IVO HAJNAL, EBERHARD ZANGGER and JORRIT KELDER

THE POLITICAL GEOGRAPHY OF WESTERN ANATOLIA IN THE LATE BRONZE AGE

Proceedings of the EAA Conference Bern, 7 September 2019

ARCHAEOLINGUA
Series Minor

ARCHAEOLINGUA

Edited by
ERZSÉBET JEREM and WOLFGANG MEID

Series Minor
45

THE POLITICAL GEOGRAPHY OF WESTERN ANATOLIA IN THE LATE BRONZE AGE

Proceedings of the EAA Conference
Bern, 7 September 2019

Edited by
IVO HAJNAL, EBERHARD ZANGGER
and
JORRIT KELDER

BUDAPEST 2022

Front Cover
Electrotype copy of the silver boss of Tarkondemos, probably the top of a sword hilt, inscribed in cuneiform and in Luwian hieroglyphs round a figure of an Anatolian king. Museum number 117907, © The Trustees of the British Museum

Back Cover
Map showing the cultures around the Aegean and in Anatolia (including ore deposits). Illustrator: Atelier Guido Köhler & Co., Binningen, Switzerland

ISBN 978-615-5766-54-1
HU-ISSN 1216-6847

2022

ARCHAEOLINGUA ALAPÍTVÁNY
H-1067 Budapest, Teréz krt. 13.
Graphic Designer / Illustrator: Atelier Guido Köhler & Co., Binningen, Switzerland
Copy editing and typeset: Regula Sigg, Zurich, Switzerland
Printed in Hungary: Prime Rate Kft.

Contents

EBERHARD ZANGGER, ALPER AŞINMAZ AND SERDAL MUTLU

Middle and Late Bronze Age Western Asia Minor: A Status Report

FIGURE 1: Middle Bronze Age cylinder seals from Seyitömer Höyük, after Bilgen *et al.* 2021, 306 (Luwian Studies #0186).

Abstract: This article gives an overview of archaeological research regarding the settlements of the Middle and Late Bronze Age (approx. 2000–1190 BCE) in western Asia Minor. Most of the 33 excavations and 30 surface surveys outlined here are based on initiatives by Turkish researchers and were carried out between 1950 and 2021. The resulting catalogue currently includes 477 large (>100 m diameter) settlement sites in the region west of an imagined north-south line between Eskişehir and Antalya which we have recorded with their geographic coordinates. The second millennium BCE states in western Anatolia, to which these settlements belonged, have thus far been considered to be culturally, economically and politically less important than the contemporary Minoan, Mycenaean, and Hittite cultures on Crete, mainland Greece and in central Asia Minor. The size and number of these settlements, however, in combination with the fact that a distinct script, Luwian hieroglyphic, was maintained over a period of well over a millennium, prove the existence of a rich indigenous Anatolian culture, one that differs considerably from

its well-studied neighbors. Future efforts to reconstruct the economic and political developments at the time of the Hittite kingdom (approx. 1650–1190 BCE) should give greater consideration to western Asia Minor. The subsequent kingdoms of Lydia and Phrygia are likely to have based their economic wealth and political influence to some extent on the preceding Late Bronze Age resources, infrastructures, and cultural achievements in this region.

1 Aim and definition

The idea of creating a comprehensive overview of the archaeological research of the Middle and Late Bronze Age settlements in western Asia Minor was born in 2010. At a meeting of the Heinrich Schliemann Society in Ankershagen, Frank Kolb gave a lecture before an audience that would have been for the most part familiar with Bronze Age mainland Greece and Crete.[1] Kolb summarized the results of a dozen important excavations which had been carried out by Turkish archaeologists over the past decades. His aim was to put the results of the Troy excavation into a context, something that was only possible thanks to Kolb's good knowledge of the Turkish language, because almost all excavation results were then – and still are – published in Turkish.

Following this lecture, the main author decided to embark on producing a more complete gazetteer of the known and investigated settlement sites, focusing on the second millennium BCE, thus encompassing the Middle and Late Bronze Age, in western Asia Minor. The Middle Bronze Age begins around 2000 BCE and ends around 1600 BCE, at which point the Late Bronze Age begins, which then ends with the demise of the Hittite court around 1190 BCE. The endeavor of quantifying what is known about second millennium BCE western Anatolia was encouraged by the then editor-in-chief of *Hesperia*, Tracey Cullen, who said that such a paper would help fill a knowledge gap and thus might be a valuable publication. It took twelve years before the report was ready; Tracey Cullen (and her successor) have long since left, and the paper now exceeds the proportions that would have made it suitable for a regular journal article. The original aim, however, has remained the same: this report is intended to give scien-

1 Kolb 2011.

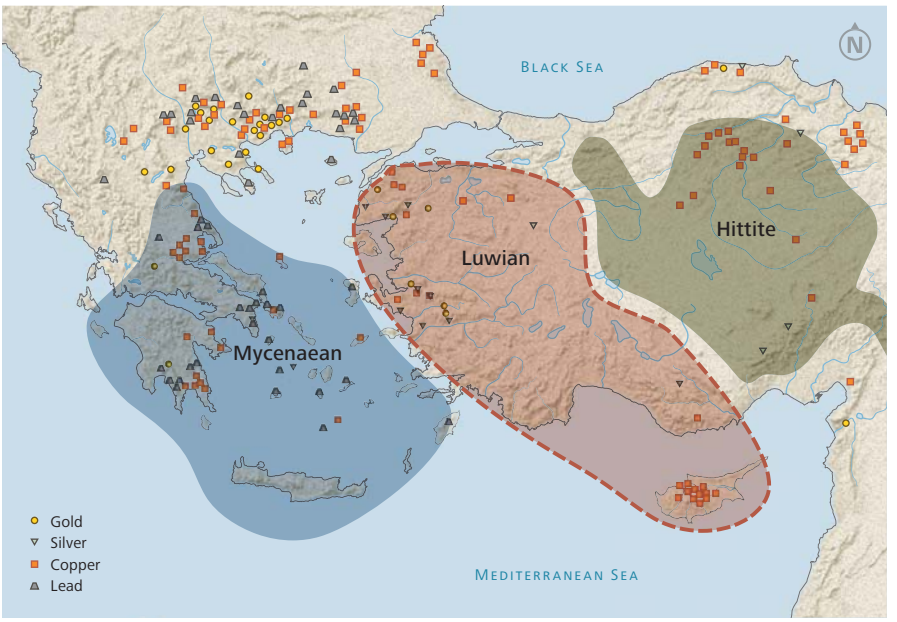
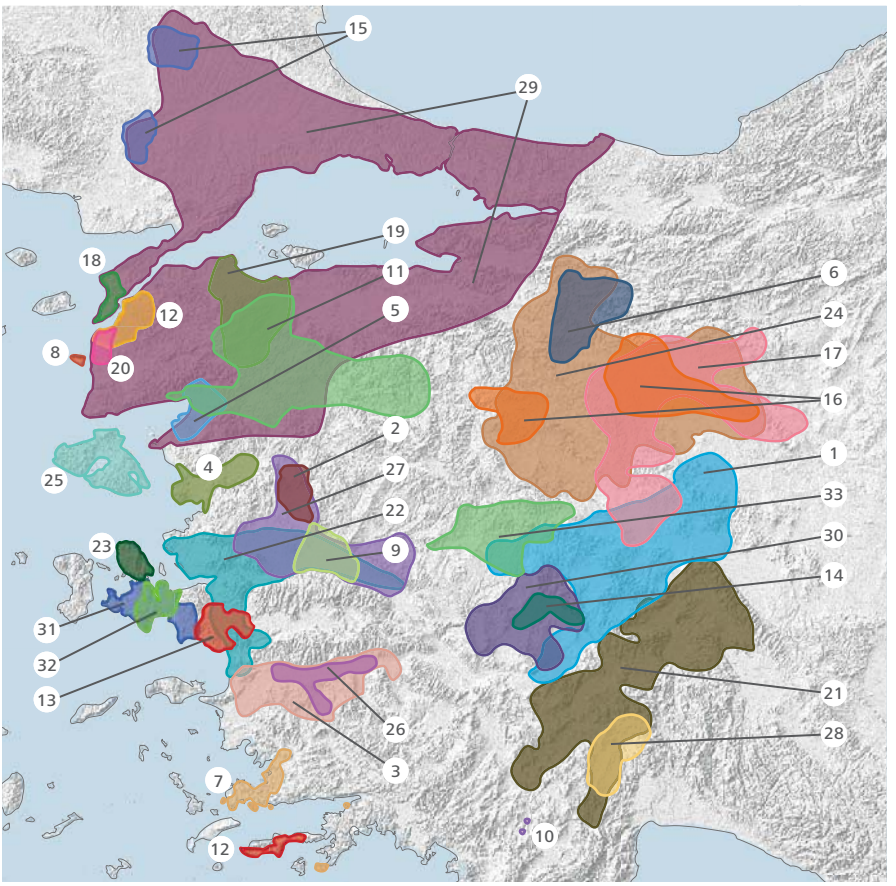


FIGURE 2: Previously acknowledged Late Bronze Age cultures in the northeastern Mediterranean with the addition of a Luwian sphere of influence in western Asia Minor and also indicating ore deposits (Luwian Studies #0109).

tists with a professional interest in Aegean protohistory an overview of the research that is taking place on the Turkish side of the Aegean (Figure 2).

A lot has happened since 2010. One of the most important events was the establishment of the Luwian Studies foundation in 2014 to support investigations into the second millennium BCE in western Turkey. Again, in the proceedings of the Heinrich Schliemann Society, a preliminary interim report on our work on the site catalogue appeared in 2016. At the same time the book *The Luwian Civilization – The Missing Link in the Aegean Bronze Age* came out and attracted some media attention around the globe.[2] Also at this time, the volume *Nostoi* appeared,[3] with contributions to a conference on the Middle and Late Bronze Age western Asia Minor that was held in Istanbul in 2011. In it, excavators provide important firsthand information in English. These detailed reports are supplemented here by a synthesis for scholars who are not already

2 Zangger 2016.
3 Stampolidis, Maner and Kopanias 2015.



1. Afyonkarahisar and Uşak Surveys
2. Akhisar Kulaksızlar Survey
3. Aydın and Muğla Surveys
4. Bakırçay/Kaykos Valley Survey
5. Balıkesir and its Districts
6. Bilecik Surveys
7. Bodrum Peninsula
8. Bozcaada/Tenedos Survey
9. Central Lydia Archaeological Survey
10. Çaltılar Höyük Survey
11. Çanakkale and Balıkesir Surveys
12. Çanakkale Central Survey
13. Datça Peninsula and Ionia Peninsula Surveys
14. Denizli/Çivril and Baklan Plains and Çal Basin
15. Edirne Survey
16. Eskişehir and Kütahya Prehistoric Survey
17. Eskişehir, Kütahya and Afyonkarahisar Surveys
18. Gelibolu Peninsula Survey Reyhan Körpe
19. Granicus River Valley Survey
20. Hanaytepe (Bozköy) Prehistoric Survey
21. Isparta, Burdur and Antalya Surveys/Lake District
22. İzmir, Manisa, Aydın Surveys
23. Karaburun Peninsula Survey
24. Kütahya, Bilecik and Eskişehir Surveys
25. Lesbos
26. Maeander Plain/Valley and its Surroundings
27. Manisa and its Districts
28. Şeref Höyük/Komama and its Environs
29. Thrace, Marmara and Northwest Anatolia Surveys
30. Upper Maeander Basin (Mountainous Part) Survey
31. Urla and Seferihisar (İzmir) Surveys
32. Urla Peninsuly Prehistoric Survey
33. Uşak Province and its Districts

FIGURE 3: Areas that have thus far been covered by archaeological surveys (Luwian Studies #0102).

involved in western Turkey but who are anxious to get an overview of the state of research (Figure 3).

In our publications in 2016 we proposed using the umbrella term "Luwian" for the city-states and petty states that existed in the second millennium BCE in western Asia Minor. This term was an obvious choice because it stands for the language and script that were predominant at the time. "Luwian" as used here, however, denotes a toponym and not an ethnonym. The term describes the political states, above all Arzawa, its predecessors and successors, as well as its provinces and neighbors – regardless of the languages spoken there, of co-existing ethnic groups, and of the most common material culture. This definition of a Luwian culture is quite comparable with those that have long been in use for the Mycenaean, Minoan and Hittite cultures, with the only difference being that this name was indeed at the time applied to the people living in the region (whereas Minoan, Mycenaean and Hittite are modern constructs). The term Luwia first occurs in the form of the land of Luwiya (KUR *Lu-ú-i-ya*) in cuneiform tablets found at Boğazköy by Hugo Winckler.[4] It became readable with Bedřich Hrozný's deciphering of the Hittite language in 1915.[5] From 1917 onward, the Swiss Assyriologist Emil Forrer was the first scholar to extensively study the cuneiform Boğazköy tablets. While Forrer recognized and worked on the eight different languages of the Boğazköy texts,[6] he developed a special interest in those that were written in Luwian. In a letter addressed to his PhD advisor Eduard Meyer and dated 20 August 1920, Forrer wrote:

> It turns out that the Luwians were a far greater people than the Kanisians … It is becoming increasingly apparent that the culture of the Hatti kingdom had been established in all parts by the Luwians and taken over by the Kanisians.[7]

Forrer continues by saying that he had recently been particularly concerned with the Luwian question and that his material had grown so much that he could "fill a fat cow with it."[8] He then summarized his most impor-

4 Freu 1980; Widmer 2006; Winckler 1907; Woudhuizen 2018.
5 Hrozný 1915.
6 Forrer 1919.
7 Oberheid 2007, 93.
8 Oberheid 2007, 93.

Region	People	City	Script	Name
Egypt	Egyptian	Thebes	hieroglyphic	Misraim
Upper Tigris	Assyria	Aššur	cuneiform	Aššur
Central Anatolia	Hittite	Hattuša	cuneiform	Hatti
Syria/Palestine	Canaanite	Kadesh	cuneiform	Amurru/Retjenu
Greece	Achaean	Mycenae	Linear B	Tanaja
Crete	Minoan	Knossos	Linear A	Keftiu
Cyprus	Cypriot	Enkomi	Cypro-Minoan	Alasiya
Western Anatolia	Luwian	Apaša, Troy, Millawanda	Luwian hieroglyphic	Arzawa, Wiluša, Mira, Lukka

FIGURE 4: Overview of regions, nations, major towns and scripts at the end of the Bronze Age. In each column one element remains unaccounted for – together they amount to the Luwian culture (Zangger 1995, 28; Luwian Studies #0118).

tant findings in general terms. Forrer was sure that the Luwians were a far greater people than the "Kanisians" – a term he consistently used for the Hittites. Some of the arguments he put forward in the letter reappear almost verbatim in a publication the following year.[9] These include, for example, the (correct) realization that the Luwians worshiped gods who were completely unknown to the Hittites and the (correct) finding that place-names ending in *-anda* and *-assus* go back to the Luwian language. Furthermore, in texts written in Hittite, Forrer discovered terms from Luwian, so-called luvisms, and a great number of them in one of the Arzawa letters of the Amarna archive.[10] This is not surprising given the current state of knowledge: the letter was penned by a Luwian, the king of Arzawa, who wrote in Hittite to the Egyptian pharaoh and thereby incorporated terms from his own vocabulary. Forrer correctly guessed that the author had used a foreign language and wondered if Luwian was spoken in his realm. Although Forrer got carried away in his early interpretations of the role of the Luwians, his work is an indication that their significance was recognized from the earliest days of dealing with Hittite language.

The introduction of a new definition to designate a specific culture in an area that until then had been almost blank on maps inevitably raises

9 Forrer 1921.
10 Waal 2022.

a whole series of questions (Figure 4). What exactly distinguishes this western Anatolian culture from that of its neighbors? How did the people in this area perceive their own identity? What were the particular bonds for those who shared a common language, script and culture, including religion? And how were people perceived whose customs were different? Such questions regarding identity are currently hotly debated and considered to be of importance because people certainly relate to the landscape they grew up in. Those who leave their home will inevitably be asked where they are from. Part of the definition of the individual self and the collective self derives from the place where the bones of our ancestors are buried. From this seed grows the next generation, with inherited symbols and customs that form a social complexity out of which the indigenous social institutions emerge. Another article in this volume deals extensively with the topic of identity,[11] so there is no need to indulge further on this subject here.

FIGURE 5: Silver boss of the so-called Tarkondemos seal, probably the top of a sword hilt, inscribed in cuneiform and in Luwian hieroglyphs round a figure of an Anatolian king (© The Trustees of the British Museum).

The people who lived in the west and south of Asia Minor predominantly spoke the Indo-European Luwian language. It should only be emphasized that such a prevailing language, together with a common economy and, in particular, a common script, are crucial unifying features. The Luwian hieroglyphic script (Figure 5–6) most likely existed in western Anatolia even before Akkadian cuneiform was adopted from Syria – and it remained in use for well over a millennium, through the entire illiterate Dark Age of Greece. The territory in which this Luwian culture prevailed was at least three times the size of the Mycenaean core area and five times that of the Hittite core kingdom.

