Hethitische Anlagen zur Wasserversorgung und Entsorgung. Kuşaklı-Sarissa, vol. 3. Mit einem Beitrag von Hannelore Kapmeyer. Verlag Marie Leidorf: Rahden Westfalen.
- Ikram, S. 2003. A preliminary study of zooarchaeological changes at Kinet Höyük, Hatay, pp. 283–93 in (B. Fischer, H. Genz, E. Jean & K. Köroğlu, eds.) *Identifying Changes: The Transition from Bronze to Iron Ages in Anatolia and Its Neighbouring Regions*. Proceedings of the International Workshop Istanbul, 8–9 November 2002. Türk Eski Çağ Bilimleri Enstitüsü: Istanbul.
- Jacob-Rost, L. 1963a. Zu den hethitischen Bildbeschreibungen (1. Teil). *Mitteilungen des Instituts für Orientforschung* 8: 161–217.
- 1963b. Zu den hethitischen Bildbeschreibungen (2. Teil). *Mitteilungen des Instituts für Orientforschung* 9: 175–239.
- Jean, É. 2006. The Hittites at Mersin-Yumuktepe: old problems and new directions, pp. 311–32 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
- Kohler, E. L. 1995. *The Lesser Phrygian Tumuli*, pt. 1. *The Inhumations. The Gordion Excavations (1950–1973). Final Reports II*. University of Pennsylvania Museum: Philadelphia.
- Kohlmeier, K. 1983. Felsbilder der hethitischen Großreichszeit. *Acta Præhistorica et Archaeologica* 15: 7–153.
- Konyar, E. 2006. Old Hittite presence in the east of the Euphrates in the light of the stratigraphical data from İmikuşağı (Elazığ), pp. 333–48 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
- Korfmann, M. O. 2006. Troia. *Archäologie eines Siedlungshügels und seiner Landschaft*. Philipp von Zabern: Mainz.
- Kozal, E. 2003. Analysis of the distribution patterns of red lustrous wheel-made ware, Mycenaean and Cypriot pottery in Anatolia in the 15th–13th centuries B.C., pp. 283–93 in (B. Fischer, H. Genz, E. Jean & K. Köroğlu, eds.) *Identifying Changes: The Transition from Bronze to Iron Ages in Anatolia and Its Neighbouring Regions*. Proceedings of the International Workshop Istanbul, 8–9 November 2002. Türk Eski Çağ Bilimleri Enstitüsü: Istanbul.
2006. "Made in" Zypern – Kyprische Gefäße der Spätbronzezeit in Troia, pp. 253–8 in (M. O. Korfmann, ed.) *Troia-Archäologie eines Siedlungshügels und seiner Landschaft*. Philipp von Zabern: Mainz.
- Kuniholm, P. I., Newton, M. W., Biggs, C. B. & Sullivan, P. J. 2005. Dendrochronological dating in Anatolia: the second millennium BC, pp. 41–87 in (Ü. Yalçın, ed.) *Anatolian Metal II. Der Anschnitt, Beiheft 18*. Deutsches Bergbau-Museum: Bochum.
- Kuniholm, P. I., Newton, M. W. & Liebhart, R. F. 2011. Dendrochronology at Gordion, pp. 79–122 in (C. B. Rose & G. Darbyshire, eds.) *The New Chronology of Iron Age Gordion*. University of Pennsylvania Museum: Philadelphia.
- Larsen, M. T. 1976. *The Old Assyrian City-State and Its Colonies*. Copenhagen.
2008. The Old Assyrian merchant colonies, pp. 70–3 in (J. Aruz, K. Benzel & J. M. Evans, eds.) *Beyond Babylon. Art, Trade, and Diplomacy in the Second Millennium B.C.* Metropolitan Museum of Art: New York.
- Lloyd, S. & Mellaart, J. 1965. *Beycesultan II. The British Institute of Archaeology at Ankara*: London.
- Manning, S. W., Kromer, B., Kuniholm, P. I. & Newton, M. W. 2001. Anatolian tree rings and a new chronology for the east Mediterranean Bronze-Iron Ages. *Science* 294/41: 2532–5.
2003. Confirmation of near-absolute dating of east Mediterranean Bronze-Iron dendrochronology. *Antiquity* 77 (295). Available at <http://antiquity.ac.uk/ProjGall/Manning/manning.html>.
- Melchert, H. C. (ed.) 2003. *The Luwians. Handbuch der Orientalistik* 68. Brill: Boston.

2004. Luvian, pp. 68–73 in (R. D. Woodard, ed.) *The Cambridge Encyclopedia of the World's Ancient Languages*. Cambridge University Press: Cambridge.
- 2004a. Lydian, pp. 601–7 in (R. D. Woodard, ed.) *The Cambridge Encyclopedia of the World's Ancient Languages*. Cambridge University Press: Cambridge.
- Mellink, M. J. 1956. *A Hittite Cemetery at Gordion*. University of Pennsylvania: Philadelphia.
1965. Mita, Mushki and the Phrygians. *Anadolu Araştırmaları (Bossert Memorial)* 2: 317–25.
1974. Hittite friezes and gate sculptures, pp. 201–14 in (K. Bittel, P. H. J. Houwink Ten Cate & E. Reiner, eds.) *Anatolian Studies Presented to Hans Gustav Güterbock*. Nederlands Historisch-Archaeologisch Instituut: Istanbul.
1979. Midas in Tyana, pp. 249–57 in (E. Masson & C. Brixhe, eds.) *Florilegium Anatolica. Mélanges offerts à Emmanuel Laroche*. De Boccard: Paris.
1987. Lydia and Sardis in Anatolian context, pp. 16–25 in (E. Guralnick, ed.) *Sardis: Twenty-seven Years of Discovery*. Archaeological Institute of America: Chicago.
1992. Anatolian chronology, in (R. W. Ehrich, ed.) *Chronologies in Old World Archaeology*, 3rd ed., vol. 1, pp. 207–20, and vol. 2, pp. 171–84. University of Chicago Press: Chicago.
1993. Aspects of minor and major arts in Kanish and Acemhöyük, pp. 727–50 in (M. J. Mellink, B. Hrouda & T. Özgüç, eds.) *Aspects of Art and Iconography: Anatolia and Its Neighbors: Studies in Honour of Nimet Özgüç*. Türk Tarih Kurumu Yayınları: Ankara.
1998. (with chapters by R. A. Bridges, Jr. & F. Callori di Vignale) *Kızılbél: An Archaic Painted Tomb Chamber in Northern Lycia*. Bryn Mawr College Archaeological Monographs. University of Pennsylvania: Philadelphia.
- Meriç, R. 2003. Excavations at Bademgediği Tepe (Puranda) 1999–2002: a preliminary report. *Istanbuler Mitteilungen* 53: 79–98.
- Meriç, R. & Mountjoy, P. 2002. Mycenaean pottery from Bademgediği Tepe (Puranda) in Ionia: a preliminary report. *Istanbuler Mitteilungen* 52: 79–98.
- Michel, C. 2008. The Old Assyrian trade in the light of recent Kültepe archives. *Journal of the Canadian Society for Mesopotamian Studies* 3: 71–82.
- Mielke, D. P. 2006. *Die Keramik vom Westhang*. Kuşaklı-Sarissa, vol. 2. Mit einem Beitrag von Hannelore Kapmeyer. Verlag Marie Leidorf: Rahden, Westfalen.
- Mountjoy, P. A. 1998. The East Aegean-West Anatolian interface in the Late Bronze Age: Mycenaean and the Kingdom of Ahhiyawa. *Anatolian Studies* 48: 33–67.