It is vital to understand that, with one exception in 1946,[12] it was never asserted that the Late Bronze Age petty kingdoms of western Asia Minor ever formed a monolithic realm. As will be shown below, such a union

11 Bachhuber 2022.
12 Bossert 1946, IV.

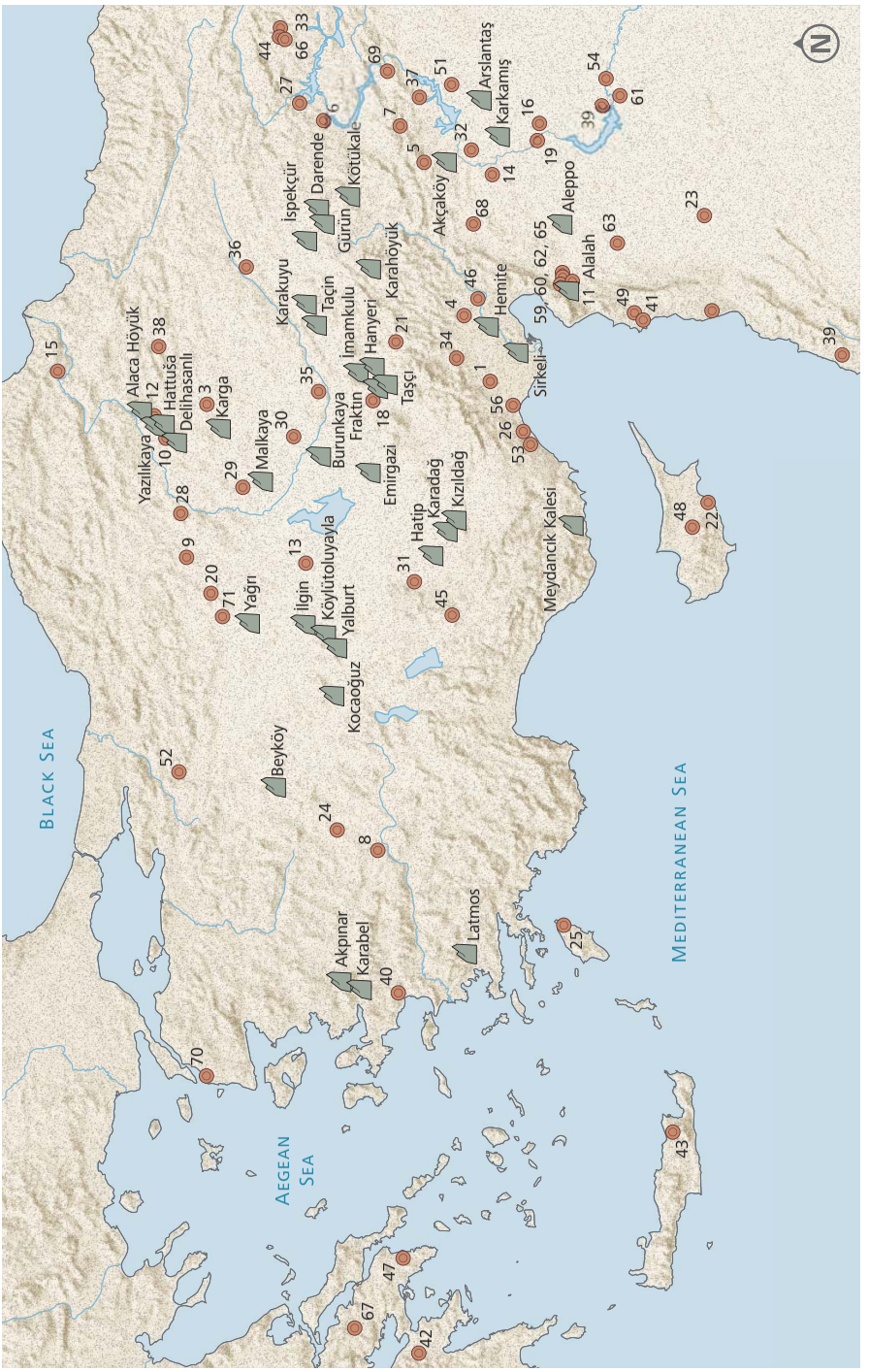

BLACK SEA
AEGEAN SEA
MEDITERRANEAN SEA
N
Alaca Höyük
Hattuša
Delihasanlı
Karga
Yazılıkaya
Malkaya
Beyköy
İlgin
Köylütoluyayla
Yalburt
Yağrı
Kocaoğuz
Akpınar
Karabel
Latmos
Meydancık Kalesi
Kızıldağ
Karadağ
Hatip
Emirgazi
Taşçı
Fraktin
Burunkaya
İmamkulu
Hanyeri
Karahöyük
Taçin
Karakuyu
İspekçür
Darende
Gürün
Kötükale
Akçaköy
Hemite
Sirkeli
Alalah
Aleppo
Karkamış
Arslantaş

FIGURE 6: Findspots of Luwian inscriptions, seals and sealing: 1. Adana; 2. Alaca Höyük; 3. Alişar Höyük; 4. Anavarza; 5. Araban (Altıntaş); 6. Arslantepe-Malatya; 7. Besni; 8. Beycesultan; 9. Bitik Hüyük; 10. Boğazkale (Hattusa); 11. Çatal Hüyük-Hatay; 12. Çelebibağ; 13. Çorça; 14. Deve Hüyük; 15. Doğan Tepe; 16. El-Qitar; 17. Eskiyapar; 18. Fraktın-Develi; 19. Gabal Abu Gelgel; 20. Girmeç; 21. Göksun; 22. Hala Sultan Tekke; 23. Hamāh; 24. Hisarhöyük; 25. Ialisos; 26. İçel (Mersin); 27. İmikuşağı; 28. İnandık; 29. Kaman-Kalehöyük; 30. Karaburun; 31.Karahöyük-Konya; 32. Karkamış; 33. Korucutepe; 34. Kozan (Sis, Flaviopolis); 35. Kültepe; 36. Kuşaklı (Sarissa); 37. Lidar Höyük; 38. Maşat Höyük; 39. Meskene (Emar); 40. Metropolis-Ionia; 41. Mīnat al Baidā (Ma'hadu); 42. Mycenae; 43. Neapoli; 44. Norşuntepe; 45. Orta Karaviran South; 46. Osmaniye; 47. Perati; 48. Politiko (Tamassos); 49. Ras Šamra (Ugarit); 50. Sakçagözü; 51. Şanlıurfa (Urfa); 52. Şarhöyük (Dorylaion); 53. Soloi (Pompeiopolis); 54. Tall all-Furayy (Jaharišša); 55. Tall Kazil (Tell Kazel, Simyra, Sumur); 56. Tarsus-Gözlükule; 57. Tel Aphek (Tell 'Afaq, Tell Ras al-'Ain, Antipatris); 58. Tel Megiddo (Tell al-Mutasallim, Megiddo); 59. Tell Açana (Alalah); 60. Tell Dis-Hatay; 61. Tell Faqqūs; 62. Tell Judaidah (Judeidah, Tell Cudeyde); 63. Tell Mardih (Ebla); 64. Tell Šaruhen; 65. Tell Tayinat (Tell Taynat); 66. Tepecik; 67. Thebes-Boeotia; 68. Til Başar; 69. Tille Höyük; 70. Troy; 71. Yassıhöyük (Gordion) (Luwian Studies #0123).

would contradict the character of the cultures in the region. There is no evidence of a central government prior to the Lydian kingdom. Nevertheless, the Luwian states in western Asia Minor, taken together, are an economic and political factor that must be taken into account in reconstructions of protohistorical developments. Documents from the Hittite archives testify that the countries in the west were subjugated at certain times and then turned into vassals of the Hittite kingdom. At other times, however, they were independent and then often inclined to cause unrest. Almost thirty years ago the working hypothesis was formulated that if these western Anatolian states succeeded in establishing a temporary military alliance, especially during a time of internal palace strife and weak central Hittite power, they may have had a chance of overpowering their competitors and temporary oppressors in Hattusa.[13] Comprehensive preparation, intelligent strategic planning, and tactical skills would be decisive for success. In that case, such an alliance of western Anatolian states and small kingdoms may have indeed formed the core of the attacks that we now call the Sea Peoples' invasions. Conversely, this would mean that the Sea Peoples were anything but a loose grouping of marauding pirates, but that they conducted a well-prepared and centrally orchestrated attack on the Hittite kingdom, which, incidentally, was exceedingly successful.

13 Zangger 1994, 216–222.

2 Method

When dealing with a subject which is more than a century behind investigation into its adjacent disciplines, questions of epistemology are inescapable. How do we actually know what we know – and what caused us to have such large gaps in knowledge? To be able to answer these questions, we not only have to deal with what happened three to four millennia ago, but also with how our current knowledge was formed – and why it is important to understand this. The material culture that archaeologists deal with is deceptively concrete. This tempts archaeologists to feel called to speak for the people of the past. They reconstruct what was, and thereby develop narratives, sometimes in order to legitimize political measures in the present, including territorial claims. The foundations of Aegean protohistory in particular were laid at a time of extreme political polarization between Europe and Turkey. It is therefore entirely appropriate to take a critical look at the reconstruction of the past that is transmitted to us. This will be done elsewhere in this paper, in the sections outlining the way western Anatolian cultures evolved and were remembered after the end of the Bronze Age, as well as in the part outlining the research history since the nineteenth century.

The study presented here is primarily committed to a hypothetical-deductive methodology. A research program is hypothetical-deductive when it formulates falsifiable hypotheses that can be disproven by empirical findings. The way in which the hypotheses were conceived plays a subordinate role. If they are consistent, plausible and empirically verifiable, they must be considered scientific. We followed these steps: (1) Formulation of plausible and well-founded hypotheses (hypothetical-deductive approach). (2) Collection and capture of observations from the widest possible range of scientific disciplines (empirical method). (3) Critical review of original observations and gathering of new data. Step 1 began in 1994 when the principal author pointed out that the distribution of known cultures in the eastern Mediterranean left a factually unjustifiable void in western Turkey, which could only be explained by a research gap (Figure 7).[14] The consequential hypothesis that there was a hitherto barely explored culture in western Asia Minor, which, among other things, may have played a decisive role in the downfall of the Hittite empire, is consist-

14 Zangger 1994; 1995.

ent in itself and can be verified or falsified through documentary evidence and fieldwork.

Step 2 was to collect and record data already available on settlements of the Middle and Late Bronze Age in western Asia Minor. The initial hypothesis was then confirmed by the large number, the extent and the state of preservation of the existing tells.[15] The present publication represents step 3.

FIGURE 7: Language distribution at c. 1580–1200 BCE in the northeastern Mediterranean (after Wittke, Olshausen and Szydlak 2007, 22; Luwian Studies #0110).

The maps and catalogues of the *Sonderforschungsbereich Tübinger Atlas des Vorderen Orients* (TAVO) from 1977 and the TAY Project (tayproject.org) contain about 2,000 Early Bronze Age (about 3000–2000 BCE) sites in western Asia Minor.[16] As a rule, the number of sites decreased from the third to the second millennium BCE, but there are also exceptions: 102 Early Bronze Age sites are known from the valley of the Maeander; at the end of the Bronze Age their number increased to 150.

When we created the gazetteer of sites, our main task was to use the existing catalogues of Early Bronze Age sites to find places which were likely inhabited in the Middle and Late Bronze Age as identified on the basis of surface finds. Almost exclusively, tell settlements were catalogued (Figure 8); these typically have a diameter of between 100 and 500 m and rise between 5 and 25 m above the surrounding area. Most of the altogether 477 recorded sites were probably inhabited during the entire second millennium BCE, but a large number were indeed used for as many as 5,000 years. All sites have already been mentioned in the academic literature, for the most part Turkish. Over a period of ten years the principal author also visited almost all excavations of Late Bronze Age sites in western Asia Minor. This inspection was crucial to gain a feel for the topography and environment of each excavated site. In addition, a great

15 Zangger, Mutlu and Müller 2016.
16 Korfmann *et al.* 1994.

FIGURE 8: The tell of Beyköy, c. 34 km north of Afyonkarahisar (Luwian Studies #0237).

number of the unexcavated tell sites whose diameter exceeds 200 m were also visited. However, given the size of the study area, completeness cannot be achieved.

3 Landscape exploitation

For more than a century, archaeological research concentrated exclusively on the Minoan and Mycenaean cultural areas, which, together with Hittite central Anatolia, had always been understood as well-defined cultural units. Throughout the twentieth century western Asia Minor, on the other hand, was regarded as a buffer zone between those well-known powers and not as a cultural region in its own right.[17] The region was seen as a kind of no man's land through which uncivilized seminomadic tribes roamed – even if no one had ever examined evidence of nomadic land use and campsite logic. The conjured image was reminiscent of that of pre-colonial North America, where countless indigenous tribes eked out their humble existence on precious soil before Western Europeans

17 Niemeier 1998, 46.

FIGURE 9: Cyclopean wall c. 30 km east of Miletus (courtesy of © Suat Ateşlier).

brought Christianity, civilization and technology. Western Asia Minor, too, appeared to have been on hold until the region became civilized under Greek influence, characteristically dubbed "colonization."

Consequently, since the Aegean Bronze Age came into the focus of research around 150 years ago, there has been an effort to determine the effect of Cretan and Greek products, ideas and forces on western Anatolia. As a consequence, today we know various Mycenaean and Minoan contact points on the Anatolian coast. Hardly any researcher has tried to find out what activities Luwians may have engaged in on foreign shores. Why should Luwians not also have had safe havens on Crete, on the Greek mainland and elsewhere? Identifying them might rank as one of the most urgent and rewarding challenges of future research.

From today's perspective – as will be shown here – the research gap in western Asia Minor rests on a systematic methodological error – i.e., biased sampling – and cannot be justified by argument. The knowledge gap reflects a dynamic of concealment that aimed to downplay the importance of the people and cultures in this region before Greek contact. As a result, western Asia Minor – like no other region around the entire eastern Mediterranean – now constitutes a largely unexplored and misunderstood cultural landscape in which future archaeological research is highly likely to yield surprising discoveries (Figure 9).

All things considered, however, the situation in the Luwian lands is not all that complicated or difficult to grasp.[18] Cultural relativism, as a fundamental concept of anthropology, argues that all cultures are adaptations to the environment. So, when the first attempts at plant domestication occurred in the region of the Fertile Crescent, particularly high-yielding plants were chosen that grew quickly, were undemanding, could pollinate themselves and that could provide seeds that could be stored without any problems. Domestication of plants and farm animals had serious consequences for society as well as people's attitudes toward their natural environment. In order to create fields for farming, the natural forests had to be cleared. Hence, the stone axe became the iconic symbol for the Neolithic Age – and human-induced environmental degradation one of its major effects. The analysis of ancient DNA shows how the farming communities advanced from Anatolia into the Balkans at around 6500–5000 BCE, presumably to open up new terrain for their agriculture.[19]

The three pillars that determine the Anatolian economy to this day already existed in the Early Bronze Age: agriculture, the extraction of mineral resources and transport/trade. Anatolia's economy thus embodies the inconspicuous but long-lasting hard core that determines *longue durée* processes. The settlement pattern corresponds to that of an emergent landscape with self-organized local communities that work together from the bottom up. They exploit the most fertile soils in the extensive valley meadows and use the hills for pasture. The complicated topography favors fragmentation into communities of equal rank and prevents the emergence of a large monolithic political unit at an early stage. Regardless of the regional characteristics and different paths of socio-economic development, the commonalities ultimately prevail. Western Anatolia is and will remain an unusually fertile landscape that is rich in natural resources including freshwater and ore deposits. This potential was tapped efficiently over millennia by countless rural communities, from which the farmers drove to their fields on well-trodden paths.

One comprehensive and overarching development has shaped the settlement patterns in all of Anatolia to this day. This transformation took place around the turn from the third to the second millennium BCE. At that time, a systematic concentration of the settlements took place. The people who had previously lived scattered in farmsteads and small villages

18 Aro and Wittke 2015; Roberts 2017.
19 Reich 2018.

were purposely brought together in regional centers, thereby reducing the number of settlements by a factor of five to ten. Perhaps these measures followed an impulse from Mesopotamia, where such nucleated sites already existed. When people live together in larger settlements, it facilitates communication and lowers energy consumption. This concentration further increased the importance of environmental factors, since the particularly favorable places already in use were selected by people as future centers. This unusual process was remembered for a long time and is even mentioned in later historiographical sources.[20]

In many cases, effective spatial organization inevitably leads to an urbanized society with social stratification and functionally specialized social institutions. The earliest evidence of such social stratification comes from Göbekli Tepe, where after the end of the Ice Age c. 9000 BCE nomadic hunter-gatherers congregated to jointly produce the oldest currently known megalithic complex in the world. The construction, involving many hundreds of people, required a comprehensively coordinated community effort. There is no evidence of settlement from this period, so it seems to have been a place used for temporary gatherings. Even though Çatalhöyük has long (though wrongly) been considered the oldest city in the world, the rise of urbanism in Bronze Age Anatolia has so far received little scientific attention. Since surplus and thus productivity are essential for urbanization, urbanized societies can only emerge in fertile arable areas. Western Asia Minor fulfils this requirement perhaps better than any other region around the eastern Mediterranean. All major cities started out as important ceremonial centers.[21] They are part of an imposed landscape that follows a hypertechnical design dictated from top to bottom by a specific person. Cities are thus places of powerful organization and clearly stratified societies with unequal access to the goods – and the gods.[22] Hattusa is one such capital where cosmic law permeates every level of reality.[23] From western Anatolia, on the other hand, no urbanized societies with central palace administration are known to date, and consequently the archives one would hope to find there are also still missing. Until further notice, this absence of evidence may not be considered evidence of absence. Thus far there have been no large-scale excavations in

20 Diodorus Siculus, *Bibliotheca historica* 3.56.3.
21 Wheatley 1971.
22 Service 1975.
23 Zangger *et al.* 2021.

urban centers of the second millennium BCE. Those Bronze Age levels are usually buried deeply under meter-thick anthropogenic deposits from historic periods. We may therefore have to be patient until excavations in the right places reach the relevant levels.

4 Mineral resources

Prior to the emergence of knowledge work in modern times, a region's natural resources were most likely the deciding factor in the success of its societies. These resources include the geopolitical situation, mineral deposits, natural stones, perennial rainfall, fertile arable land, timber and, above all, ample fresh water, ideally in the form of long navigable river courses. Asia Minor, thanks to its geological history and geographical location, is blessed with all of these assets. There is hardly any other area in the eastern Mediterranean region as rich in mineral resources as western Asia Minor. Gold, silver, copper, lead, zinc and iron mines are concentrated on the Black Sea coast, in the Taurus mountains, and in the Troad.[24] The lead, copper and gold mines around Troy have been exploited since prehistoric times.[25] Harun Oy distinguishes four important mining districts in Early Bronze Age western Asia Minor: (1) the Troad with Troy as its commercial center; (2) the Izmir region with Limantepe as an important port; (3) inner west Anatolia with Beycesultan as a regional center; and (4) Kütahya-Eskişehir, possibly with Şarhöyük-Dorylaion as its commercial hub.[26] In the Early Iron Age the gold mines near the royal seat of the Lydian kings at Sardes reached legendary fame, making Croesus the proverbially richest man in world history.

According to Yener,[27] metallurgy in Anatolia developed on various winding paths. The oldest safely datable evidence for the utilization of metals as raw materials in the Old World dates to the beginning of the Neolithic (c. 8200 BCE) and comes from Anatolia and northern Syria.[28] Starting around 5000 BCE, copper was extracted from its ore. By exploiting the possibilities yielded by different kinds of copper, people at the

24 Muhly 2011, 859; Oy 2017c, 13.
25 Pernicka *et al.* 2003, 148.
26 Oy 2017c, 19.
27 Yener 2000, 125–128.
28 Yalçın 2016, 117.

time paved the way for using alloys. In the central and eastern Taurus mountains of Cilicia, sites such as Mersin, Norşuntepe, the Amuq sites, Arslantepe, Tülintepe and Tepecik testify to a highly developed metal industry with experimental copper-based alloys in the late fifth and early fourth millennia.

Early Bronze Age mining is known to have taken place on a large scale at Kestel, as described by Yener.[29] At the time, a two-stage production system was established. Ores were extracted in the mountains, melted, and the metal was poured into ingots. Caravans then transported these ingots to the urban centers in the lowlands, where the metal was refined in workshops and processed for the production of a wide variety of objects.[30] At the beginning of the Middle Bronze Age, Mesopotamian traders arriving in Anatolia encountered a complex environment that had already existed for a long time, with reciprocal relationships between metal producers in the highlands and markets in the lowlands, between Anatolian city-states and vassals. Textiles and tin were brought from Assur to central western Anatolia through the city of Purushattum, while gold, silver, wool and copper were sent from Anatolia to Assur.[31] The intensified exchange relations with Syria and Mesopotamia brought about an even stronger and wider integration of economic relations stretching around the Mediterranean and the Aegean, the Black Sea and into the Caucasus. Owing to growing demand for metal objects for very different purposes, diversity arose in terms of alloys, styles and decorations. At the time, wealth in metal fulfilled a role similar to that of money today: it symbolized prestige and power and could be hoarded as a resource for bad times. The most commonly used metals were copper and bronze. Gold, silver and tin are also mentioned in Hittite documents. Iron was of high value and not used by ordinary people.[32]

For a number of years, archaeometallurgists debated the availability of tin sources which were, of course, crucial for the production of tin bronze during the eponymous Bronze Age. Some scholars claimed that the tin must have been imported from the major production centers in Malaysia, Cornwall or northern Afghanistan.[33] The discovery of the Early Bronze

29 de Jesus 2019, 13; Yener 2000.
30 Yener 2000.
31 Erkanal-Öktu 2020, 148.
32 Doğan-Alparslan, Alparslan and Pelvanoğlu 2020, 182.
33 Muhly 1985, 276.