2005. The Mycenaean pottery from the 1934–1939 excavations at Tarsus, pp. 83–134 in (A. Özyar, ed.), *Field Seasons 2001–2003 of the Tarsus-Gözlü Kule: Interdisciplinary Research Project*. Ege Yayınları, Istanbul.
2006. Mykenische Keramik in Troia – Ein Überblick, pp. 241–52 in (M. O. Korfmann, ed.) *Troia – Archäologie eines Siedlungshügels und seiner Landschaft*. Philipp von Zabern: Mainz.
- Muhly, J. G., Maddin, R., Stech, T. & Özgen, E. 1985. Iron in Anatolia and the nature of the Hittite iron industry. *Anatolian Studies* 22: 159–62.
- Müller-Karpe, A. 1988. *Hethitische Töpferei der Oberstadt von Hattusa*. Marburger Studien zur Vor- und Frühgeschichte 10. Vorgeschichtliches Seminar der Philipps-Universität Marburg: Marburg.
- 1995–2002, 2004, 2006. *Untersuchungen in Kuşaklı*. *Mitteilungen der Deutschen Orientgesellschaft* 127–34, 136, 138.
- 2002a. Die Keramik des mittleren und jüngeren hethitischen Reiches, pp. 256–63 in (H. Willinghöfer, U. Hasekamp & A. Baykal-Seeher, eds.) *Die Hethiter und ihr Reich. Das Volk der 1000 Götter*. Kunst- und Ausstellungshalle der Bundesrepublik Deutschland: Bonn/Konrad Theiss Verlag: Stuttgart.
- 2002b. Kuşaklı-Sarissa, pp. 176–89 in (H. Willinghöfer, U. Hasekamp & A. Baykal-Seeher, eds.) *Die Hethiter und ihr Reich. Das Volk der 1000 Götter*. Kunst- und Ausstellungshalle der Bundesrepublik Deutschland: Bonn/Konrad Theiss Verlag: Stuttgart.
2003. Remarks on central Anatolian chronology of the Middle Hittite Period, pp. 383–94 in (M. Bietak, ed.) *The Synchronization of Civilisations in the Eastern Mediterranean in the Second Millennium B.C. Proceedings of the SCIEM 2000–EuroConference, Haindorf, 2nd of May–7th of May 2001*. Contributions to the Chronology of the Eastern Mediterranean 4. Österreichische Akademie der Wissenschaften: Vienna.
- Muscarella, O. W. 1967. *Phrygian Fibulae from Gordion*. Quaritch: London.
- Naumann, R. 1971. *Architektur Kleinasien von ihren Anfängen bis zum Ende der Hethitischen Zeit*. 2nd ed. Ernst Wasmuth Verlag: Tübingen.
- Neu, E. 1974. *Der Anitta Text*. Studien zu den Boğazköy-Texten 18. Otto Harrassowitz Verlag: Wiesbaden.
- Neve, P. 1979. Zur Entwicklung des hethitischen Wohnungsbaus in Boğazköy-Hattusa unter besonderer Berücksichtigung der in der Altstadt/Unterstadt erzielten, Grabungsergebnisse, pp. 47–61 in *Wohnungsbau im Altertum. Diskussionen zur archaologischen Bauforschung* 3. Berlin.
1982. *Büyükkale. Die Bauwerke. Grabungen 1954–1966*. Boğazköy-Hattusa XII. Gebrüder Mann: Berlin.
- 1995/6. Der große Tempel (Tempel 1) in Boğazköy-Hattusa. *Nürnberger Blätter zur Archäologie* 12: 41–62.
1996. *Hattusa: Stadt der Götter und Tempel*. Neue Ausgrabungen in der Hauptstadt der Hethiter. 2nd ed. Philipp von Zabern: Mainz.
1999. *Die Oberstadt von Hattusa: Die Bauwerke I: Die Bebauung im zentralen Tempelviertel*. Boğazköy-Hattusa XVI. Gebrüder Mann: Berlin.
2001. *Die Oberstadt von Hattusa. Die Bauwerke. II. Die Bastion des Sphinxtores und die Tempelviertel am Königs- und Löwentor*. Boğazköy-Hattusa XVII. Gebrüder Mann: Berlin.
- Niemeyer, W.-D. 2006. Zwischen Mykene und Hattusa – Westkleinasien und die Ägäis in der mittleren und späten Bronzezeit, pp. 47–56 in (M. O. Korfmann, ed.) *Troia-Archäologie eines Siedlungshügels und seiner Landschaft*. Philipp von Zabern: Mainz.
- Ökse, T. 2006. Hethiterforschung anhand von Geländebegehungen: Darstellung der Probleme und Möglichkeiten der Auswertung, pp. 167–84 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
- Otten, H. 1988. *Die Bronzetafel aus Boğazköy*. Ein Staatsvertrag Tudhaliyas IV. Studien zu den Boğazköy-Texten, Beiheft 1. O. Harrassowitz Verlag: Wiesbaden.
1995. *Die hethitischen Königssiegel der frühen Großreichszeit*. Steiner Verlag: Mainz und Stuttgart.
- Özdoğan, M. 1993. Second millennium of the Marmara Region. *Istanbuler Mitteilungen* 43: 151–62.
- Özgen, İ. 1996. *The Lydian Treasure: Heritage Recovered*. Republic of Turkey, Ministry of Culture, General Directorate of Monuments and Museums: Ankara.
- Özgüç, N. 1965. *The Anatolian Group of Cylinder Seal Impressions from Kültepe*. Türk Tarih Kurumu Yayınları: Ankara.

1966. Excavations at Acemhöyük. *Anatolia* 10: 9–52.
1968. Seals and Seal Impressions of Level Ib from Karum Kanis. Türk Tarih Kurumu Yayınları: Ankara.
1980. Seal impressions from Acemhöyük, pp. 61–99 in (E. Porada, ed.) *Ancient Art in Seals*. Princeton University Press: Princeton, NJ.
1989. Bullae from Kültepe 1948, pp. 377–405 in (K. Emre, M. J. Mellink, B. Hrouda & N. Özgüç, eds.) *Anatolia and the Ancient Near East. Studies in Honour of Tahsin Özgüç*. Türk Tarih Kurumu Yayınları: Ankara.
- Özgüç, N. & Tunca, Ö. 2001. Kültepe-Kaniş, Sealed and Inscribed Clay Bullae. Türk Tarih Kurumu Yayınları: Ankara.
- Özgüç, T. 1950. Ausgrabungen in Kültepe 1948. Türk Tarih Kurumu Yayınları: Ankara.
1959. Kültepe-Kanis, New Researches at the Trading Center of the Assyrian Trading Colonies. Türk Tarih Kurumu Yayınları: Ankara.
1980. Excavations at the Hittite Site Maşathöyük: palace, archives, Mycenaean pottery. *American Journal of Archaeology* 84: 305–9.
1982. Maşat Höyük Kazıları II. A Hittite Center Northeast of Boğazköy. Türk Tarih Kurumu Yayınları: Ankara.
1986. Kültepe-Kanis II, New Researches at the Trading Center of the Ancient Near East. Türk Tarih Kurumu Yayınları: Ankara.
1988. İnandıktepe. An Important Cult Center in the Old Hittite Center. Türk Tarih Kurumu Yayınları: Ankara.
1993. Temples of Kanish. *Istanbul Mitteilungen* 43: 167–74.
1999. The Palaces and Temples of Kültepe-Kanis, Nesa. Türk Tarih Kurumu Yayınları: Ankara.
2003. Kültepe-Kanis/Nesa, The Earliest International Trade Center and the Oldest Capital City of the Hittites. *Middle Eastern Cultural Center in Japan*: Istanbul.