Kestel/Göltepe mine in 1987 with its extensive marble-hosted galleries and a total of 1.5 km of extraction tunnels (as explored by 2000) ruffled feathers in the scholarly community. Several tons of pottery consisting of tin-rich clay from the adjacent Göltepe site indicate that tin must have been available locally.[34] Today, the tin grade in the remaining hematite-quartz veins ranges between 0.1 and 1 percent,[35] but recent investigations have shown that the mineral assemblage of the mine sediment contrasts with that of the remaining surface mineralization, indicating that the extracted ores were higher in tin content.[36]

The researchers conclude that cassiterite was the mineral of interest to the Early Bronze Age miners and that the Kestel mine did indeed form part of a local tin exploitation industry. The discovery of another Early Bronze Age tin mine at Hisarcık near Kayseri appears to have ended this dispute.[37] Here too, the ceramics found at the site, as well as lead isotope analysis of a tin ingot from Alacahöyük, indicate commercial use of the Hisarcık mine.[38] While Iranian or central Asian tin may also have reached Anatolia, it is conceivable that much of the tin used in northwestern Anatolia during the third millennium BCE originated in the Taurus mountains.[39] Today, tin mineralization is also known from the eastern desert of Egypt, from the Erzgebirge, Cyprus and the Troad.[40]

The significance of metal work is evident from Hittite documents; these mention, for instance, "metal workers" (^{LÚ}URUDA.NAGAR, ^{LÚ}TIBIRA), "smiths of the kurupzina metal" (LÚ^{MEŠ}*kurupzina*), "lead processors" (^{LÚ}A.BÁR), "copper smiths" (^{LÚ}URUDU.DÍM.DÍM), "silver smiths" (^{LÚ}KÙ.BABBAR, ^{LÚ}BABBAR.DÍM.DÍM), "gold smiths" (^{LÚ}GUŠKIN.DÍM.DÍM, ^{LÚ}E-*PIŠ* GUŠKIN) and "iron smiths" (^{LÚ}SIMUG(.A), ^{LÚ}AN.BAR, ^{LÚ}AN.BAR.DÍM.DÍM). A letter written by Manapa-Tarhunta, the king of the Seha River Land, to an unidentified Hittite king mentions *SARIPUTU* craftsmen who have been deported to Lazpa (usually identified with Lesbos). The same *SARIPUTU* people are mentioned in documents found at Ugarit and interpreted to have been

34 Yener 2000, 127.
35 Yener 2000, 73.
36 Powell *et al.* 2021.
37 Yalçın and Özbal 2009.
38 Yalçın 2016, 72.
39 Massa, McIlfatrick and Fidan 2017, 74.
40 Yener and Özban 1987, 72.

metal workers. The word *sarāpu(m)* has Akkadian roots and signified people who burn tablets or tiles, produce textile dyes or melt metals.[41]

5 Material culture, economy and trade

The large-scale excavations at Troy which began in 1870, initiated and supervised by Heinrich Schliemann, produced large amounts of a monochrome grey fine ware as one of the most important components of the second millennium BCE material culture of western Anatolia (Figure 10). Schliemann initially called it "Lydian," but he later realized that it occurred in assemblages with Mycenaean pottery and thus dated it to the Late Bronze Age.[42] Wilhelm Dörpfeld and Hubert Schmidt described it as "monochrome, usually grey pottery" or "local, Trojan monochrome ceramics." Alan Wace and Maurice Scott Thompson applied the term "Grey Minyan Ware" to this group as it was already in use for similar ceramic assemblages found in Greece. They assumed that this kind of pottery originated in Orchomenos and was later introduced at Troy,[43] a model of thought which prevailed throughout the twentieth century. The first scholar to challenge this view and look at the Grey Ware from an Anatolian perspective without reference to the Greek mainland was Nicholas Bayne in his 1963 dissertation. Bayne clearly

FIGURE 10: Middle Bronze Age two-handled, footed bowl (*Meyve Tabağı*) from Seyitömer Höyük as an example of characteristic Anatolian Grey Ware, courtesy of Zeynep Bilgen (© Bilgen 2015, 97).

41 Doğan-Alparslan *et al.* 2020, 182.
42 Hertel and Schachner 2000, 300.
43 Wace and Thompson 1912, 251–256.

worked out the predominantly Anatolian characteristics of the ceramic forms and, as a consequence, discontinued use of the term Grey Minyan Ware. This work remained unpublished, however, until Dieter Hertel and Andreas Schachner edited and published the manuscript in 2000.[44]

Based on extensive surveys and his excavations at Beycesultan, James Mellaart defined two main ceramic groups in northwestern Anatolia.[45] Accordingly, there is one in the Troad and another stretching from the Balıkesir basin down to the Izmir area and encompassing the regions lying in between.[46] Bayne also recognized two fairly distinct cultures at the beginning of the second millennium BCE in western Asia Minor.[47] Accordingly, Anatolian Grey Ware occurs contemporary to Troy VI Early to Middle (c. 1750–1400 BCE) throughout western Anatolia up to Izmir in the south. The distinctive Grey Ware, resembling metallic shapes,[48] originated in the region of Bursa and Iznik through the fusion of elements from the Early Bronze III Grey Ware and shapes from the southwestern culture centered on Beycesultan. During the Late Bronze Age, however, its distribution was limited to northwestern Asia Minor and Lesbos.

David French picked up the Anatolian aspect of Bayne's work and conducted extensive surveys in western Anatolia. He distinguished among the various ceramic assemblages a local group in the catchment area of the eastern Marmara Sea and around Lake Iznik that he called Inegöl Grey Ware, which he interpreted to be a predecessor of Anatolian Grey Ware.[49] Susan Allen also looked at the distribution of Anatolian Grey Ware in western Asia Minor and around the eastern Mediterranean.[50] Andreas Schachner showed that typologically the contacts between the Helladic and Anatolian forms of Grey Ware were few, until the introduction of Mycenaean fine wares had an impact on Anatolian forms.[51]

Since then, a number of monographs have dealt with ceramics, which is now known as Anatolian Grey Ware (AGW), often resulting from master's and doctoral theses.[52] Thirty-four years after the most recent excavation

44 Bayne 2000.
45 Pavúk and Horejs 2018, 474, n. 75.
46 Pavúk and Horejs 2018, 474.
47 Bayne 2000, 263.
48 Bayne 2000, 263.
49 French 1967, 61–64; 1969, 68–71.
50 Allen 1990.
51 Schachner 1995, 90.
52 Pavúk 2014.

campaign in Troy commenced, 68 years after the beginning of excavations in Beycesultan, and 152 years after the first large-scale excavations in Troy, however, it is beginning to dawn on us that the long-lasting sequences of the dominant local pottery traditions in western Asia Minor cannot be closely defined.[53] The ongoing discussion about the reclassification of the horizons in Beycesultan underlines this assessment.[54] Experts tentatively differentiate between nine thus far unnamed northwest Anatolian ceramic groups of similar size and shape, but at the same time admit that such a specific division may not be appropriate because the Bronze Age cultural zones overlapped in time and space.[55] Ceramic typology, which has always been an important pillar in the methodology of the Aegean Bronze Age, reaches the limit of its usefulness in the special case of western Asia Minor. Presumably, each settlement chamber or each larger floodplain can be viewed as a more or less independent zone with its own ceramic profile. It is always relatively easy to highlight differences, and usually more difficult to see the wood for the trees. This is all the more true as archaeological models of interpretation depend on a patchwork of individual excavations, which for western Asia Minor are far apart.[56] Around 90 percent of the excavations targeted sites on the coast. The few that were conducted in the interior have mostly not been made available in the form of final publications.[57] As a consequence, there is a lack of published stratigraphic sequences from inner western Asia Minor which could aid the dating of ceramics from surveys.[58] In the Thracian part of Turkey there are no extensively researched settlement areas at all, with the exception of the most recent investigations in Maydos-Kilisitepe on the Gallipoli peninsula.

What fundamental insights can be gained from previous research, considering that the target group of this paper are scholars whose main interests lie outside Anatolia? Owing to the long history of research in Troy, current knowledge is skewed and follows the perspective from the northeastern Aegean. The material culture indicates a lack of long-distance contacts in the time of Troy IV and V, i.e., around 2200–1750 BCE.[59]

53 Greaves 2010, 882.
54 Kourkoulakos 2022.
55 Pieniążek, Pavúk and Kozal 2018.
56 Pavúk and Horejs 2018, 474.
57 Pavúk and Horejs 2018, 474.
58 Pavúk and Horejs 2018, 460.
59 Pieniążek 2016, 514.

Around 1800 BCE, during the time of the protopalatial palaces, Cretan interest in the northeastern Aegean grew, as demonstrated by finds in Mikro Vouni on Samothrace.[60] These relationships grew after 1750 BCE and then apparently mainly targeted Koukonisi on Lemnos.[61] Troy exhibits a somewhat independent development among the coastal towns in western Asia Minor. After 1750 BCE, Trojan Grey Ware indeed shows signs of the influence from the "Minyan" pottery of the Greek mainland; however, this influence only lasted for a few generations. Around 1700 BCE, all Aegean forms in the Trojan Grey Ware were replaced by local ones which are more typical of western inland Anatolia. A similar development can be observed on the Chalkidiki peninsula[62] and in the Izmir region.[63] Troy itself probably did not maintain any direct relations with the Minoan world around 1700 BCE. At that time the settlement and its architecture were restricted in size and significance. As Trojan reach was limited to the Troad and the adjacent islands,[64] Minoan objects most likely reached Troy indirectly via Samothrace and Limnos.[65]

During the seventeenth century BCE there seems to have been an interruption in relations with mainland Greece; but then, around 1600 BCE, the first imports of Mycenaean pottery arrived in Troy. Such early Mycenaean pottery was otherwise found only rarely along the western Anatolian coast – with Miletus apparently being an exception.[66] The influence of the Mycenaean style on local Anatolian wares grew after 1400 BCE, and even more so with the rise of the Mycenaean palaces after 1350 BCE.[67] Potters began to imitate Mycenaean shapes in local Anatolian Grey and Tan Wares. The most popular shapes were semi-globular cups, goblets and kylikes; less popular were shallow angular bowls, piriform jars, and stirrup jars (the biconical type). The proportion of such Mycenaean forms is around 10 percent, but exact numbers have not yet been determined.[68]

During the fourteenth and thirteenth centuries BCE Troy gradually took a more active role in long-distance trade. Connections to the south-

60 Matsas 2004.
61 Pieniążek 2018, 379.
62 Günel 1999a; Pieniążek *et al.* 2018, 380.
63 Horejs 2008.
64 Pieniążek *et al.* 2018, 398.
65 Pieniążek *et al.* 2018, 390.
66 Mountjoy 1998; Raymond *et al.* 2016, 64.
67 Pieniążek 2016, 379.
68 Pieniążek *et al.* 2018, 383–384.

ern Aegean and the eastern Mediterranean are attested by larger quantities and a wider range of imports, including Cypriot pottery and faience and carnelian jewelry from the eastern Mediterranean.[69] What products the Trojan workshops delivered in return can only be inferred indirectly, since most of the goods were obviously perishable. Later historical reports (including the *Iliad*) highlight the importance of horses from Troy, and horse breeding did indeed become a strong part of the economy in late Troy VI.[70] Horses could have been bred and nourished in the extensive floodplain of the Karamenderes river. Given the rich ore deposits in the Troad, it stands to reason that raw metals and processed metal objects were also exported. In the course of the excavations, four Late Bronze Age molds for the production of rings, beads and spacer beads were found, some of which were probably made of gold.[71]

Since archaeological inquiries are particularly concerned with material culture, they inescapably attach special importance to the understanding of production processes, commodity exchange, use and consumption. The knowledge acquired in this way is largely based on the find provenance in excavations of settlement sites and it focusses on portable objects that have been preserved in accordance with the specific taphonomic conditions. Organic materials are seldom preserved in dry sites. Textiles, which were among the most valuable goods and were traded over great distances, hardly ever survive. Tools for textile production, on the other hand, are ubiquitously present in Luwian settlements. Troy undoubtedly had an extensive textile industry. This is evidenced by the large number of textile tools and traces of purple dye production.[72] For all we know, the goods left Troy by ship, with the most important trading ports apparently in Cyprus and northern Syria.[73]

Exact trade arrangements and complex economic systems can only be determined when artifact assemblages relate to documentary evidence. This is the case, for example, with the readings proposed by Fred Woudhuizen for cylinder seals from Kalavassos and Enkomi on Cyprus.[74] Accordingly, these seals represent business registrations and bills of lad-

69 Pieniążek *et al.* 2018, 397.
70 Pieniążek 2016, 516.
71 Nessel 2014, 235, Fig. 28–29; Pavúk and Pieniążek 2016, 543, Fig. 15.
72 Becks and Guzowska 2004; Çakirlar and Becks 2009; Guzowska *et al.* 2015; Pavúk 2012.
73 Kozal 2006a; 2006b; 2017; Pieniążek *et al.* 2018, 384–385, 389.
74 Woudhuizen 2017, 50; Woudhuizen and Zangger 2021, 121–127.

FIGURE 11: Trade routes (red) from the Aegean to Hattusa can be reconstructed based on Fred Woudhuizen's reading of Cypro-Minoan documents from Cyprus and Ugarit (Woudhuizen and Zangger 2021, 130). Cypriot navarch's course is shown with yellow arrows (Luwian Studies #0150).

ing written in Luwian language and using an accounting terminology. They correspond to the system of economic registration that was customary throughout the Hittite kingdom as evident from lead strips with Luwian hieroglyphic inscription from Kayseri-Kululu in central Anatolia.[75] Evidently vassal states were also subject to this system. To raise appropriate taxes, the Hittite rulers had to have every transaction logged. The lists thus name suppliers and recipients as well as the type and number of products, with the product name in most cases being abbreviated. We thus learn what goods came to Cypriot ports as part of regular maritime trade in peacetime, and how they were redispatched from there on their way to the final recipient. Thanks to a clay tablet from Ugarit, the entire trajectory of goods can be reconstructed (Figure 11). Accordingly, textiles were shipped from Troy to Cyprus and continued from there to Ugarit. From there, the goods went on by ship to the Hittite port city of Lamiya on the Lamos river in Cilicia – to continue to Tarsus and via Kayseri-Kululu to Hattusa. The Hittite capital thus received textiles from Troy which were

75 Hawkins 2000, 506–510.

for the most part transported on sea routes. Wilusa (Troy) is actually mentioned in the Hittite texts as a minor actor in the political affairs between the Hittites, central western Anatolia and Ahhiyawa.[76]

During the entire Late Bronze Age, finds of central Anatolian origin are rare in all of western Asia Minor.[77] It seems that the trade routes from Troy to Hattusa ran in one direction only, since neither Hittite ceramics nor other obvious Hittite objects have been found in Troy.[78] Neither is there any evidence that Cypriot ceramics or Anatolian Grey Wares were transported by land through Anatolia.[79]

The contrast between the interregional commercial hub that Troy appears to have been in the thirteenth century BCE and the rural interior has become clear, for instance in the recent survey of the Bakırçay valley south of Pergamon.[80] Hardly any Mycenaean or other imports are known from the interior of this region. Obviously, the long trade routes to the central Anatolian plateau did not touch this valley during the entire protohistory. Peter Pavúk and Barbara Horejs argue that the backwoods existence of the Bakırçay valley shows that it could not have been the Seha River Land that prominently figures in Hittite sources, which is more likely to be found in the nearby Gediz valley.[81]

In summary, it can be said that western Asia Minor in the Middle and Late Bronze Age was a region that was characterized both by diversity in terms of the different cultural groups and by continuity in terms of its economy. An astonishing cosmopolitan society arose along the coast under the influence of trade relations with the Aegean islands, Greece, Crete, and the eastern Mediterranean. In the interior of the country, naturally conservative traditions prevailed. Even if the evidence is still very incomplete owing to research deficits, it becomes clear that western Anatolia was by no means a wasteland in the shadow of famous contemporaries in the West and East that was primarily inhabited by seminomadic tribes. The way in which Late Bronze Age western Asia Minor is now being conceptualized in science is perhaps the most important enrichment of research in Aegean protohistory that has happened in a long time.[82]

76 e.g., Hawkins 1998; Pieniążek *et al.* 2018, 398.
77 Pieniążek *et al.* 2018, 396; Seeher 2005.
78 Kozal 2006a; 2006b; 2017; Pavúk and Pieniążek 2016.
79 Pieniążek *et al.* 2018, 396.
80 Pavúk and Horejs 2018, 462.
81 Pavúk and Horejs 2018, 477–478.
82 Pavúk and Horejs 2018, 478.

6 GIS analysis

The primary aim of the present study is to summarize and present in a clear form the state of knowledge of archaeological research on the Middle and Late Bronze Age in western Asia Minor. This includes summaries of archaeological excavations and surveys. The result is a catalogue with a total of 477 settlements of the second millennium BCE known according to current knowledge. After the settlement sites had been catalogued – a process that took several years – each site was given a running number and entered in a spreadsheet together with the phases of its ceramic assemblages and the relevant publications. To determine the exact coordinates of the sites we used vertical aerial photographs provided by Google Earth Pro. As it turns out, more than 80 percent of the sites are recognizable from the air. The coordinates served as input for a geographic information system (QGIS Desktop 3.16.4). In order to produce a ranking that is roughly equivalent to significance, we introduced a five-digit code in which the first number (1) indicates the presence of a Bronze Age inscription; (2) marks a known regional center; (3) stands for tells with a diameter of more than 200 m; (4) denotes a place where excavations have been conducted, and (5) reveals that a cemetery is known from this region in addition to the settlement. A site that has all of these properties would be assigned the tier marker "12345" – only Troy achieved this maximum score. The catalogue could then be automatically sorted according to this five-digit code to produce a ranking according to a rough estimate of significance.

For the GIS we used a digital elevation model (DEM) with 30-m resolution, which was created by NASA as part of the Shuttle Radar Topographic Mission (SRTM). In order to put the study area of western Asia Minor into a larger geographic context, we included all of Greece, the Aegean and Anatolia as far as the Syrian coast in the model. The DEM was then combined with NASA's Blue Marble Next Generation satellite images and European Environmental Agency (EEA) hydrological vector data from the European Catchment and Rivers Network Systems (Ecrins). Generalized geological maps of Europe including Turkey came from the USGS, and a more specific one of Turkey from the General Directorate of Mineral Research and Exploration (MTA).

Since water is the most vital resource for human life, we included the statistical association between settlement distribution and hydrologic elements in the study area. WorldClim paleoclimate data, provided by Bei-

jing Climate Center (BCC) and based on the predictions for about 6,000 years ago (c. 4000 BCE), cover the Atlantic period (c. 8000–4000 BCE), as none were available for the Bronze Age. In order to form a primary basis for understanding the effects of climatic factors on settlement distribution, the annual average temperature and precipitation parameters were analyzed on the level of each specific site.

We had also compiled a map of known ore deposits (gold, silver, copper and lead) in the region which were exploited during the Middle and Late Bronze Age.[83] To facilitate spatial evaluation, each deposit was geocoded, and a raster graph was created in which the distance to the nearest mine or site was determined for each pixel.

Another important economic component of past and present societies is road networks. To obtain an insight into the possible transportation networks in the region, we aimed to scrutinize the relationship between known ancient roads and second millennium BCE settlements. We had collected from the literature a series of large-scale maps with Bronze Age trade routes, which, however, showed few commonalities. We then used the work by Gojko Barjamovic for the eastern half of Anatolia[84] and transferred and digitized the routes of least economic effort from the *The Barrington Atlas of the Greek and Roman World* as well as the work by David French[85] for the western part.

For each settlement site, 30 physical geographic parameters were determined. These include, among other things, altitude above sea level, slope percentage, aspect, annual average temperature, annual average precipitation, distance to the nearest hydrological parameter including rivers and streams, distance to the nearest settlement, distance to known ancient routes and distance to ancient ore deposits. We determined the same 30 parameters for 477 additional random sample points (RSP) scattered across the study area. This matrix provided the comparison between the properties of specifically selected settlement sites and the general topography. The 30 parameters for all 954 data points were plotted against each other in scattergrams with relative scales to visualize clusters and anomalies between the sites.

83 Based on de Jesus 1978; 2019 and the MTA Matellogenic Map of Turkey; Kaptan 2008; Lengeranli 2008; Müller-Karpe 1994; Oy 2017c; Pernicka 1987; Pernicka *et al.* 2003; Stos-Gale *et al.* 1997.

84 Barjamovic 2010.

85 French 2016.

The frequency histograms and scatter plots have revealed anomalies and settlement trends in western Asia Minor. Accordingly, the second millennium BCE sites in the region differ from randomly distributed points with respect to environmental and anthropogenic characteristics, thus providing evidence of deliberate site choice based on topography (Figure 12a). Settlements occur primarily in flat areas below 250 m above sea level (masl) and between 750 and 1250 masl, where the slope does not exceed 10 percent (Figure 12b). The bimodal frequency of elevation values is mainly caused by topography of the coastal region and the inner parts of western Anatolia. The aspect parameters of settlements do not reflect a trend (Figure 12c). This seems to be mainly due to the fact that mound settlements (*höyük*) are often round in shape and located on flat ground.

To estimate the effects of climate on settlement distribution, the annual average temperature and precipitation parameters were taken into consideration. Most settlements are located in areas where the annual temperature ranges between 10 and 18 °C (Figure 12d). The annual average precipitation for the settlements is between 400 and 1070 mm per year. Settlements are specifically clustered in areas where annual precipitation is between 500 and 800 mm (Figure 12e). The descriptive statistics including frequency histograms clearly show a strong association between sites and water resources. In other words, the majority of settlements (over 350) are located less than 2 km from water resources (Figure 12f).

The analysis of road networks reveals a strong correlation between potential trade routes based on GIS-based Least Cost Path Analysis and Bronze Age sites in western Anatolia. About 250 settlements were less than 4 km away from a road (Figure 12g). Further comparison with RSP clearly reveals a clustering pattern of settlements based on the proximity to a road network. Finally, we also analyzed the proximity relationship between settlements and ore deposits, which occur primarily in northwestern Anatolia[86] and along the midwestern coastal section.[87] As it turns out, the principal data and statistics do not show a strong correlation (Figure 12h). Evidently, mines were not integrated into the main communications routes.

86 Pernicka 1987; Pernicka *et al.* 2003.

87 Kaptan 2008; Lengeranli 2008; Pernicka 1987.

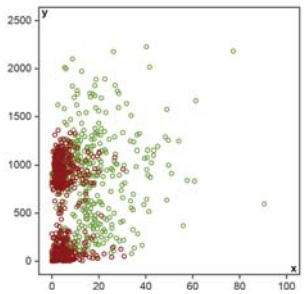


FIGURE 12a: Comparison of sites (red) and random points (green) based on elevation (y) and slope (x) (Luwian Studies #0189a).

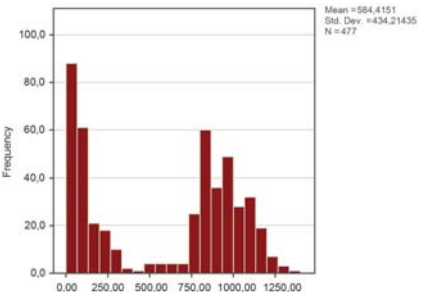


FIGURE 12b: Elevations of settlement sites (Luwian Studies #0189b).

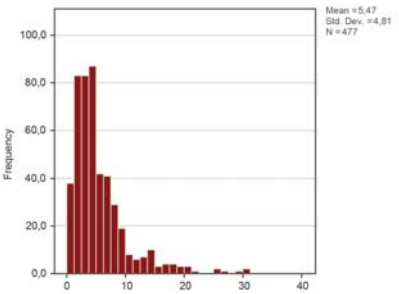


FIGURE 12c: Slope of settlements sites (Luwian Studies #0189c).

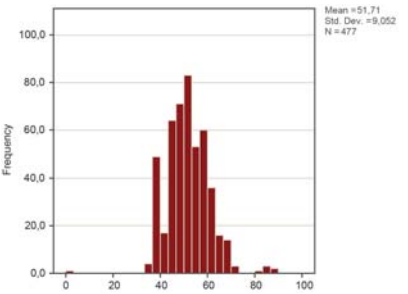


FIGURE 12d: Annual average temperature at site locations (Luwian Studies #0189d).

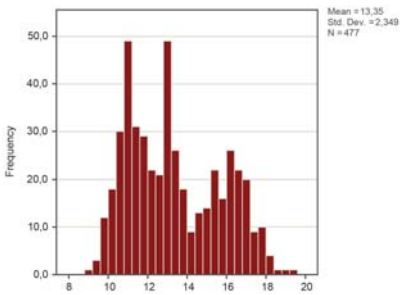


FIGURE 12e: Annual average precipitation over site locations (Luwian Studies #0189e).

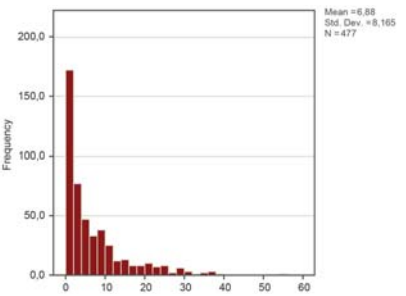


FIGURE 12f: Number of sites and their distance to hydrologic units in km (Luwian Studies #0189f).

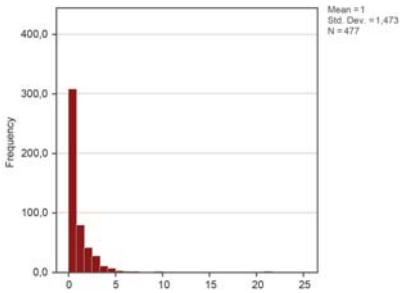


FIGURE 12g: Number of sites over distance to ancient roads in km (Luwian Studies #0189g).

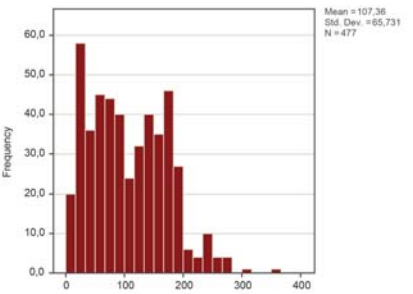


FIGURE 12h: Number of sites with respect to their distance to ore deposits in km (Luwian Studies #0189h).

7 Archaeological excavations

Fifteen years before Heinrich Schliemann first set foot in the Troad, Frank Calvert had already begun systematic excavations at Hanaytepe. By reconstructing the stratigraphy through the entire settlement mound (Figure 13), Calvert in a sense anticipated the methods of modern archaeology. Schliemann's subsequent revelation of the royal citadel at Troy provided an incentive for the search for rich sites elsewhere in western Asia Minor. This was the beginning of extensive and later intensive surveys that have since been conducted in the region on a large scale (Figure 3). Archaeological excavations by European scholars, however, were for a long time limited almost exclusively to the famous Classical sites. Systematic excavations began 1878 in Pergamon, 1895 in Ephesus, 1899 in Miletus, 1904 in Aphrodisias and 1910 in Sardes. Bronze Age western Asia Minor long failed to attract the interest of European prehistorians even though a dozen excavations of Bronze Age settlements had commenced on Crete after the island had become autonomous from the Ottoman Empire in 1898. The main targets for large-scale excavations of Bronze Age sites were Troy and Beycesultan. In recent decades, however, several excavations have been added with some of those directed by Western European scholars, including Miletus, Tavşan Adası and most recently Kaymakçı. Here we summarize the results of 33 excavations, mainly directed by Turkish archaeologists, that were for the most part conducted after 1950 (Figure 14). Challenges lie in the fact that the ceramic typology cannot yet be clearly shown and that the chronology is not clear (Figure 15). The

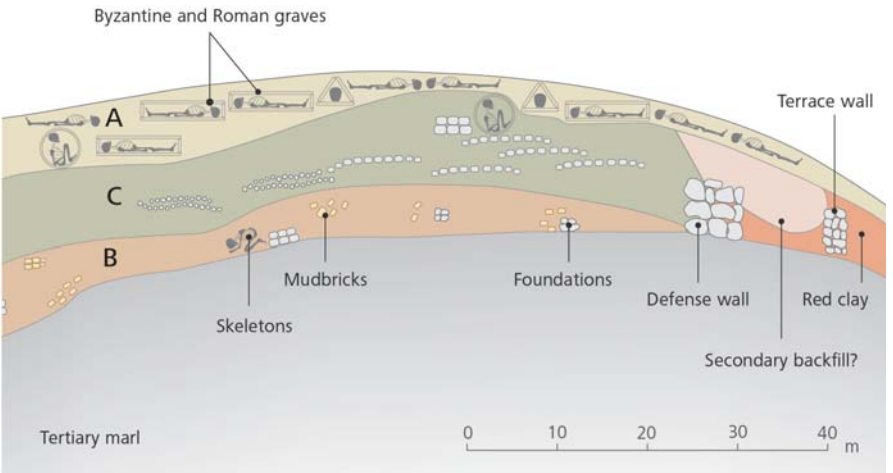


FIGURE 13: Cross-section through Hanaytepe showing the stratigraphy, the fortification walls and the destruction horizons as drawn by Frank Calvert after excavations in 1879 (after Calvert 1880, 708; Luwian Studies #2101).

dates of events that should be datable to the year, such as the eruption of Thera and the destruction of Troy VIh and VIIa, are still in dispute. In many respects, western Asia Minor thus offers great potential and abundant challenges for future generations of archaeologists.

7.1 Adramytteion

The ancient city of Adramytteion (Adramytthene, Adramyttion, Adramyttium) near the district town Burhaniye in the province of Balıkesir is located in today's town of Ören. With its considerable size, stretching below the entire modern town, the place ranks as an important centre for maritime trade since the Early Bronze Age. The name of the modern city Edremit is derived from the ancient city. Agricultural products grown in the fertile plain as well as timber, silver and iron from further inland were exported from this place.[88] According to Apollodorus of Athens, Adramytteion was one of the cities conquered by Achilles during the Trojan War.[89] At the time of the Trojan War, it was said to have been ruled by a king named Mynes, whose widowed wife Briseis later became a prize of Achilles. The town's people were called Cillicians, not to be con-

88 Karavul *et al.* 2010.
89 Apollodorus of Athens, *Chronica* 1.366n, 9.328f.

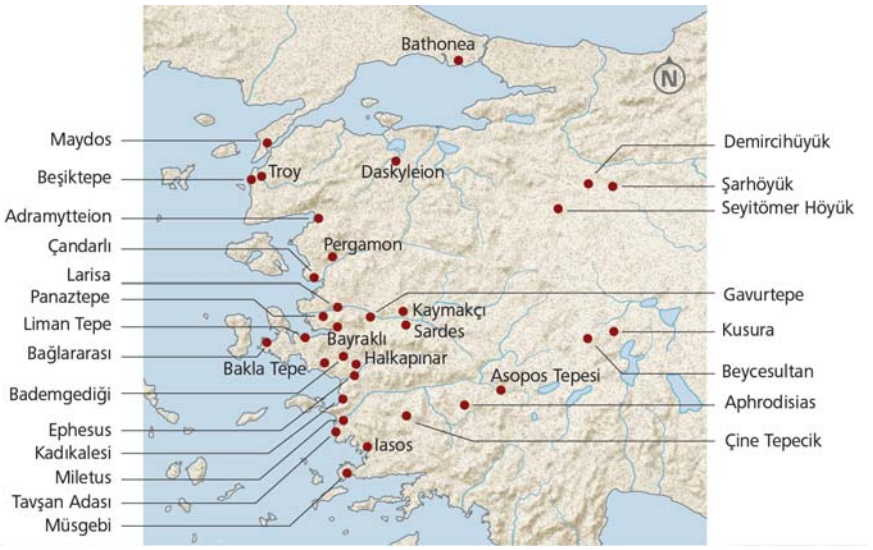


FIGURE 14: Location of archaeological excavations of Middle and Late Bronze Age settlements in western Asia Minor as described in the text (Luwian Studies #0185).

fused with the people living in south-central Asia Minor. The place is also mentioned as a respectable city by Herodotus,[90] Strabo,[91] Thucydides,[92] Xenophon,[93] Pliny[94] and other ancient writers. The ship with which Paul embarked for Italy came from this city.[95] A semicircular quay wall with both outside faces intact is still visible in shallow water. The central tell is situated 200 m west of the modern mosque, about 100 m in diameter and not overbuilt.

Extensive excavations and some geophysical surveys have been conducted between 2001 and 2004 under the direction of Engin Beksaç and in 2004–2007 by Tülin Çoruhlu of Sakarya University and Neriman Özaydın, the director of the Balıkesir Museum. Since 2012, Hüseyin Murat Özgen of the Mimar Sinan Fine Arts University is in charge of the investigation.[96] The excavations concentrated on layers close to the surface and they thus revealed mainly Medieval and Roman finds. Engin Beksaç found Late

90 Herodotus, *Histories* 7.42.
91 Strabo, *Geography* 13.1.65.
92 Thucydides, *Historiae* 2.441, 5.1, 8.108.
93 Xenophon, *Anabasis* 7.8.8.
94 Pliny the Elder, *Naturalis historia* 5.123, 13.5.
95 New Testament, *Acts* 27.2.
96 Beksaç 2004; Çoruhlu 2008; Özgen 2016.

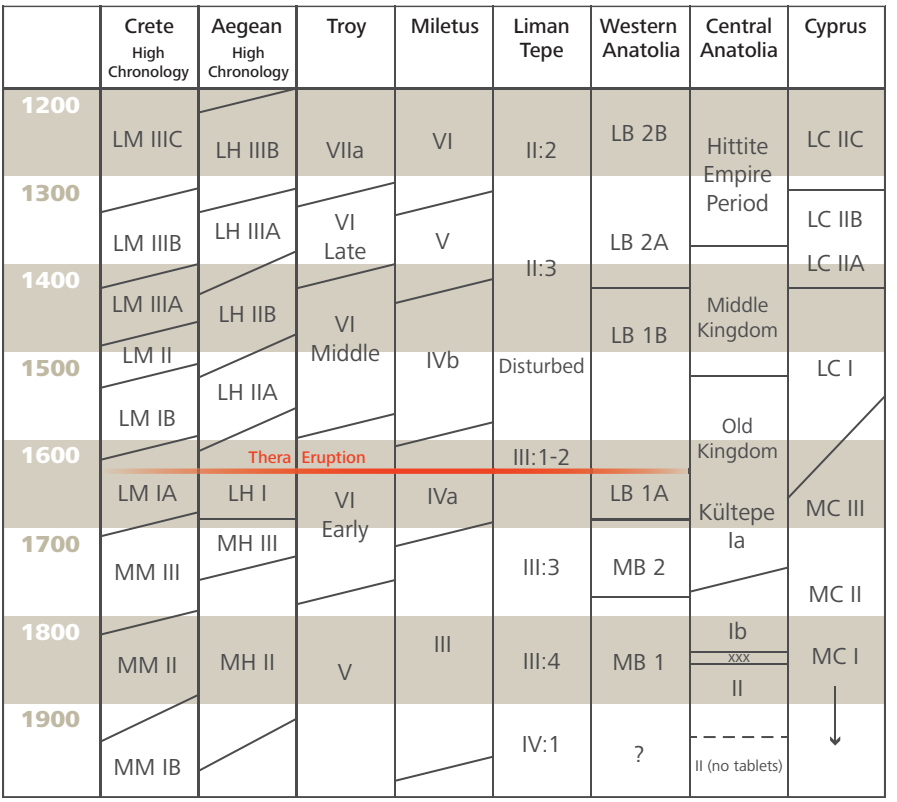


FIGURE 15: Comparative chronology of the Aegean, Anatolia and Cyprus in the second millennium BCE (after after Pieniążek, Magda, Peter Pavúk and Ekin Kozal 2018, 378, Fig. 3; Luwian Studies #2208).

Bronze Age pottery in 2001 and 2002 during excavations on the so-called Bergaz Tepe in Ören. A sondage there by Özgen unveiled continuous habitation layers from the Chalcolithic to the Byzantine period. – Adramytteion would be an ideal target for a large-scale and deep excavation of a coastal site to illuminate the local Bronze Age culture of western Asia Minor and its contacts to other Aegean sites.

7.2 Aphrodisias

Aphrodisias was an ancient city in Caria, situated on a plateau near the modern town of Karacasu, 129 km east to Miletus. The alluvial deposits by the Dandalas river, a southern tributary of the Great Maeander river, produced a fertile plain around the mounds Acropolis Tepesi and Pekmez

Höyük. Before it became known as Aphrodisias during the third century BCE, the place bore the names "City of the Leleges" (Λελέγων πόλις) and "Great City" (Μεγάλη Πόλις).

The first formal excavations began in 1904. In 1960, Kenan T. Erim of New York University was awarded a concession to excavate the site. Fieldwork began the year later and continued until today, now led by Roland Smith from Oxford University and Katharine Welch of the NYU Institute of Fine Arts.[97] In the framework of this study, prehistoric layers on the acropolis hill were dug from 1966 until 1974, first supervised by Stephanie Page, then by Barbara Kadish (1967–1972) and finally by Ronald Marchese (1973–1974). The material dating to the Chalcolithic and Bronze Age was subsequently entrusted to Martha S. Joukowsky, who published it in two voluminous books in 1986 – without actually having excavated prehistoric Aphrodisias herself, a circumstance that she described as "less than ideal conditions."[98]

Bronze Age finds were made in three different places in the vicinity. (1) Pekmez Tepe (Höyük) lies approximately 100 m east of the acropolis and is about 125 m in diameter and about 13 m high. (2) The acropolis hill is about 125 m in diameter and 24 m tall. (3) The third area is known as Kuşkalesi and located southwest of the acropolis, where Early and Middle Bronze Age has been found.

Altogether 13 settlement layers from the Late Neolithic (about 5800 BCE) until the Hellenistic have been identified during the excavations. The place was indeed continuously inhabited from 4360 until 546 BCE. The oldest settlement layers of the acropolis date to 2700–2600 BCE. The pottery found is quite similar to Beycesultan XVII. A typical megaron building was in use 2200–1900 BCE. Ceramics found in this layer have similar shapes and colours to those known from Troy and Tarsus. The megaron was rebuilt and reused 1900–1600 BCE. The Middle Bronze Age architecture of Aphrodisias consists of stone pedestals and wooden laced mud bricks and is highly characteristic. Martha Joukowsky concludes that the Middle and Late Bronze Age in southwestern Anatolia are difficult to understand.[99]

Small objects from the acropolis strata of the Early and Middle Bronze Age are similar to those found at other sites in western Anatolia. Marble

97 Erim 1981; Joukowsky 1986; 1991; Kadish and Erim 1969; Marchese 1976.
98 Joukowsky 1986, 42.
99 Joukowsky 1986, 460.

figurines can be linked by their style to Troy, Beycesultan, Kusura, Yortan and Karataş-Semahöyük. A small number of metal objects, including flat bronze axes, chisels, gold-leaf beads and silver incised bracelets, were probably imported since they do not appear in great quantities. Mycenaean ceramics are said to be absent.[100] At the time, the site may have been virtually detached from Aegean contacts – much like Beycesultan, with whom the site shares a common culture. – Considering that the previous excavations took place half a century ago, Aphrodisias would be another highly suitable target for a new investigation of the prehistoric settlement history of in this case an inland settlement in southwestern Asia Minor.

7.3 Asopos Tepesi (Laodikeia)

The Asopos knoll is part of the natural elevation 6 km northeast of Denizli, on which the 215 ha Hellenistic and Roman city of Laodikeia is situated. The hill is surrounded by the Başlıçay, Çürüksu and Gümüşçay (Asopos) rivers, which together fed a lake that existed at least until Roman times. The site benefits from its location on one of the most important trade routes connecting western and central Anatolia. An intensive survey in 2003–2006 produced less than one percent prehistoric pottery, dating to the Late Chalcolithic, Early Bronze Age II–III and Middle Bronze Age.[101] In the area known as the Asopos mound on the northwestern side of the natural plateau, the number of prehistoric finds was somewhat greater. Therefore, excavations were carried out on this mound in 2006–2012 under the direction of Erim Konakçı.[102] The mound covers an area of 2.1 ha. The excavations showed that a settlement existed in this part from the Neolithic period to the late Roman period. There are hardly any architectural remains from the Chalcolithic. Scattered pottery and obsidian tools indicate early interregional relations that extended both to the island of Melos and to central Anatolia. The Middle and Late Bronze Age layers on the Asopos mound were leveled and thus destroyed in Hellenistic and Roman times. A Late Bronze Age pottery kiln shows that pottery was produced locally. Floors, room walls and waste pits have been found from the Middle Bronze Age. The settlement in the excavated area was abandoned

100 Joukowsky 1986, 162.
101 Konakçı 2016, 54.
102 Konakçı 2014.

around 1700 BCE and repopulated around 1400 BCE. The Late Bronze Age pottery finds are reminiscent of those known from Aphrodisias and Beycesultan and contain considerable quantities of Gold Wash Ware. The economy was based on agriculture, textile production and pottery. No evidence of a fortification has been found so far.