- Özgüç, T. & Özgüç, N. 1953 Ausgrabungen in Kültepe 1949. Türk Tarih Kurumu Yayınları: Ankara.
- Öztan, A. 1998. Preliminary report on the Aribaş cemetery at Acemhöyük. Essays on Ancient Anatolia in the second millennium B.C. *Bulletin of the Middle Eastern Culture Center in Japan* 10: 167–75.
- Özyar, A. 2003. Architectural reliefs in Anatolia through time: contextualizing the gate sculptures of Karatepe/Azatiwataya, pp. 107–15 in (B. Fischer, H. Genz, E. Jean & K. Köroğlu, eds.) *Identifying Changes: The Transition from Bronze to Iron Ages in Anatolia and Its Neighbouring Regions*. Proceedings of the International Workshop Istanbul, 8–9 November 2002. Türk Eski Çağ Bilimleri Enstitüsü: Istanbul.
2013. The writing on the wall: reviewing sculpture and inscriptions on the gates of the Iron Age citadel of Azatiwataya (Karatepe-Aslantaş), pp. 115–36 in (S. Redford & N. Ergin, eds.) *Cities and Citadels in Turkey. From the Iron Age to the Seljuks*. Ancient Near Eastern Studies Series 40. Peeters: Leuven.
- Parzinger, H. & Sanz, R. 1992. Die Oberstadt von Hattuša. Hethitische Keramik aus dem zentralen Tempelviertel. *Funde aus den Grabungen 1982–1987*. Boğazköy-Hattuša XV. Gebrüder Mann: Berlin.
- Pavúk, P. 2002. Das Aufkommen und die Verbreitung der Grauminoischen Ware in Westanatolien, pp. 99–115 in (H. Blum, B. Faist, P. Pfälzner & A.-M. Wittke, eds.) *Brückenland Anatolien? Ursachen, Extensität und Modi des Kulturaustausches zwischen Anatolien und seinen Nachbarn*. Attempto: Tübingen.
2005. Aegeans and Anatolians. A Trojan perspective, pp. 269–79 in (R. Laffineur & E. Greco, eds.) *EMPORIA. Aegeans in Central and Eastern Mediterranean*. Proceedings of the 10th International Aegean Conference/10e Rencontre égéenne internationale, Italian School of Archaeology in Athens, 14–18 April 2004. *Aegaeum* 25. Liège.
- 2007a. What can Troia tell us about the MH period in the southern Aegean? pp. 295–308 in (F. Felten, W. Gauss & R. Smetana, eds.) *Middle Helladic Pottery and Synchronisms. Proceedings of the International Workshop held at Salzburg, October 31st–November 2nd, 2004*, Ägina, Kolonna, Forschungen und Ergebnisse I, CChEM 14, Vienna.
- 2007b. New perspectives on Troia VI chronology, pp. 473–78 in (M. Bietak & E. Czerny, eds.) *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C. III. Proceedings of the SCIEM 2000–2nd Euro Conference Vienna, 28th of May–1st of June 2003*. Verlag der Österreichischen Akademie der Wissenschaften: Vienna.
- Payne, E. 2005. Überlegungen zur Hieroglyphenschrift der Assur-Briefe. *Mitteilungen der deutschen Orient-Gesellschaft* 137: 109–18.
- Payton, R. 1991. The Uluburun writing-board set. *Anatolian Studies* 41: 99–106.
- Peschlow-Bindokat, A. 2002. Die Hethiter am Latmos: eine hethitisch-luwische Hieroglyphen-Inschrift am Suratkaya (Beşparmak/Westtürkei) *Antike Welt* 22 (3): 211–15.
- Postgate, J. N. 1973. Assyrian texts and fragments. *Iraq* 35: 21–34.
- Postgate, J. N. & Thomas, D. 2007. Excavations at Kilise Tepe, 1994–98: From Bronze Age to Byzantine in Western Cilicia. British Institute at Ankara: London and McDonald Institute for Archaeological Research: Cambridge.