7.4 Bademgediği Tepe

Bademgediği Tepesi is located on a limestone hilltop called Gallesion, west of the plain of Torbali, 6.5 km north of the Classical site of Metropolis. The construction of the highway between Aydın and Izmir cut the hill into three parts. Excavations took place in 1999–2007 as a joint project of Trakya, Dokuz Eylül and Yasar Universities and as part of the Metropolis investigation in Torbali. Recep Meriç of Dokuz Eylül University in Izmir led the investigation. The settlement is characterized by a 750 m long fortification wall; this enclosed an area of 5 ha and had one gate each in the south and north. The wall was 3.6 m wide and is described by the excavator as Cyclopean masonry in the lower part with medium-sized stones in the upper part. In the published drawings, the stones have a diameter in the decimeter range.[103]

For several hundred meters, a carefully constructed road of large flat natural stone slabs with deeply incised chariot tracks could be uncovered. The road appears to lead in the direction of Colophon and Bakla Tepe. Six phases of settlement have been distinguished,[104] with the oldest dating to the sixteenth century BCE. The fifteenth and fourteenth centuries BCE are characterized by Anatolian Gold Wash Ware, Red Ware and Grey Ware (Figure 16). After 1180 BCE Mycenaean material appears. The excavator interprets the site as Hittite Puranda. In the middle of the seventh century BCE the settlement was abandoned. Late Geometric and Early Iron Age finds are thus found on the surface.

The easily defensible position and abundant springs seem to have determined the choice of location. The hilltop afforded a strategic view of the Cayster valley and the roads to Ephesus, Smyrna, the Karabel Pass, Colophon, Lebedus and Clarus.[105] In this respect, the site shares characteristics with Kaymakçı. Both are fortified settlements at strategic high

103 Meriç 2003, 83.
104 Meriç and Öz 2015, 614.
105 Meriç 1982, 610.

FIGURE 16: Late Bronze Age crater from Bademgediği Tepesi showing feather-crown warriors in a ship (after Mountjoy 2011, 486; Luwian Studies #0308).

places that controlled important passages. Both consist of concentric rings of walls built – rather untypically for Luwian settlements – on barren hills where solid rock protrudes from the ground in many places. Accordingly, Bademgediği Tepe may well have been a garrison or similar military facility that was connected to a local settlement for supply purposes.

7.5 Bakla Tepe

On the shore of the Tahtalı Barajı reservoir, created a few years ago, 30 km south of Izmir and 15 km from the coast, lies Bakla Tepe, a settlement that was inhabited since the Late Chalcolithic and throughout the Bronze Age and as such was perhaps the predecessor of nearby Colophon. The site is located on a natural mound 250 m in diameter, which gradually rises from east to west to about 20 m in height. The hilltop is flat and 70 m in diameter. The village of Bulgurca south of the limestone mound fell victim to the reservoir. The Liman Tepe excavation team and the Izmir Archaeological Museum organized a joint emergency excavation, which took place in 1995–2001 under the scientific direction of Hayat Erkanal of Ankara University.

Five settlement strata extend from the earliest Chalcolithic through Early Bronze Age I and II, Late Bronze Age to Roman-Byzantine times. In Early Bronze Age I, a circular fortification wall 90 m in diameter with walls 3 m thick protected the settlement. Inside were elongated houses along paved streets. The settlement was somewhat larger, but in principle similar to Troy I. The Late Bronze Age has so far been attested only by a rectangular chamber tomb of Mycenaean-Anatolian character dating to the thirteenth century BCE, which had been placed at the top of the

mound just below the surface. Apart from a few interventions in ancient times, the tomb was still intact.[106] It contained gold and bronze objects, decorated ivory, glass beads and inlays as well as imported and local painted Mycenaean pottery along with local simple wares. The imports indicate international exchange.

Small soundings revealed that the prehistoric settlement extended from the offshore portions of the rocky hill to the east bank of the stream below the village of Bulgurca.[107] The foundations of the village houses partially damaged the underlying settlement remains. Researchers suggest that a particularly shallow area in the plain of Cumaovasi may be a silted lake that probably existed when the village was inhabited. In a region characterized by bays, the site may have been involved in maritime trade in the Early Bronze Age.

7.6 Bathonea

An extremely productive area from an archaeological point of view exists on the shore of the Sea of Marmara, 20 km west of the Bosporus, and has hardly been considered by several generations of archaeologists. Şengül Aydıngün of Kocaeli University initiated an investigation of the area around the Küçükçekmece lagoon lake as part of the Istanbul Prehistoric Research Project (ITA). Since a separate article in this volume is devoted to this excavation,[108] the results are only briefly summarized here.

Already the intensive survey carried out in 2007 in the area of the Avcılar municipality on the western shore of the lagoon resulted in a large number of architectural remains and stray finds dating from the upper Paleolithic to the late Ottoman period.[109] The favorable geographical location at the intersection of two continents, with immediate access to the sea and natural harbors as well as perennial rivers and fertile farmland, has attracted human settlement throughout the ages. A coastal wall several kilometers long from the Hellenistic period as well as piers, a possible lighthouse and a lot of pottery testify to the importance of the region. Ancient historians, on the other hand, rarely speak about this area. The

106 Erkanal and Özkan 2000, 263.
107 Erkanal and Özkan 2000, 263.
108 Aydıngün 2022.
109 Aydıngün 2017a, 13; 2017b.

name Bathonea derives from a term used in Hellenistic times for a *phyle* associated with Byzantion.[110]

Excavations began in 2009 and initially lasted until 2013, with extensive architectural remains from historic times obscuring Bronze Age horizons that have not yet been unveiled. However, iron statuettes from the second millennium BCE came to light in an apsidal building. They were associated with fragments of a pitcher with red paste and red slip,[111] as well as with white slip Cypriot ceramics and Balkan sherds from the Middle Bronze Age and Mycenaean sherds.[112] A sharp vertical displacement of 50 cm along a fault line may indicate an earthquake along the North Anatolian Fault.[113] The area proves to be of outstanding geostrategic importance for long-distance trade, as the strong current of the Bosporus could be bypassed by a short trip overland.[114]

7.7 Bayraklı

The hill of Bayraklı (also called Tepekule) is the predecessor of Smyrna, the ancient name of Izmir. The settlement is located at the end of the Gulf of Izmir in the center of the metropolis, about 600 m from the present coastline. The 14 m high hill was originally located at the end of a low rocky peninsula that jutted into Izmir bay and had harbors on both sides.[115] An important port and trading city surrounded by fortification walls existed here in the seventh and sixth centuries BCE. The site covers 90 ha and includes settlement layers 20 m thick.[116] The first excavations took place in 1948–1959 as part of a Turkish-British partnership led by John Cook, James Brock and Ekrem Akurgal. The main goal of the archaeologists at that time was to trace the arrival of the first Greek settlers.[117] Further excavations from 1966 to 1992 were led by Ekrem Akurgal. These also focused on settlements from the Geometric and Classical periods. A third excavation campaign took place in 1993–2013 under the direction

110 Aydıngün 2017a, 13.
111 Aydıngün 2017a, 54.
112 Aydıngün 2017a, 54.
113 Aydıngün 2017a, 59.
114 Aydıngün and Aydıngün 2018.
115 Akurgal 1983, Fig. 1–2.
116 Erdem 2017, 417.
117 Akurgal 1950; Aykurt 2010; Cook 1958.

of Meral Akurgal.[118] Since 2014, Cumhur Tanrıver from Ege University in Izmir has been responsible for the excavation, while Aylin Erdem is co-leading the investigation and examining the Bronze Age layers.

Already the first investigations revealed a settlement history going back to the Early Bronze Age (Troy I). Ekrem Akurgal distinguished three horizons from the third and second millennia BCE, which he called the "Bayraklı I" settlement.[119] The second millennium BCE pottery in trench E consists mainly of Red Ware and Grey Ware. Vessel types are similar to the Anatolian forms known mainly from Larisa (Hermos). Habitation of the second millennium BCE was found in trench B.[120] According to Ekrem Akurgal, the first Greek settlement in the Aeolian Islands is dated to 1050–1000 BCE. Among the most important buildings of the ancient city is the Temple of Athena. The place remained inhabited until the beginning of the Hellenistic period.

Little is known about the Bronze Age in Bayraklı, as the central part of the area was apparently leveled to make room for the ancient city.[121] Where building remains from the historic period survive, they partially conceal prehistoric horizons. To learn more about the Bronze Age settlement, a three-year campaign began in 2015.[122] This involved excavating an 8 × 7 m rectangle within the former trench H (dating from 1948). The Late Bronze Age horizons below yielded well-preserved architectural remains, a large pithos and numerous pottery finds, including 15 clay spools. Over 2000 sherds with profiles were recovered from this trench. This is the southernmost site with intensive use of Grey Ware. The experts currently working on the material could not detect any influence from the Hittite region but recognize evidence of trade activities with the Aegean during the second millennium BCE.

7.8 Beşiktepe-Yassıtepe (Achilleion)

The site is located 7 km southwest of Hisarlık and 2 km south of Yeniköy village. A necropolis from the thirteenth century BCE at this site had

118 Akurgal 2010.
119 Akurgal 1950; Erdem 2017, 418.
120 Bayne 2000, 61–80.
121 Derin 2015, 203.
122 Erdem 2017, 419.

already been mentioned in the *Archäologischer Anzeiger* in 1925.[123] In the years 1982–1987 Manfred Korfmann of the University of Tübingen directed the excavation of 100 graves of men, women and children. The burials are predominantly pithoi, with some cists and two burial houses, all regular, mostly oriented to the southeast. Some pithoi contain multiple burials; skeletal burials and cremations may occur together in the same grave.

On the cape, Korfmann's team found pottery typical of the earliest Troy I phase, as well as remains of an Early Bronze Age settlement spanning several phases.[124] Traces of a Late Bronze Age settlement were found both on the cape and to the east of it in the adjacent isthmus. The material culture of a late phase of Troy VI consists almost exclusively of Anatolian Grey Ware. Painted Mycenaean pottery sherds were also found. The settlement most likely extended from the cape eastward and southeastward toward the Beşik burial ground.

7.9 Beycesultan

The settlement mound of Beycesultan is located in the district of Denizli, 5 km south of the district town of Çivril. The large double tell has a flat southern half with remains of a late Byzantine settlement.[125] The site was first excavated by James Mellaart and Seton Lloyd in 1954–1959.[126] A new excavation campaign began in 2007 under the direction of Eşref Abay of Ege University. The tell is one of the largest in western Asia Minor. An intensive survey conducted prior to the recent excavation revealed that the settlement extended over 35 ha.[127] In the 28-m-thick anthropogenic deposits, James Mellaart distinguished 40 cultural layers. He assigned Roman numerals to the strata, beginning with Ia at the top, which he believed could be assigned to the twelfth century BCE, down to stratum XL just above the bedrock. The earliest layers (XX–XL) fall into the Late Chalcolithic. Early Bronze Age is found in layers VIII to IX. Layers VI and VII correspond to the time of the Assyrian trading colonies, layer V to the formation of the Hittite kingdom and Troy VIa. According to Mel-

123 Brückner 1925, 247.
124 Korfmann 1988, 392–393.
125 Mellaart 1998, 61.
126 Mellaart and Murray 1995.
127 Dedeoğlu and Abay 2014, 2.

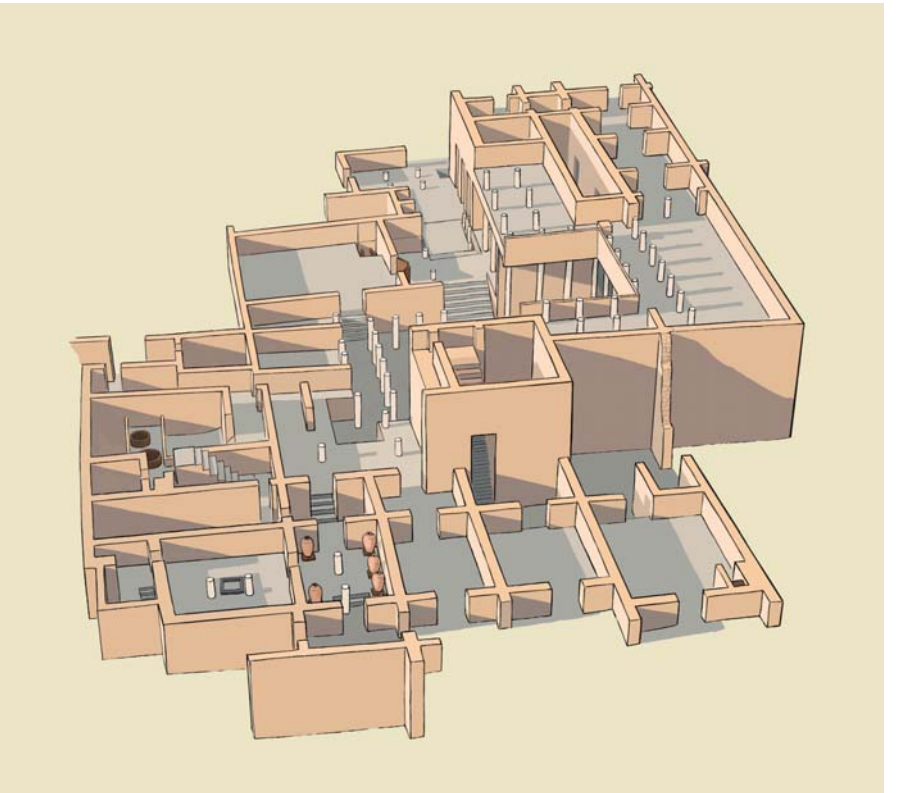


FIGURE 17: Reconstruction of the “burnt palace” in Beycesultan level V (after Lloyd and Mellaart 1965, Fig. A 13; Luwian Studies #0302).

laart, the settlement at the time of the Hittite kingdom (c. 1425–1180 BC) is documented in layers I–III.[128]

Rectangular rooms with mud-brick walls, stone foundations and benches on the walls appeared as early as the Chalcolithic. Mellaart considered these as precursors of megarons. In Early Bronze Age I, the inhabitants built megaron-like structures with porticoes at the front and a fireplace in the main hall. The pottery consists of beak-spouted jugs, cups with raised spouts, flasks, tall necked jugs and jars. Next to the large buildings were small temples with offerings and sacred horns. The potter’s wheel arrived in Early Bronze Age III. The excavators interpreted this as the arrival of the Luwians.

128 Mellaart 2002, 66.

Mellaart and Lloyd considered Beycesultan to be one of the most important cities in the Middle Bronze Age kingdoms of Arzawa. In layer V on the east side of the tell, they reconstructed "a huge palace of at least two storeys, long occupied and evidently the seat of powerful kings" (Figure 17).[129] Mellaart attributed the palace to the period of the Assyrian trading colonies (c. nineteenth century BCE). Not all parts of the "palace" could be excavated, but it seems to have been separated by a wall from the lower parts of the settlement. The planning and design of the large building has many parallels to later Hittite palaces. The main entrance was to the west, another entrance was to the east, and a side entrance was to the south. Staircases indicate that at least part of the building had another floor. Some of the walls showed traces of paint, indicating that the rooms may have been painted from the inside, as is known from palaces in the Near East. A fragment of a Luwian hieroglyphic seal, dated to nearly 2000 BCE, is considered the earliest documentary evidence for an Indo-European language (Figure 18).[130] The palace eventually burned down – according to Mellaart in the seventeenth century BCE. Mellaart attributed this destruction to the Hittite king Hattusili (reigned 1650–1620 BCE). The subsequent settlement (layer IV, 1620–1400 BCE) left architecturally insignificant remains.

FIGURE 18: Seal from Beycesultan (60 mm) dating to around 2000 BCE, according to Fred Woudhuizen (Woudhuizen 2012) providing the first thus far known mentioning of a word ("Mira") written in Luwian hieroglyphic (after Schachermeyr 1957, 199; Luwian Studies #0500).

As for the chronology of the Beycesultan layers III–I, Mellaart clearly stated that "no fixed dates can be reached."[131] No characteristic imports and only one Mycenaean

129 Mellaart 1998, 64.
130 Woudhuizen 2012.
131 Joukowsky 1986, 467; Mellaart 1955, 61; Mellaart and Murray 1995, 96.

sherd could be found. Mellaart continued, "my guess is that Beycesultan III belongs to the fourteenth century BCE; Beycesultan II to the thirteenth and early twelfth; and Beycesultan Ib and Ia to the twelfth to eleventh centuries BCE."[132] – Ten radiocarbon dates from the recent campaign yielded dates about 200 years older than those proposed by Mellaart.[133] Accordingly, Beycesultan's chronology recently had to be revised. That so much latitude is possible shows how malleable the existing framework of explanatory models for Middle and Late Bronze Age western Anatolia remains today.

The most recent excavations have so far covered an area of 1,200 m^2. In Mellaart's level II, dated to 1700–1600 BCE and now referred to as level 5b, excavators uncovered large, mostly two-story houses. These were separated from each other by streets 3 m wide. The settlements appear to have been more or less autonomous, with each household forming an economically independent unit. The inhabitants installed large pithoi in the ground for storage. The settlement of layer 5b fell victim to a violent fire around 1600 BCE. The excavators found skeletons of two people who were apparently hiding. The following layer 5a belongs to the sixteenth century BCE and is characterized by a different organization: The houses are small and limited to the ground floor. Both production and storage capacities took place in communal spaces, indicating centralized management in this period. Eşref Abay argues that what Mellaart interpreted as a "palace" in his level V may not have existed in this way. No palaces are known from western Anatolia at such an early date, not even from Troy.

7.10 Çandarlı

The ancient city of Pitane was the northernmost of the twelve Aiolis cities mentioned by Herodotus. It was located on the Çandarlı peninsula and included essentially the entire area that is now south of the Venetian citadel. Strabo described the two harbors of Pitane, one on each side of the earthen breakwater.[134] Today, open fields and olive groves cover a tell whose center is about 300 m south of the Venetian citadel. It displays rich artifact assemblages on the surface that are rarely seen on archaeological

132 Mellaart and Murray 1995, 96.
133 Dedeoğlu and Abay 2014, 11; Kourkoulakos 2022.
134 Strabo, *Geography* 13.614; see also Herodotus 1.149; Ovid, *Metamorphoses* 7.357.

sites around the Aegean in terms of their lateral extent, density and diversity.

A first surface survey took place between 1900 and 1912; it was carried out by Alexander Conze and Wilhelm Dörpfeld when these archaeologists were engaged in excavations at Pergamon.[135] The first archaeological excavations were directed by Osman Hamdi Bey and targeted at the necropolis of the city. Between 1960 and 1965, Ekrem Akurgal directed excavations in the necropolis in the east of the peninsula. He found pottery from the Late Bronze Age, Protogeometric, Geometric, Orientalizing and Archaic periods. Numerous slags indicate an active industry. A recently constructed coastal road on the east side of the peninsula has apparently destroyed the sparse traces of the strong fortification wall that once enclosed Pitane as well as a small theater and stadium.

In 2019, an intensive survey began in the central part of the Çandarlı peninsula. The project is led by Philip Bes and focuses on the Roman pottery that is ubiquitous on the surface.[136] – Çandarlı would be another excellent site for deep sounding to enrich the Bronze Age ceramic sequence for western Asia Minor.