- Pulak, C. 1988. A Bronze Age shipwreck at Ulu Burun (Kaş): 1985 campaign. *American Journal of Archaeology* 92: 1–37.
2000. The copper and tin ingots from the Late Bronze Age shipwreck at Uluburun, pp. 137–57 in (Ü. Yalçın, ed.) *Anatolian Metal I, Der Anschnitt, Beiheft 13*. Deutsches Bergbau-Museum: Bochum.
- Rammage, A. 1987. Lydian Sardis, pp. 6–15 in (E. Guralnick, ed.) *Sardis: Twenty-seven Years of Discovery*. Archaeological Institute of America: Chicago.
- Rammage, A. & Craddock, P. 2000. King Croesus' Gold: Excavations at Sardis and the History of Gold Refining. British Museum Press: London.
- Renfrew, C. 1987. *Archaeology and Language: The Puzzle of Indo-European Origins*. Jonathan Cape: London.
- Sagona, A. & Zimansky, P. 2009. *Ancient Turkey*. Routledge: New York.
- Şahoğlu, V. 2007. Çeşme – Bağlararası: A new excavation in western Anatolia, pp. 309–22 in (F. Felten, W. Gauss & R. Smetana, eds.) *Middle Helladic Pottery and Synchronisms*. Austrian Academy of Sciences: Vienna.
- Sams, G. K. 1994. *The Early Phrygian Pottery. The Gordion Excavations, 1950–1973*. Final reports IV. University Museum Monograph 79. Philadelphia.
- Schachner, A. 1999. Von der Rundhütte zum Kaufmannshaus: Untersuchungen zur Entwicklung prähistorischer Wohnhäuser in Zentral-, Ost- und Südostanatolien. British Archaeological Reports (BAR) S 807. Archaeopress: Oxford.
2006. Auf welchen Fundamenten? Überlegungen zum Stand der Erforschung der hethitischen Architektur, pp. 149–66 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.
2009. Das 16. Jahrhundert v. Chr. – eine Zeitwende im hethitischen Zentralanatolien. *Istanbul Mitteilungen* 59: 9–34.
- Schaeffer, C. F. A. 1956. *Ugaritica III*. Librarie Orientaliste Paul Geuthner: Paris.
- Schoop, U.-D. 2006. Dating the Hittites with statistics: ten pottery assemblages from Boğazköy-Hattuša, pp. 215–40 in (D. P. Mielke, U.-D. Schoop & J. Seeher, eds.) *Structuring and Dating Hittite Archaeology*. Byzas 4. Ege Yayınları: Istanbul.

- Seeher, J. 2000. Getreidelagerung in unterirdischen Großspeichern: zur Methode und ihrer Anwendung im 2. Jahrtausend v. Chr. am Beispiel der Befunde in Hattusa, *Studi Micenei ed Egeo-Anatolici* XLII/2: 261–301.
2001. Die Zerstörung der Stadt Hattusa, pp. 623–34 in (G. Wilhelm, ed.) *Akten des IV. Internationalen Kongresses für Hethitologie. Studien zu den Boğazköy-Texten* 45. Harrassowitz Verlag: Wiesbaden.
2005. Bohren wie die Hethiter: Rekonstruktion von Bohrmaschinen der Spätbronzezeit und Beispiele ihrer Verwendung. *Istanbuler Mitteilungen* 55: 17–36.
- (ed.) 2006. *Ergebnisse der Grabungen an den Ostteichen und am mittleren Büyükkale-Nordwesthang in den Jahren 1996–2000*, mit Beiträgen von Ayşe Baykal-Seeher, Hermann Genz, Suzanne Herboldt und Jürgen Seeher. Philipp von Zabern: Mainz.
- 2006a. Hattusa – Tuthaliya-Stadt? Argumente für eine Revision der Chronologie der hethitischen Hauptstadt, pp. 13–146 in (T. P. J. van den Hout, ed.) *The Life and Times of Hattusili III and Tuthaliya IV*. Nederlands Instituut voor het Nabije Oosten: Leiden.
2008. Abschied von Gewusstem. Die Ausgrabungen in Hattusa am Beginn des 21. Jahrhunderts, pp. 1–13 in (G. Wilhelm, ed.) *Hattusa – Boğazköy. Das Hethiterreich im Spannungsfeld des Alten Orients. Colloquien der Deutschen Orient-Gesellschaft* 6. Harrassowitz: Wiesbaden.
- 2009a. Der Landschaft sein Siegel aufdrücken – hethitische Felsbilder und Hieroglypheninschriften als Ausdruck des herrscherlichen Macht- und Territorialanspruchs. *Altorientalische Forschungen* 36 (1): 119–39.
- 2009b. Die Techniken der Steinbearbeitung in der hethitischen Architektur des 2. Jahrtausends v. Chr., pp. 119–56 in (M. Bachmann, ed.) *Bautechnik im antiken und vorantiken Kleinasien. Internationale Konferenz vom 13.–16. Juni 2007*, DAI Istanbul. Byzas 9. Ege Yayınları: Istanbul.
2010. Wieviele Türme braucht eine Stadt? pp. 27–44 in (J. Lorentzen, F. Pirson, P. Schneider & U. Wulf-Rheidt, eds.) *Neue Forschungen zu antiken Stadtbefestigungen im östlichen Mittelmeerraum und im Vorderen Orient Konstruktion – Funktion – Semantik*. Byzas 10. Ege Yayınları: Istanbul.
- Simpson, E. & Spirydowicz, K. 1999. *Gordion Wooden Furniture: The Study, Conservation and Reconstruction of the Furniture and Wooden Objects from Gordion, 1981–1998*. Museum of Anatolian Civilizations: Ankara.
- Sipahi, T. 2000. Eine althethitische Reliefvase vom Hüseyindede Tepesi, *Istanbuler Mitteilungen* 50: 63–86.
- Süel, A. 2002. Ortaköy-Şapinuwa, pp. 157–66 in (K. A. Yener & H. A. Hoffner Jr., eds.) *Recent Developments in Hittite Archaeology and History: Papers in Memory of Hans G. Güterbock*. Eisenbrauns: Winona Lake, IN.
- Symington, D. 1991. Late Bronze Age writing-boards and their uses: textual evidence from Anatolia and Syria. *Anatolian Studies* 41: 111–23.
- Teissier, B. 1994. *Sealing and Seals on Texts from Kültepe Karum Level II*. Nederlands Historisch-Archaeologisch Instituut: Istanbul.
- Tekoğlu, R. & Lemaire, A. 2000. La bilingue royale Louvito-Phénicienne de Çineköy *Comptes-rendus de l'Académie des Inscriptions et Belles-Lettres* Juillet-Octobre: 961–1007.
- Tuna, N., Aktüre, Z. & Lynch M. 1998. *Thracians and Phrygians: Problems of Parallelism. Proceedings of an International Symposium on the Archaeology, History and Ancient Languages of Thracia and Phrygia*, Ankara, 3–4 June 1995. Middle Eastern Technical University, Faculty of Architecture Press: Ankara.
- Van Loon, M. N. 1978. *Korucutepe 2. Final Report on the Excavations of the Universities of Chicago, California (Los Angeles) and Amsterdam in the Keban Reservoir, Eastern Anatolia (1968–1970)*. North Holland: Amsterdam and Oxford; American Elsevier: New York.
- Van de Mieroop, M. 2007. *A History of the Ancient Near East ca. 3000–323 B.C.* Blackwell: Oxford.
- Veenhof, K. R. 1972. *Aspects of Old Assyrian Trade and Its Terminology*. Brill: Leiden.