7.11 Çeşme, Bağlararası

Bağlararası is located at the westernmost tip of Anatolia – opposite the island of Chios – in the city center of Çeşme, just 200 m from the modern marina. The settlement lies in a narrow valley between two hills and apparently had to be relocated depending on coastline shifts. Hayat Erkanal led excavations of the Bronze Age settlement from 2002 to 2005, and a new project by Ankara University's Maritime Archaeology Research Center began in 2009 under the direction of Vasıf Şahoğlu. The site was inhabited from the Early Bronze Age II (2600–2200 BCE).[137] The excavators describe the early settlement as a place near a coastal marsh. Despite its favorable location, the hamlet had a rural character. Since settlement layers are located 2 m below present sea level, tectonic subsidence must have taken place. The Early Bronze Age II settlement covers 2 ha and consists of rows of houses along roads paved with gravel. Mud-brick houses were built on foundations of natural stones; floors and walls were plastered and

135 For early publications see Akurgal 1976, 715.
136 www.dainst.blog/transpergmikro/pitane-survey-in-2021 (accessed 23 July 2022).
137 Şahoğlu 2012; 2015, 606.

at least partially painted. Workshops were used for processing textiles, metals, wood, ceramics and wine.

There may have been a break in settlement history in the Middle Bronze Age, but by the eighteenth century BCE the site was a fortified and fully organized port with local western Anatolian coastal character and few maritime connections. A main road crossed the settlement; it was surrounded by rectangular or trapezoidal dwellings that were interconnected. One building stands out because it seems to have been the main place for the production of wine. Wine production, storage and consumption are evident. The wine house and a pottery kiln indicate communal production in the second quarter of the second millennium BCE. This phase ends with a layer of destruction interpreted as the result of an earthquake, marking the end of the CB 2b phase (c. 1700 BCE).

After the destruction, the settlement (CB 2a phase) re-emerged with a different structure. A new fortification wall was built, some streets became narrower or even blocked by new buildings. The pottery tradition continued from the previous phase – even the imports followed similar patterns. Another important event, coinciding with the LM IA period, brought the end of settlement in the area. The Bronze Age community seems to have followed the shifts in the coastline caused by the alluvium deposited by the nearby river. The site of the excavation was at that time transformed into a garbage dump. The inhabitants dug numerous pits in which they disposed of the waste from the surrounding area. From this waste, it can be deduced that Çeşme Bağlararası underwent a transformation, since many ceramic fragments show new forms. The material culture now clearly includes Aegean styles and displays relationships with the Minoan world, indicating good connections.

The eruption of Thera seems to have put an end to life in Çeşme Bağlararası. During excavations in 2012, a layer of volcanic ash was found that marks the abandonment of the settlement in the last quarter of the seventeenth century BCE – coinciding with the LM IA period. Calibrated radiocarbon ages from within the tsunami deposit constrain the event to no earlier than 1612 BCE.[138] The next occupation period is dated to the fourteenth century BCE, and volcanic ash is stratified in the site deposits. The excavators interpret several layers of debris beneath the pumice deposit as tsumami destruction.[139]

138 Şahoğlu *et al.* 2021, 1.
139 Şahoğlu *et al.* 2021.

Perhaps the excavation at Çeşme Bağlararası, more than any other site, has the potential to provide an accurate date for the eruption of Thera. It would be most unfortunate if this valuable contribution were marred by overzealous interpretation. The idea that a tsunami may have been involved in the demise of the Minoan civilization (c. 1450 BCE) goes back to Spyridon Marinatos,[140] who relied on misinterpretation, anecdotal arguments and inaccurate data. The caldera clearly existed before the Minoan eruption;[141] and even if it had not, it would have been a consequence of the eruption and would as such post-date the deposition of ash. A caldera eruption is thus ruled out as a triggering mechanism for a tsunami – and the scientists working at Çeşme Bağlararası even assume several tsunamis, without indicating what exactly may have caused them. Pyroclastic flows are also ruled out since pumice is lighter than water. Could the destruction at the site perhaps have been caused by debris flows?

7.12 Çine Tepecik Höyük

Çine Tepecik is located in the Aydın province 5 km west of Çine city. The settlement mound is 600 m east of the Çine Çayı stream, the ancient river Marsyas, a southern tributary of the Maeander. This valley provides a natural connection to Gökova bay and its harbors. The oval settlement mound has an extension of 40 × 120 m in north-south direction and rises 9 m above the level of the surrounding fields. Tepecik was first investigated by Engin Akdeniz in 1995 as part of the survey of the Great Maeander valley and its surroundings. In 2001, Sevinç Günel of Hacettepe University explored the site again in the framework of the survey of Aydın and Muğla provinces. She has been leading the excavations there since 2004.[142] These prove that the site was continuously inhabited from the Chalcolithic until the end of the Late Bronze Age. Volcanic ash, similar in composition to that of Thera, forms a thick layer that can be dated to the seventeenth century BCE on the basis of pottery finds. However, the deposition of the ash did not lead to an interruption of the settlement.

Late Bronze Age settlement layers have so far been found mainly in the western and southeastern parts of the low mound. In the western part,

140 Marinatos 1939.
141 Zangger 1998, 215.
142 Günel 2015.

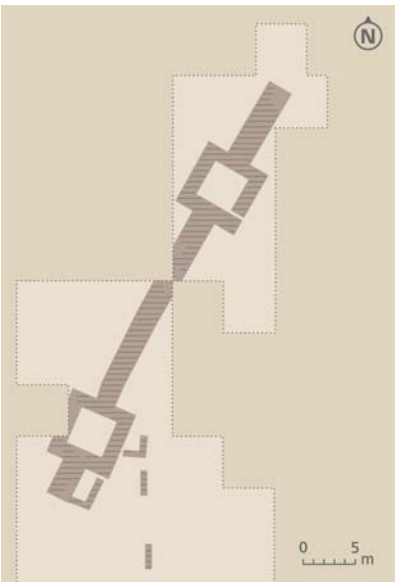


FIGURE 19: Schematic plan of an excavated Late Bronze Age fortification wall at Çine Tepecik, strengthened with square towers (after Günel 2010, 28; Luwian Studies #0210).

the excavator discovered a fortification wall running roughly north-south (Figure 19). The wall, 2.2 m wide, could be uncovered in a 55 m long section. At intervals of about 20 m, the fortification wall is interrupted by square towers measuring 6.3 × 6.3 m. On the inside of the fortification wall were buildings. One room, 3.5 × 2 m in size and marked Y I by the excavator, seems to have been a depot. The vessels found in it are mostly native Anatolian wares, especially fine and medium-fine bowls of various types. Some Mycenaean crater fragments also occur; of these some are imported, others were locally made.

One storage room (Y 2) is 16.5 m long and 4 m wide. It contained pithoi and a number of typical western Anatolian vessel types. This room also included some Mycenaean vessels with typical Late Helladic IIIB/C decoration, which was useful in dating a destruction horizon. The various storage rooms also contained metal objects, including needles and spearheads. In addition to the pottery, two seal impressions with Luwian hieroglyphic characters were found in this area. They belonged to *[Tark]asnaya* and *Pi-su+ra/i-li*$_x$ or *[Tark]asnapiya* and *Su+ra/i-li*$_x$. According to Suzanne Herbordt, the thirteenth-century BCE king Tarkasnawa of the state of Mira bore a personal name in the form *tarkasna*.[143]

7.13 Daskyleion

The ancient city of Daskyleion (now Hisartepe Höyüğü) is located northwest of the village of Ergili at the southeastern end of Lake Manyas in the Bandırma district of northwestern Anatolia. Kurt Bittel conducted initial

143 Günel and Herbordt 2010, 6.

research in the region in 1952, including a survey that brought to light pottery finds dating back to the Chalcolithic. Between 1954 and 1960, Ekrem Akurgal directed excavations. Further excavation campaigns took place in 1988–2003 under the direction of Tomris Bakır of Ege University in Izmir. During the Achaemenid period, a Persian family ruled Anatolia for 200 years and established four satrapies, of which Daskyleion was the most important – it is also the only one that has been excavated so far. The place received its name when Gyges became king of Lydia. He named it after his father Daskylos, who had to leave Sardes because of dynastic disputes. In Classical and Hellenistic times, ancient writers praised the beauty of Daskyleion and Paradeisos, a bird paradise.[144] In 1990, Tomris Bakır found epigraphic evidence of a Phrygian settlement mentioned by Strabo.[145]

Prehistoric finds include stone axes made of steatite, flint blades and pottery from the time of Troy III and a Babylonian cylinder seal made of hematite, dated to 1700 BCE but interpreted as heirloom. Dorians are thought to have lived in the area from the middle of the second millennium BCE to the beginning of the first millennium BCE, but no finds from this period have been made to date. A monumental fortification wall attributed to the Late Bronze Age indicates the prosperity of the site.[146]

7.14 Demircihüyük

Demircihüyük is a small walled settlement from the Early and Middle Bronze Age in the Çukurhisar district. It is located about 25 km west of Eskişehir on the west side of the Eskişehir alluvial plain. The settlement mound has a diameter of 80 m and is 5 m high. The tell was discovered by Kurt Bittel in 1937; a small excavation took place at that time. Further excavations followed in 1975–1978 under the direction of Manfred Korfmann.[147] The excavator found anthropogenic deposits 4.5 m thick and distinguished 17 Early Bronze Age building layers. Horizons older than the EBA were not accessible because of the groundwater level in the plain. In

144 İren and Atay 2012, 76; Homer, *Iliad* 5.824–825; Herodotos, *Historia* 1.8; Strabo, *Geography* 12.9; Pausanias, *Description of Greece* 4.21; Stephanus Byzantinus, *Ethnika* 150.2.

145 Bakır 2003.

146 Bakır 2006, 62.

147 Korfmann 1983.

an area known as Sarıket, 250 m west of the hill, Turan Efe discovered a cemetery in 1983, 70 × 60 m in size, which may have belonged to the settlement. The cemetery consists of over 600 graves and is considered the largest known necropolis in Early Bronze Age Anatolia. About a hundred graves date from the Middle Bronze Age. They were thus laid out about 500 years after the last Early Bronze Age burials but show a continuation of burial patterns.[148]

7.15 Ephesus, Ayasuluk hill

Many settlement sites in western Asia Minor remained inhabited throughout the Middle and Late Bronze Age. Sites on shallow sea inlets, on the other hand, were forced to follow the receding coastline. Consequently, the predecessor of Roman Ephesus was located inland from the famous city. Many scholars believe that this Bronze Age predecessor was Apasa, the capital of Arzawa, which is mentioned in Hittite documents. Inland from Roman Ephesus is the modern city of Selçuk with Ayasuluk hill, crowned by a Venetian fortress, as its prominent landmark.

In 1962, during construction work south of the Gate of Persecution on Ayasuluk hill, workers came across a Late Bronze Age tomb with Mycenaean vessels.[149] One crater contained human bones, while the surrounding area also had animal bones. Barbara Horejs says the grave reflects local burial customs, which could well have included Mycenaean grave goods. The pottery dates to Late Helladic IIIA2 (c. 1400–1340 BCE).[150]

In 1990, a sondage excavation under the direction of Mustafa Büyükkolancı took place on the slope of Ayasuluk south of the citadel. The excavator distinguished six layers above the bedrock, the lowest of which contained Kumtepe IB type pottery, thus dating to the Late Chalcolithic/Early Bronze Age. Crevices in the bedrock included Early Bronze Age pottery. The uppermost layer appeared to be associated with a 3 m wide wall, which was initially interpreted as part of a Mycenaean fortification.[151] During further excavations on Ayasuluk hill in 1996, about 30 m south of the first sondage, the same wall was discovered on an area

148 Seeher 2000, 224.

149 Bammer 1999; Büyükkolancı 2008; Erdemgil and Büyükkolancı 1997; Forstenpointner, Kerschner and Muss 2008; Gültekin and Baran 1964; Hanfmann 1962.

150 Horejs 2008, 120.

151 Büyükkolancı 2008, Fig. 13c.

of 8 × 8 m at a depth of 3.3 m and interpreted as "the fortification of the Hittite city of Apasa."[152] Because of the steep slope at this site, only a few original surfaces have been preserved and most of the deposits have been disturbed by soil creep.[153] In some places the Middle Bronze Age settlement layers were located directly on the bedrock. A heavily burned horizon contained pottery comparable to Urla-Limantepe and Troy III–V (2300–1700 BCE). Beycesultan type pottery with red coating was also found.

The excavator interpreted the findings as an indication that Apasa had been located on Ayasuluk hill.[154] However, the construction technique of the excavated fortress wall is reminiscent of the Hellenistic period. Given the obvious creep of the soil on the steeply sloping hill, pottery from all periods may have migrated downhill and been redeposited near the wall. Consequently, the sherds found there do not necessarily date the wall. In addition, most of the Late Bronze Age settlements in western Asia Minor are located near streams and fertile farmland (see GIS analysis). Hilltops were primarily used as garrisons or citadels of refuge in troubled times (Kaymakçı, Bademgediği Tepesi, Pergamon). At Mycenaean sites in the Argolid, settlements are often located a few hundred meters away from the chamber tombs, in the direction in which the dromos points. Accordingly, the remains found on Ayasuluk hill might not reflect the city of Apasa itself but indicate the existence of the same nearby.

7.16 Gavurtepe

Gavurtepe Höyük is the name of a steeply sloping hill on the west side of the Sarıkız stream in the Gediz plain, in the southwest of Alaşehir district, southeast of Manisa city center. The site is located on an important east-west trade route. Excavations took place in 1987–1992 under the direction of Recep Meriç[155] and in 2007 under that of Engin Akdeniz and others. The surface finds date back to the Chalcolithic, Early, Middle and Late Bronze Age as well as the Hellenistic and Byzantine periods. The oldest layers reached belonged to the Early Bronze Age I–III. They yielded numerous vessels reminiscent of Beycesultan, as well as a Cycladic-type

152 Büyükkolancı 2007, 23.
153 Horejs 2008, 120.
154 Büyükkolancı 2008, 54.
155 Meriç 1987.

idol, a necklace made of 89 gold beads, two gold bracelets, two gold earplugs, a bronze bracelet, a stone seal and spouted jugs. At the top of the hill in layers from the middle of the second millennium BCE, the foundations of a megaron-like monumental structure surrounded by a perimeter wall of large stones were uncovered. The excavators assume that it was the seat of a local ruler.

7.17 Halkapınar

The village of Halkapınar is located north of Ephesus between Belevi and Büyükkale. A landmark declaring ownership of the Temple of Artemis shows that the area belonged to Ephesus in ancient times. During emergency excavations in 1973, two pithos tombs from the Late Bronze Age were discovered.[156] Another pithos next to the other two was excavated by the Ephesus excavation team in 2005. The fill around the graves contained bone and pottery fragments, and the burial type is typical of western Asia Minor. It was used for both cemeteries and individual graves. Barbara Horejs dated the necropolis to Late Helladic IIB–IIIA2, i.e., 1450–1300 BCE. A Mycenaean alabastron from LH IIIA2 was also reported from the site. Numerous traces of a large Late Bronze Age settlement are known along the valley rim north of the village of Halkapınar, but it has not yet been systematically excavated.

7.18 Iasos

The ancient Carian coastal town of Iasos is located on the Gulf of Güllük in the Muğla province about 18 km west of the center of Milas. It surrounds a limestone hill 200 m east of the modern village of Kıyıkışlacık. The hill used to be an island and is now a peninsula. The site was first investigated by Charles Texier in 1835. Representatives of the Italian School of Archaeology in Athens, including Doro Levi (1960–1972), Clelia Laviosa (1972–1984) and most recently Fede Berti (1984–2011), have conducted research in depth. Since 2015, Asuman Baldıran of Selçuk University has been leading the excavations.

The excavators found prehistoric buildings in the topographically lowest horizons under the Roman Agora and the East Gate Quarter. The ear-

156 Horejs 2008; Meriç 2009, 71.

liest finds date from the Neolithic period (sixth millennium).[157] From the Early Bronze Age there are sporadic finds; whether there was a settlement in this period is uncertain. There might have been a hiatus in the Middle Bronze Age.[158] Three sherds from the protopalatial period were found in later contexts.[159] A settlement for the neopalatial period (MM III–LM I) is undisputed. According to Levi and Laviosa, the inhabitants of the settlement were in close contact with the Aegean islands, especially with Minoan Crete. Some buildings resemble Minoan architecture and Minoan pottery, including locally produced as well as imported "Kamares ware" from the protopalatial period. Citing Thucydides' statement about a Minoan thalassocracy, Levi and Laviosa proposed that Iasos was a Minoan colony founded during the protopalatial period.[160]

Nicoletta Momigliano of the University of Bristol, however, who subsequently re-examined the material, found out that the items referred to as "Kamares ware" turned out to be the southeast Aegean Light-on-Dark and Dark-on-Light pottery of the neopalatial period,[161] a later, relatively little-known class of pottery produced on the island of Kos. For the neopalatial period evidence for contacts between Crete and Iasos is more abundant and includes architecture and 3–4 potters' marks in Linear A, pottery and possibly stone objects, though the latter may have been made of Iasian marble.[162] Pottery was imported not only from Crete, but also from other islands and regions of the Aegean. The Cretan imports may have reached Iasos via Minoan centers such as Trianda, Seraglio or Miletus.[163] The Minoan imports thus testify mainly to trade exchanges. Nicoletta Momigliano concludes:

> To interpret the presence of Minoan and Minoanising objects or other traits at Iasos simply and exclusively as the result of the presence of Bronze Age Cretan emigrants or colonists is not only too simplistic, but also sometimes downright impossible or demonstrably wrong.[164]

157 Momigliano 2012, 154.
158 Momigliano 2012, 155.
159 Momigliano 2009, 124.
160 Laviosa 1984, 183–185.
161 Momigliano 2009, 124.
162 Momigliano 2009, 129; 2012, 162.
163 Momigliano 2009, 130.
164 Momigliano 2009, 122.

> If there ever was a "Minoan thalassocracy," in the sense of a series of heavily Minoanised settlements through which Minoan elites exerted some control on certain maritime trade-routes, Iasos does not appear to have been one of them.[165]

Local production of Minoan-type pottery was limited, suggesting that potters were trained according to a different manufacturing tradition.[166] Minoan imports and ceramics make up only 5 percent of the essentially Anatolian assemblage. – This level of the site was sealed by a thick layer of ash from Thera, dating to LM IA. A period of decline followed in the aftermath of this eruption. Contact with Crete waned, and the phase eventually ended with the destruction of the "flimsy" Building B probably in LM IB. Exchanges with the Aegean were not renewed until LH IIB/IIIA1.

7.19 Kaymakçı

In 2001, Christopher H. Roosevelt and Christina Luke of Boston University first discovered a Bronze Age site at the western end of Lake Marmara, which they initially named Hacıveliler after a nearby village. During the Central Lydia Archaeological Survey, which they subsequently co-directed, this site was named Kaymakçı, after the ridge on which it is located about 10 km north of Sardes. The site occupies the entire southeastern end of the Gür Dağ ridge, known locally as Kaymakçı and Karataş Sırtları (Figure 20). The main feature of the settlement is a series of partly concentric circular walls, up to 2 m wide, enclosing an area of about 8.6 ha, which was additionally surrounded by a settlement. The central, almond-shaped sector is marked by additional eccentric circles of fortifications (Figure 21). The survey team found two gates that delineated the inner citadel, as well as adjacent terrace remains of large buildings. Together with the surrounding area of hillside houses, terraces and cemeteries, the entire complex extends over 1 km and covers approximately 25–30 ha. Apart from the area north-northwest of the citadel, occupation traces extend in all directions downslope, northeastward all the way to the shore of the Gygaean Lake. The survey leaders said that "Kaymakçı is the largest second-millennium BCE citadel in the survey area and probably in all

165 Momigliano 2012, 153.
166 Momigliano 2009, 132.

FIGURE 20: Aerial photo from 2014, before excavations began, showing the massive walls of the Late Bronze Age citadel of Kaymakçı, enclosing over 2,000 m^2 (Google, Digital Globe and Google, CNES/Astrium).

FIGURE 21: The uppermost fortification walls of Kaymakçi in 2012 (Luwian Studies #0178).

of western Anatolia."[167] Frank Kolb thought it plausible that this was the capital of the Seha River Land.[168]

Starting in 2014, stratigraphic excavations were carried out in Kaymakçı in five seasons, opening seven excavation areas ranging from 81 to 361 m^2, totalling 1168 m^2, which is two percent of the total citadel.[169] It turned out that the place was inhabited already in the Middle Bronze Age, but the intensive use took place in the Late Bronze Age, at whose end the site was abandoned. During the excavations between 2014 and 2016, 160,000 individual sherds with a total weight of 11 tons as well as 18,000 archaeozoological items were documented.[170]

In the ring wall of the inner citadel, there are numerous rock-cut and stone-built circular features, which were probably used for storage. They contained secondary fillings that fall within the LB I and LB II phases, that is, the eighteenth to fourteenth centuries BCE. A hearth was located in this central area. Just outside the innermost citadel were large buildings, again with circular storage containers. The early LB II finds indicate food production and domestic industries with small crafts. The most common ceramic types include Red Light Brown and Grey Ware cups, bowls, jugs and jars – these are ceramic types known from many other second-millennium BCE sites in western Asia Minor.[171] At Kaymakçı, however, most of the excavated horizons are secondary or even tertiary backfills rather than evidence of primary use.[172] Two pieces of painted Mycenaean pottery most likely from the fourteenth or early thirteenth century BCE were found. Towards the end of the LB I phase, the citadel seems to have been surrounded by a curtain wall 2 m wide. The wall was equipped with towers that contained fireplaces and purely domestic items. During LB I, residents in the excavated areas used the open spaces for such purposes as mixing clay in pits and for waste disposal. At the beginning of LB II, these vacant areas were then built over, giving the site an urban character with a network of streets and passageways. Mixed use for food production, crafts and storage continued to predominate. Stratigraphically intact Late Bronze Age deposits could not be found so far. Destruction horizons are

167 Roosevelt and Luke 2012, 385.
168 Kolb 2011, 56.
169 Roosevelt *et al.* 2018.
170 Roosevelt *et al.* 2018, 662.
171 Roosevelt *et al.* 2018, 664–665.
172 Roosevelt *et al.* 2018, 680–681.

also missing. The excavators of Kaymakçı still consider the site to be the capital of the Seha River Land.[173]

Kaymakçı is without question a special site due to its size and the conceptually planned and realized architecture. The finds made so far testify to a consistently later use as a rural settlement. Kaymakçı also lacks characteristics that other settlements generally possess, most notably stratified settlement layers that attest to millennia of use. The bedrock protrudes in many places. The original use associated with the construction of the fortress could not be determined so far, because most of the rooms, even the storage vessels, had been reused.

The geographical location provides protection from invaders attacking the Hermes valley from the north as well as a certain control over the important east-west route. The site has characteristics of a refuge built for the people working and living in the surrounding plain. It may also have been built as a barracks to be manned and armed in times of war. The numerous storage vessels underline an interpretation as a facility for use in case of emergency. In the second millennium BCE, there were often enough times when protection was desirable. There were also sufficient political and human resources available to construct large-scale communal and/or military infrastructures.

The Central Lydia Archaeological Survey has discovered other citadels in the area. Gedevre Tepesi (POI07.01) is located approximately 5 km north of Kaymakçı on a hill that rises 65 m above the plain northwest of Marmara Gölü. Its circular defensive wall on the hilltop encloses an area of 1.2 ha. Some house foundations were found on the slopes to the north and south. The dry-stone walls of the outer enclosure wall had a thickness of about 1.7–2.5 m, the walls of the inner fortifications of about 1.2–1.4 m, and the walls of the inner buildings of 0.65–0.8 m. The pottery dates back to the second millennium BCE. Here, too, the strata on the bedrock are thin, so that excavations are likely to reveal building foundations, but hardly any stratified deposits. Rock outcrops with highly weathered vertical cliffs – here and at Kaymakçı – indicate quarries in prehistoric times.

The third protective enclosure is Asartepe-Kılcanlar (POI06.24). It is located 1.4 km north of the modern village of Kılcanlar and its famous tell Kılcanlar Höyük at 155 masl and overlooks the Gygean Sea basin from the north. This site covers 3.45 ha and is also protected by a defence wall sur-

173 Roosevelt *et al.* 2018, 648.

rounding a central area slightly higher up. The pottery dates to the second millennium BCE. A fourth citadel is Kızbacı Tepesi (POI07.04) on a steep rocky outcrop in the northeast corner of the Gygaean Lake northwest of the village of Kemerdamları.[174] Its circular protective wall encloses an area of 0.8 ha. Here, too, there were dwellings outside the enclosure and other buildings on all sides downslope. A gate flanked by two large bastions on each side provided access to the north side of the citadel.

7.20 Kadıkalesi, Kuşadası

Kadıkalesi is a coastal settlement between Ephesus and Miletus, 8 km south of Kuşadası. The tell, 250 m in diameter and 23 m high, is crowned today by a Byzantine castle. The ancient name of the place was Anaia. This site grants control over the channel between the mainland and the island of Samos. Surveys and excavations began in 2001 under the direction of Zeynep Mercangöz and Engin Akdeniz of Aydın University.[175] Eight different strata have been identified, proving occupation from the Late Chalcolithic to the Islamic-Byzantine periods. The Middle and Late Bronze Age is represented by typical Anatolian Grey and Gold Wash Ware. A similar material culture is known from Troy VI–VII, Beycesultan III–II–I, Panaztepe, Aphrodisias, Limantepe and Bademgediği Tepe VI–II. During the 2002 excavations, a male bronze figure holding a thunderbolt in the Hittite tradition was found. It was dated to 1450–1230 BCE. Some imported and locally produced Mycenaean pottery mainly from LH IIIC was also found. During the Late Bronze Age, the settlement extended over 6 ha, more than three times the size of the citadel of Troy VI. Masonry from Hellenistic and Roman times is still preserved in places.

7.21 Kusura

Kusura is one of the few prehistoric sites in western Asia Minor excavated before World War II. The site is located 13 km south of Sandıklı and 55 km southwest of Afyonkarahisar. Winifred Lamb of the Fitzwilliam Museum at Cambridge University directed the excavations in 1935–1937.[176] She was intrigued by unusual pottery sherds on the surface and

174 Roosevelt and Luke 2009.
175 Akdeniz 2004; 2006; Mercangöz 2008.
176 Lamb 1937; 1938.

the favorable location on a connection between the well-populated highlands of central Anatolia, the fertile southwestern plain and the Maeander valley. The remains belong to a tell about 400 m wide and 14 m high, accompanied by a cemetery. Three main phases of settlement were distinguished. The oldest (A) began in the Chalcolithic and lasted until the end of the fourth millennium. The second period (B) covers most of the third millennium and thus coincides with the Early Bronze Age. The last phase (C) lasted from about 2000 BCE until shortly after the beginning of the Early Iron Age. Apparently, the city survived after the end of the Bronze Age, although not for long. Lamb first clearly assigned Middle and Late Bronze Age Kusura to the "West-Anatolian Group" known from Troy, Lesbos, Jortan and the Pisidian sites.[177] Later, she described it as "Hittite in the wide sense of the term" with local peculiarities.[178] However, Kusura lacks many Hittite forms, notably bowls with conical bases, "tea-pots," flasks, bottles and attachments in the form of animals' heads. Indeed, the excavator stated that "the majority of the shapes represented at Kusura do not occur either at Alişar or at Boğazköy, nor are the fabrics identical, though they have points in common."[179] The most common forms are bowls, stemmed goblets, jugs and jars. Ultimately, the three seasons at Kusura helped identify the site as a provincial settlement that depended mainly on local resources but was in contact with its neighbors to the east and west. Today, Kusura, along with Beycesultan, belongs firmly to the ceramic group of southwestern Anatolian cultures, with connections to the north as well as direct influences from central Anatolia.[180]

7.22 Larisa

Larisa is located 28 km north of the city of Izmir, in the district of Menemen, on a hill overlooking the village of Buruncuk. The ancient ruins are situated on a spur that protrudes into the floodplain of the Gediz river. The settlement was excavated by German and Swedish archaeologists between 1902 and 1934. The excavators distinguished three main horizons from the period before the Greek settlement in the eighth century BCE. Below the Greek temple were found foundations of a rectangular

177 Lamb 1938, 217.
178 Lamb 1938, 217.
179 Lamb 1937, 23.
180 Pavúk 2015, 94.

building with tools and ceramics apparently from the Early Bronze Age. The second horizon falls into the second millennium BCE. At that time an impressive fortification wall of 1300 m length with defense towers and a large cult complex was built.[181] The masonry and pottery are comparable to Troy VI and VII. The vessels were made on the wheel with a yellowish, reddish or white polish. The animal depictions on the handles of the vessels are reminiscent of the red polished pottery of Boğazköy. The third horizon shows little change and no Greek pottery before 800 BCE. In the sixth century BCE the city was rebuilt. A temple on a terrace, a megaron and the so-called Old Palace are the oldest buildings from this period. A New Palace was built in the fourth century BCE. Larisa is already mentioned by Herodotus, Pliny and Aelius Aristides.[182]

Larisa is an unusually rich and extensive site with fine pottery from different periods directly on the surface. The site would also be suitable for in-depth excavation to provide another reference for Bronze Age pottery typology in western Asia Minor.

7.23 Liman Tepe

Liman Tepe is located on the Urla peninsula in the İskele district, about 34 km west of Izmir. The settlement was initially confined to the promontory projecting northward and overlooking the island of Karantina, and over time expanded southward into the fertile plain. The site was inhabited from the middle of the fifth millennium BCE (Neolithic, Liman Tepe VIII) to the Roman period (Liman Tepe I). In the Classical period it was the city of Klazomenai, one of the Ionian dodecapolis, whose ruins today partially hide the prehistoric settlements. Ekrem Akurgal discovered the prehistoric site in 1950, and scientific research commenced in the 1970s. Starting in 1992, teams led by Hayat Erkanal explored the site.[183]

Liman Tepe is a key site for an understanding of the Anatolian Early Bronze Age. It was fortified from EBA I and had an artificial harbor, one of the oldest known of its kind in the Aegean. The fortification consisted of a monumental defensive wall, partially submerged in the sea, with two rectangular towers. The area inside the fortification had a diameter of 290 m. Kilns and slags attest to a local industry; imports from Greece and

181 Boehlau and Schefold 1940, 15–16.
182 Herodotus, *Historia* 1.149; Pliny, *Naturalis historia* 5.30.32; Aelius Aristides 51.27.2.
183 Erkanal 2008; 2012; 2013; Erkanal and Günel 1995; Mangaloğlu-Votruba 2011.

Cyprus confirm long-distance trade.[184] The Middle Bronze Age is also well represented at Liman Tepe. At that time curvilinear buildings were constructed and used for both residential purposes and crafts. Imported matt-painted ceramics attests to trade connections to the west. The use in the period between 1700 and 1400 BCE is still unclear; the layout of the settlement, however, does not seem to have changed dramatically.

Late Bronze Age settlement layers from three phases were discovered near the modern coastal road during the 2006 campaign. These remains are heavily disturbed by later buildings. The excavators assume that the Late Bronze Age settlement at Liman Tepe was of modest size, but the inhabitants were nevertheless apparently prosperous. Perhaps a safe harbor existed there as a port of call. A 3 m wide road from the Late Bronze Age running from northwest to southeast could be uncovered on 20 m. At two places paths crossed this road. Since the buildings along the road, which were erected before 1300 BCE, contained ceramic kilns, Hayat Erkanal interpreted the area as the ceramic production quarter of the city. The material culture is local, but also indicates contacts with the Aegean islands and mainland Greece.

Mycenaean pottery and its local imitations represent about 5–10 percent of the total ceramic material. Imitated Mycenaean pottery predominated in LH IIIC, at a time when rectangular monumental buildings were being built. A well in the southern part of the excavation contained much Late Bronze Age pottery, which was studied and published by Sevinç Günel.[185] The assemblage consists mainly of local fine or medium-fine ware from 1420–1190 BCE.

The settlement did not experience an interruption after 1200 BCE; on the contrary, Liman Tepe gained importance in the twelfth century BCE, probably at the expense of Panaztepe, whose influence declined during this period. At that time, Liman Tepe's strategic location, with its protected harbors and fertile hinterland, was increasingly appreciated. These properties formed the substrate for the Classical city of Klazomenai, which then took on a role as an intermediary between the western Anatolian interior and the eastern Mediterranean, which was opened up via maritime long-distance trade.

184 Greaves 2010, 878.
185 Günel 1999b.

7.24 Maydos-Kilisetepe

Maydos-Kilisetepe is the first archaeological excavation on the northern shore of the Dardanelles and as such geographically located in Europe. The settlement lies in the center of the district town Eceabat and was known as Madytos in Classical Antiquity.[186] Until 1923, the place was called Maydos and characterized by a population of Greek origin. The settlement mound measures 180 × 200 m and reaches 33 m above sea level. It is certainly one of the largest ancient sites on the Gallipoli peninsula. Terracing in Byzantine times damaged the tell, especially on its western side. The resulting 8 m high cut yields an insight into the ceramic sequence from the Early Bronze Age to the Byzantine period. Initial soundings revealed cultural layers 14 m thick.[187]

Excavations began in 2010 under the direction of Göksel Sazcı of Çanakkale University.[188] The archaeological investigations confirmed continuous occupation from the Early Bronze Age to the Byzantine period. Eight horizons were distinguished. The lowest (level VIII, Early Bronze Age III), dating from around 2100 BCE, already contained a fortification wall. Level VII corresponds approximately to Troy V and provided a radiocarbon date of 2080–2060 BCE.[189] Four successive architectural phases in this layer are all oriented to the earlier defensive wall that may still have existed at that time. The ceramic forms are typical of Troy V. However, the material culture exhibits Balkan elements throughout the Bronze Age and therefore also differs in many respects from that at Troy.[190] Thus, knobbed handles, reminiscent of Bulgarian assemblages but not known from Troy, occur. At the time of Troy VI, large residential buildings with stone foundations and massive walls were built in Maydos, as was a fortification. A conflagration then destroyed level VI. Since foundations were also destroyed, the excavator considers an earthquake as the trigger.[191] The Late Bronze Age layers are well preserved. Workshops, still missing in Troy, are attested: numerous bone implements, stonetools, storage pits and silo bases indicate this. Pottery is dominated by Anatolian Grey Ware and Tan Ware made on the potter's wheel. Mycenaean pottery occurs

186 Sazcı and Mutlu 2018, 140.
187 Sazcı and Mutlu 2018, 140.
188 Özdoğan 1986; 1993; Sazcı 2012; 2013.
189 Sazcı and Mutlu 2018, 142.
190 Sazcı and Mutlu 2018, 152.
191 Sazcı and Mutlu 2018, 142.

only in small quantities. The frames of doors and window openings were made of mud bricks with Geometric relief decorations, not known from Troy and otherwise rare in Anatolia.[192] They are, however, more common in the Macedonian region of Greece. The key geographical position of Maydos-Kilisetepe on important communication and exchange routes may have earned the site a significant role in trade networks.

7.25 Miletus

Miletus was the most important metropolis of Ionia in the sixth century BCE. It was located on a promontory on the southern shore of the now silted-up Gulf of Latmos, about 80 km south of today's Izmir. The valley functioned as one of the main routes between the Aegean coast and central and eastern Asia Minor, facilitating trade between the coastal settlements and the interior. Equipped with four bays around the headland that could be used as harbors, Miletus gained great economic importance in its heyday. At that time, philosophers such as Thales, Anaximander and Anaximenes lived there and contributed to the foundations for Western philosophy and natural science.

Information about Bronze Age Miletus can be obtained partly from Hittite texts, partly from the accounts of ancient historiographers and, since 1997, also from archaeological excavations. Systematic exploration of the ancient city began in 1899 under the direction of Theodor Wiegand. Excavations continued in 1938/39 and in the 1950s, 1960s and 1970s.[193] The most recent campaign, specifically focused on the Bronze Age strata, took place between 1994 and 2004 under the direction of Wolf-Dietrich Niemeier and Barbara Niemeier.[194]

Two excavations in the 1970s and 1980s east of the theater had already revealed settlement remains from the Late Chalcolithic (Miletus I; fourth millennium), but none from the Middle and Late Bronze Age. During the recent investigations some postholes from the earliest settlement as well as storage pits in the bedrock were uncovered. The few finds made from Miletus I indicate that the site already then acted as a link between Anatolia and the Aegean. Dark polished pottery decorated with white linear patterns from Miletus I has parallels further inland, in the Cyclades and

192 Sazcı and Mutlu 2018, 143–145.
193 Niemeier 2005, 1.
194 Niemeier 2009; 2012.

in mainland Greece. Tools made of obsidian from the Cycladic island of Melos were found both at Miletus I and at Aphrodisias further up the Maeander valley.

During the Early Bronze Age (Miletus II; third millennium BCE), Miletus maintained its links with the Cyclades, as evidenced by imports of Cycladic pottery and the head of a Cycladic marble figurine. It is possible that the site served at that time as a hub for the metal trade in ingots produced in the interior of Asia Minor and traded in the Aegean markets. Metalworking is evidenced by stone molds used for tool making. They date from a time when the settlement still had a local, southwestern Anatolian character.

After the beginning of the Middle Bronze Age (Miletus III; c. 2000–1800 BCE), pottery continued to be produced mostly locally in the style characteristic of southwestern Asia Minor. Connections with sites further inland are evident in the pottery of Miletus IIIa.[195] The wares and shapes of MBA pottery have characteristics of ceramic traditions of southwestern Anatolia and "also some features most simply discussed as Cretan."[196] Such components increase until they eventually form the largest group of Kamares wares and semi-coarse MM II vases excavated east of Crete.[197]

The excavators describe these as a commodity that was popular throughout the eastern Mediterranean. Two Minoan seals were found. Minoan-type household wares were made on site from the typical micaceous clay.[198] Miletus III fell victim to fire destruction in the second half of the eighteenth century BCE.

In the subsequent settlement phase (Miletus IV; c. 1800–1450 BCE), most of the undecorated material continues to be made from local mica-rich clay. Large quantities of undecorated local Minoan-type domestic pottery occur, including conical cups, tripod cooking pots and discoid loom weights.[199] In those areas which were excavated, 98 percent of the total quantity of decorated pottery is said to represent imports from Crete or other parts of the Aegean, and only 2 percent of the pottery is locally produced.[200] Meanwhile, however, other archaeologists, including Ivonne

195 Kaiser and Raymond 2015, 152.
196 Raymond 2007, 227.
197 Raymond 2005, 185.
198 Niemeier 2005, 3.
199 Greaves 2002, 46.
200 Kozal 2017, 30.

Kaiser and Julien Zurbach, have argued that forms of Minoan origin were produced at Miletus in the local coarse ware fabric.[201] The Anatolian aspects of the pottery assemblages are only beginning to be recognized because the Minoan and Mycenaean finds have been prominent since the nineteenth century publications of Heinrich Schliemann.[202]

The excavators found a sanctuary at Miletus IV along with an altar made of mud bricks. This included the charred remains of a wooden throne, which they assume was sat upon by a priestess-goddess who received offerings from worshippers. The adjacent storerooms contained vessels with goods for ritual feasts. Minoan seals and several vessels with Linear A script were also found and are interpreted by the excavators as evidence of a Minoan administrative system, in a region where Luwian was more customary. A disc-shaped marble weight stone with six circles as markers speaks for a calibration system known from Crete. Consequently, elements of the administration common on Crete seem to have been in use at Miletus IV (corresponding to MM III–LM IB/II). In the words of Alan Greaves, "the local Anatolian elite 'consumed' Minoan-style architecture, imports, and imitations."[203] Since architecture and ceramics at Miletus IV are not uncommon to cultures along the Aegean coast, in the Maeander valley and in southwestern Turkey, Amy Raymond concludes that "Miletus now offers information about an indigenous MBA community that had contact with protopalatial Crete."[204]

Miletus IV experienced two destructions; the first in the second half of the seventeenth century BCE coincided with the Thera eruption, according to Niemeier.[205] The second destruction was a conflagration in the first half (to mid) of the fifteenth century BCE, at a time when many other settlements in the Aegean suffered demolition. Niemeier attributes this destruction to the violent conquest by Mycenaean Greeks. These advanced in many places in the Aegean to take advantage of the power vacuum created by the crisis of the Minoan palace culture.[206]

Miletus V (c. 1450–1315 BCE) was a new construction and shows elements of different origins that were to coexist for generations.[207] At that

201 Kaiser and Zurbach 2015, 562.
202 Kaiser and Zurbach 2015, 559.
203 Greaves 2010, 882.
204 Raymond 2005, 185.
205 Niemeier 2005, 10.
206 Niemeier 2009, 14.
207 Kaiser and Zurbach 2015, 576.

time, Miletus produced mostly Mycenaean-type pottery; local southwestern Anatolian wares make up only a small portion of the finds. Identities can hardly be inferred on the basis of material culture alone. Ceramic production obviously flourished; seven pottery kilns were located close together in one quarter of the settlement. Miletus V eventually fell victim to a devastating destruction. What remained was a layer of debris up to 30 cm thick covering the entire excavation area. This destruction horizon contains Mycenaean pottery in the style of the objects recovered from the Uluburun shipwreck. The ship sank at the end of the fourteenth century BCE.