1995. Kanesh, An Assyrian colony in Anatolia, pp. 859–71 in (J. Sasson, ed.) *Civilizations of the Ancient Near East*, vol. II. Scribner's: New York.
- 2003a. Archives of the Old Assyrian traders, pp. 28–123 in (M. Brosius, ed.) *Ancient Archives and Archival Traditions*. Oxford University Press: Oxford.
- 2003b. *The Old Assyrian List of these Eponyms from Karum Kanish and Its Chronological Implications*. Türk Tarih Kurumu: Ankara.
- Veenhof, K. R. & Eidem, J. 2008. *Mesopotamia. The Old Assyrian Period*. *Orbis Biblicus et Orientalis* 160/5. Academic Press: Fribourg.
- Voigt, M. M. 2005. Old problems and new solutions: recent excavations at Gordion, pp. 22–35 in (L. Kealhofer, ed.) *The Archaeology of Midas and the Phrygians: Recent Work at Gordion*. University Museum: Philadelphia.
2009. The chronology of Phrygian Gordion, pp. 220–37 in (S. W. Manning & M. J. Bruce, eds.) *Tree-rings, Kings, and Old World Archaeology and Environment: Papers Presented in Honor of Peter Ian Kuniholm*. Oxbow: Oxford and Oakville.
2012. The unfinished project of the Gordion Early Phrygian destruction level, pp. 67–99 in (C. B. Rose, ed.) *The Archaeology of Phrygian Gordion, Royal City of Midas*. University of Pennsylvania Museum: Philadelphia.
- Voigt, M. M. & Henrickson, R. C. 2000. Formation of the Phrygian state: the Early Iron Age at Gordion. *Anatolian Studies* 50: 37–54.
- Von Brandenstein, C.-G. 1943. *Hethitische Götter nach den Bildbeschreibungen in den Keilschrifttexten*. *Mitteilungen der Vorderasiatisch-Aegyptischen Gesellschaft* 62, 2. Leipzig.
- Wilhelm, G. 1997. *Keilschrifttexte aus Gebäude A. Kuşaklı-Sarissa I: Keilschrift Texte, Faszikel 1*. Verlag Marie Leidorf: Rahden, Westfalen.
2005. Zur Datierung der älteren Landschenkungsurkunden. *Altorientalische Forschungen* 32: 272–9.
- Yağcı, R. 2007. Hittites at Soli, pp. 797–814 in (A. Archi & F. Francia, eds.) *VI Congresso Internazionale di Ittitologia*, Roma, 5–9 Settembre 2005. *Studi Micenei ed Egeo-Anatolici* 49. Istituto di Studi sulle Civiltà dell'Egeo e del Vicino Oriente: Rome.
- Yalçın, Ü. 2005. Zum Eisen der Hethiter, pp. 493–502 in (Ü. Yalçın, C. Pulak & R. Slotta, eds.) *Das Schiff von Uluburun. Welthandel für 3000 Jahren. Katalog der Ausstellung des Deutschen Bergbau-Museums Bochum vom 15. Juli 2005 bis 16. Juli 2006*. Deutsches Bergbau-Museum: Bochum.
- Yalçın, Ü. 1999. Early iron metallurgy. *Anatolian Studies* 49: 177–87.
- Yalçın, Ü., Pulak, C. & Slotta, R. (eds.) 2005. *Das Schiff von Uluburun. Welthandel für 3000 Jahren. Katalog der Ausstellung des Deutschen Bergbau-Museums Bochum vom 15. Juli 2005 bis 16. Juli 2006*. Deutsches Bergbau-Museum: Bochum.
- Yener, K. A. 2000. *The Domestication of Metals. The Rise and Complex Metal Industries in Anatolia*. Brill: Leiden.
- Young, R. S. 1981. *Three Great Early Tumuli*. University Museum: Philadelphia.