The cuneiform documents found in Hattusa provide a number of details about events in western Asia Minor for the period between 1500 and 1200 BCE. Meanwhile, the political geography of western Asia Minor is clearer (Figure 22), thus these reports can now be better interpreted. Miletus is today identified with the Luwian city of Millawanda, mentioned in the Hittite texts. Around 1320 BCE, at the beginning of the reign of Mursili II, Millawanda supported the king Uhhaziti of neighboring Arzawa, who was rebelling against the Hittites. After some initial successes by his western opponents, Mursili, in his third year of rule, ordered his generals Malaziti and Gulla to raid Millawanda. They captured the city and destroyed it, at least partially. The burned layer that marks the end of Miletus V and contains LH IIIA pottery may have come from this raid around 1316 BCE.[208] In this way, Millawanda came under Hittite suzerainty, as confirmed by the archaeological finds of Miletus VI. When the city was rebuilt, its fortification followed an Anatolian-Hittite plan with rectangular bastions projecting at regular intervals.[209]

The city built after the destruction (Miletus VI) was apparently quite extensive. Around 1200 BCE a fortification was erected, according to the Anatolian/Hittite architectural style, similar to that of Troy VI–VIIa. Miletus VI fell victim to destruction in the early twelfth century BCE. However, the population returned and rebuilt their houses, but left the collapsed fortification wall unchanged. At the end of the Bronze Age, settlement continued without interruption; a Luwian inscription on a crater indicates an Anatolian influence at this time.

Miletus may have maintained its role as a mediator between the Aegean and the Anatolian interior, but the recorded sequence ends at

208 Mee 1998.
209 Mee 1998, 139.

FIGURE 22: Approximate political geography in Anatolia c. 1200 BCE showing the Luwian states (red) and the Hittite realm (green) (Zangger and Woudhuizen 2018, 52; Luwian Studies #0103).

this point. No remains of Miletus VI were found during the recent excavation campaign, since these horizons had been removed during levelling in Roman times.

7.26 Müsgebi-Bodrum

Müsgebi is the former name of today's village Ortakent near Bodrum in the Muğla province at the entrance to the Gulf of Gökova. Due to the expansion of the towns in recent decades, Bodrum and Ortakent have merged. The settlement site, however, is still well preserved; it is located on a limestone spur 6.3 km west of the Bodrum marina, 350 m south of the old windmills overlooking the old village center of Ortakent. Bronze Age coarse and fine ware, buried wall fragments, quarried bedrock and countless stones are spread over an area of about 100 × 200 m. At the time of habitation, the site was obviously protected in an estuary. Neither from land nor from sea is it visible, so it may well have served as an outpost and port of call. The nearby river carries much water and sediment at times, as evidenced by the wide channels that have been constructed throughout the village. The river has shifted the coastline seaward by 2.5 km since the Bronze Age.

Research in the area began with a survey by Emily Vermeule, who registered ancient ruins preserved in the village.[210] In one well, she found pottery from the Early Bronze Age at a depth of 9–10 m. Closer to the present coast, a total of 48 Mycenaean chamber tombs with cremation burials were discovered and excavated between 1962 and 1966 under the direction of Yusuf Boysal.[211] Vessel types include among others cylix, pyxis, amphora, pithoi, jugs, bowls, cups, alabastroi and tripod vessels. According to Boysal, the necropolis was used from the fifteenth century BCE. The pottery dates from between Late Helladic IIIA2 and Late Helladic IIIC with a peak in LH IIIB. Müsgebi is most likely a genuine Mycenaean settlement that may have served as a shelter for Greek ships. It is also a promising target for an excavation if the ambition is to find further evidence of a Mycenaean presence in Anatolia.

210 Vermeule 1964, 246.

211 Bryce 2006, 99; Cook and Blackman 1971, 48; Mee 1978, 137; Mellink 1963, 180–181; 1983, 139.

7.27 Panaztepe

When the Manisa Museum acquired 21 Late Bronze Age objects in 1982, a handful of Turkish prehistorians succeeded, after lengthy detective work, in determining the location where these artifacts had been taken by looters.[212] It was the natural mound Panaztepe north of the Gulf of Izmir next to the mouth of the Gediz river, about 13 km west of the district town of Menemen and 8.5 km southwest of the city of Larissa. Armağan Erkanal-Öktü of Hacettepe University in Ankara began excavations in the southwestern part of the mound in 1985 with the aim of establishing a scientific record of the tombs, some of which had already been looted. It turned out that the site was very large; by 2011 altogether 66 tombs, including 11 tholoi, from the second millennium BCE were uncovered during the excavations.[213]

Panaztepe was continuously inhabited from the third millennium BCE to the fifth century CE. The settlement surrounded a mound 800 m in diameter; it was a port site throughout the Bronze Age and possibly initially an island. In the Middle Bronze Age, a monumental building was located at the top of the mound. Southwest of it was a residential settlement with workshops. Almost half of the Middle Bronze Age pottery is Anatolian Grey Ware. In the course of time, sediments deposited by the Gediz river caused a silting-up, so that the hill became a peninsula, and the site gradually became unsuitable as a harbor.

Excavations aimed at the acropolis, the necropolis and the harbor. In the area of the acropolis, remains of a Late Bronze Age settlement were found, but they were damaged by constructions in the Archaic period. The settlement history of the acropolis began in the second millennium BCE. The earliest buildings in this area seem to belong to the palace. An excavated lead ingot bears a sign interpreted as a Luwian hieroglyph. Artificial water channels and draw wells indicate a high degree of urbanization. The necropolis was used from the fourteenth to the eleventh century BCE. In the first half of this period, pithos tombs were common, of which about 120 have been excavated. In the second half, tholos tombs also appeared, with burials according to local rites. In addition to local Late Bronze Age forms, locally produced and imported painted Mycenaean wares appear after the fourteenth century BCE. Mycenaean-like seals, jewellery and bronze weapons were found as gifts in the graves. Obviously, the set-

212 Erkanal-Öktü 2018, 1.
213 Erkanal-Öktü 2018; Günel 1999a.

tlement served as a pivot between maritime and inland transportation routes; however, Panaztepe always maintained a strong central Anatolian connection. The excavator thinks that the site might be identified with Panisa (^{URU}*pa-ni-iš-ša*), a town mentioned in connection with Mira in Hittite documents.[214]

7.28 Pergamon

The famous ancient city of Bergama is located about 75 km north of Izmir on the north side of the fertile Bakırçay (Kaïkos) floodplain. The Hellenistic and Roman city has been excavated with interruptions since 1878. During the 1987–1991 excavation campaign, archaeologists discovered a 70-m-long section of a Late Bronze Age defensive wall on the southern slope of the acropolis, north of the Temple of Hera. The thickness of the wall varies from about 2 to over 3 m. Excavation reports state that the stratified context of "Mauer 1" contained Middle and Late Bronze Age fragments that can be compared to ceramic forms known from Panaztepe and Bayraklı. The particular construction technique of the wall suggests that during the Middle and Late Bronze Age the acropolis of Pergamon and its southern slope were a fortified settlement of considerable size. The outlines of the settlement during the second millennium BCE remain unclear.

The Bronze Age pottery found near the wall has been examined by Dieter Hertel.[215] Accordingly, the first construction phase of the wall dates back to the Middle Bronze Age (probably 2000 and 1500/1400 BCE). Anatolian Grey Ware and Red Ware are the most common types of Bronze Age pottery found on the acropolis. Dieter Hertel argues that the acropolis was well populated; the size of the protected area may have exceeded that of the Troy VI citadel. All the pottery was made locally; original or imitation Mycenaean vessels have not been found at Pergamon.

7.29 Sardes

Sardes, the capital of the ancient Lydian kingdom founded by King Gyges (680–644 BCE), benefited from its location on the fertile plain of the Hermus river (today's Gediz Irmak) and a main communication route

214 Erkanal-Öktü 2018, 176.
215 Hertel 2011; Radt 1992.

between the Aegean coast and inland Anatolia. The small river Pactolus (today Sart Çayı) washed down gold dust from Mount Tmolus (today Boz Dağları) and was considered the most gold-rich river in Asia Minor at that time. Gold production and trade seem to have been the main sources of the city's wealth, but by Strabo's time the amount of gold dust had diminished.[216]

Excavations began in 1958 under the direction of George Hanfmann of Harvard University. In particular, the "House of Bronzes" south of the gymnasium indicated that there had also been Bronze Age activity in the area of the ancient city. The pottery found during excavations dates from the Late Bronze Age to the Byzantine period; only a few artefacts are older than 1400 BCE. These earliest pottery assemblages are indigenous and monochrome, similar to other sites in western Asia Minor. The layer dating to 1400–1200 BCE contained the remains of a circular wattle wall, a mud hut and a pithos for cremation. The finds were published by Andrew Ramage and Jeffrey Spier.[217] This horizon also contained imported Mycenaean sherds and craters dating to the thirteenth to eleventh centuries BCE. However, most of the ceramic material at Sardes is exclusively of native Anatolian origin and only about 2–5 percent is Mycenaean. Like many other sites, Sardes was burned down around 1200 BCE; yet, there is much evidence for continuity of occupation into the Early Iron Age. Greeks probably settled in Sardes later, but the culture of the Early Iron Age remained Anatolian in character.[218]

From 1976 to 2007, further excavations followed under the direction of Crawford Greenewalt of Berkeley. Since 2008, the excavation has been under the direction of Nicholas Cahill, professor at the University of Wisconsin-Madison.[219] Despite great interest in the Bronze Age strata, ongoing investigations have so far failed to uncover the relevant layers, probably due to the extremely thick deposits in the area of the ancient city.

7.30 Şarhöyük-Dorylaion

The tell settlement of Şarhöyük-Dorylaion is 450 × 450 m in size and 15 m high; it is located on the northwest side of the city center of Eskişehir

216 Strabo, *Geography* 13.1.23, 13.4.5; Philostratus, *Life of Apollonius* 6.37.
217 Ramage 1983; Spier 1983, 20–22.
218 Spier 1983, 24–26.
219 Cahill 2019.

FIGURE 23: Excavations on the foot of the tell at Şarhöyük-Dorylaion in Eskişehir (Luwian Studies #0235).

(Figure 23). The first excavations took place between 1989 and 2003 under the direction of A. Muhibbe Darga. From 2005 to 2012, Taciser Tüfekçi Sivas was in charge. Since 2013, the management of Eskişehir Museum has taken responsibility for the site.[220] Most of the excavations took place on the southern and western sides of the tell. Surface finds indicate that settlement began in the Chalcolithic period and ended in the Ottoman period. Architectural remains from the Early Bronze Age have not been found to date, probably because they are obscured by later strata. The EBA pottery is handmade and mostly polished. Numerous drills made of bone, chisels made of flint and loom weights have been excavated. A mother goddess figurine also dates to the Early Bronze Age.

Undisturbed Late Bronze Age layers were first uncovered in 1992 in square T/28. One of the earliest finds from the second millennium BCE is a clay seal with the head of a beardless divine youth wearing a pointed cap with horns on both sides. According to A. Muhibbe Darga, the figure belongs to the Hittite style. Mittens from the middle of the second mil-

220 Darga 2004; Darga and Starke 2003.

lennium BC were found next to ceramic fragments decorated with beads. From square T/27 comes a polished handle and other fragments from the early Hittite period. Square S/28 contained a ceramic assemblage adorned with pearl motifs dating to the fifteenth century BCE. On the south side of the mound, excavators discovered a house with a kitchen that had a terrace on wooden pillars. A ^{14}C analysis dated this house to the fifteenth century BCE.

The Late Bronze Age buildings constructed on the west side of the settlement contained a granary and were built with great care. A conflagration destroyed them. From S/28 come tools made of bone with polished surfaces and linear ornaments. High-quality pins of bones and pin fragments speak for a high level of education of the Late Bronze Age society. Most of the building foundations were made of natural stones.

Many other artifacts could not be dated precisely, but probably fall into the Late Bronze Age. Perhaps the most important find from this period is a clay bullet with a Luwian hieroglyphic seal imprint dating to the thirteenth century BCE. Its signs could not be precisely determined, but Muhibbe Darga and Frank Starke assume that during the Late Bronze Age a local prince ruled over the Şarhöyük-Dorylaion kingdom.[221] In addition, a lentoid-shaped seal with hieroglyphic imprint was found.

7.31 Seyitömer Höyük

Seyitömer Höyük is a tell settlement of 150 × 140 m in size and 24 m high; it is located southwest of the district town of Seyitömer in Kütahya. Excavations began in 1989 under the auspices of the Eskişehir Museum and then continued by the Afyon Museum until 1996. From 2006 to 2014, the site was systematically excavated by Nejat Bilgen of Dumlupınar University.[222] There are more than 12 million tons of brown coal under the settlement. In order to access these resources, the archaeological site must be removed. The excavations aimed to unveil all anthropogenic deposits while documenting the context as best as possible.

Settlement layers from the Early Bronze Age to the Roman period were found. Already the Early Bronze Age buildings and workshops indicate a prosperous place. Seals from this period reflect a well-organized

221 Darga and Starke 2003.
222 Bilgen 2015; 2019.

administrative class (Figure 1). During the Middle Bronze Age (2000–1700 BCE) the site was densely populated.

Early on, a massive fortification wall protected the settlement. The fortification fell victim to a conflagration and had to be rebuilt afterwards. The settlement also extended outside the fortification wall. Among the finds made there are pots, jugs, ceramic assemblages, weights, potters' weights, a bronze axe and bronze needles. The buildings generally consist of two or three rooms and have a rectangular floor plan. A total of 179 rooms was counted from the Middle Bronze Age settlement. The walls were partly or entirely made of flat natural stones on both sides. The archaeologists found a number of stamp impressions. There is no evidence of a Late Bronze Age habitation in Seyitömer. The Bronze Age use of the site was unrelated to the coal deposits in the area – pottery production and weaving were the preferred trades at the time.[223]

7.32 Tavşan Adası

Tavşan Adası today is a small island, 180 × 90 m in size and only 200 m off the coast north of Panormos, the ancient port of Didyma, about 13 km southwest of Miletus.[224] This was once the tip of a headland and thus connected to the mainland. Systematic excavations took place between 2006 and 2012 under the direction of François Bertemes of Martin Luther University Halle-Wittenberg.[225] The settlement layers date from the Late Neolithic / Early Chalcolithic to the Ottoman period. The excavator distinguished seven strata and focused on the first half of the second millennium BCE, when the site seems to have been an important trading settlement that possessed two natural harbors.

The Middle Bronze Age pottery is similar to the western and inner Anatolian wares, for example, from Hacılar and Kuruçay in Pisidia. A wide range of ceramic types proves that the site was intensively used. During the Middle Bronze Age, workshops were arranged around a paved courtyard, forming a craftsmen's quarter. The material culture includes Kamares type sherds, cups, dishes and cooking ware, a ceramic stove of Cretan type, loom weights, spindle whorls, purple snails and a stone mold

223 Bilgen 2015, 78.
224 Bertemes 2013, 196.
225 Bertemes 2013; 2016; Bertemes and Hornung-Bertemes 2009, www.minoer.uni-halle.de/index.htm, accessed 23 July 2022.

for producing a double ax (*Labrys*). These Middle Bronze Age finds, as well as the complex architecture, show parallels with Crete and the Cyclades. A two-story building measuring 15.5 × 15 m contained Cretan material culture from the New Palace Period (MM III and LM I). Among these imports are pottery fragments with Linear A signs.[226] The excavator assumes that Tavşan Adası was an important commercial and transaction point on the Asia Minor coast in Minoan times. The settlement was destroyed and abandoned at the end of LM IA, which the excavators attribute to the aftermath of the eruption of Thera,[227] but no pumice was found.

7.33 Troy

The excavated ruins on the hill with the toponym Hisarlık at the southwestern end of the Dardanelles are commonly regarded as Bronze Age Troy. Large-scale excavations, which began in 1870 under the direction of Heinrich Schliemann, revealed layers of a Bronze Age and historic settlement. Today, there is an almost unmanageable number of scientific publications on the archaeology of this site, its surroundings, the history of research and many other aspects. One of the most comprehensive and up-to-date summaries of the archaeological excavations in Troy, including the Bronze Age settlements, comes from a Classicist: Charles Brian Rose gives in 36 pages a remarkably clear overview of what has been discovered in 150 years of research.[228] This summary largely follows his presentation.

Excavation directors were most recently Manfred Korfmann from the University of Tübingen (1988–2005) and since 2014 Rüstem Aslan from the Çanakkale Onsekiz Mart University. The nomenclature so far distinguished nine settlements (Troy I–IX), seven of which date to the Bronze Age. During fieldwork in 2019, the earliest settlement, which began around 3500 BCE, could be explored in more detail. This layer is now referred to as "Troy 0." According to Korfmann, Troy I–III reflect a "Maritime Culture" that was oriented toward the northern Aegean and mainland Greece rather than inner Anatolia.[229] Knowledge of Troy IV–V is limited,

226 Bertemes 2013, 199.
227 Bertemes 2013, 206.
228 Rose 2014, 8–43.
229 Rose 2014, 11.

in part because the relevant layers were removed during Schliemann's excavations.[230] The ceramic repertoire of Troy V is essentially northwestern Anatolian in character – no imports are known from this period. The Troad and the Kaykos basin in northwestern Anatolia appear to have been isolated during the Middle Bronze Age, while settlements further inland gradually experienced influences from central Anatolia. At this time, Troy was only locally connected and communicated primarily with its neighbors, including nearby islands.

The transition between Troy V and VI was gradual. The strongest citadels were built at the time of Troy VI (1750–1300 BCE) and Troy VII (1300–1050 BCE). At that time the citadel covered 2 ha (i.e., 20,000 m^2). It was thus about half the size of Büyükkale, the royal palace of Hattusa. The area of Hattusa that was protected by fortress walls, however, covered 180 ha, almost a hundred times the area of the largest citadel of Troy.

The monumental fortress walls of Troy VI were built in the fifteenth century BCE, with the construction program extending into the fourteenth century BCE. Closely fitting ashlar was used for the entire wall, not just its external faces.[231] Such a construction is otherwise not known from Hittite or Mycenaean architecture. What the center of Troy VI looked like can no longer be determined, since the hill was leveled in Hellenistic times (in the later third century BCE) to create a flat surface for the Sanctuary of Athena.

In terms of ceramic assemblages, Troy VIa contains Anatolian Grey Ware with Aegean forms, modelled on the Middle Helladic ware from mainland Greece, which had originated a few centuries earlier.[232] Mycenaean pottery accounts for about 1 percent of the finds from the sixteenth and fifteenth centuries BCE. This percentage increases to 3–5 percent in the second half of the fourteenth century BCE. Some members of the Troy project argue that "based on the archaeological evidence, one has to conclude that Troy may not have been an important place of intercultural encounters between Anatolia and the Balkans."[233]

Troy VI fell victim to a destruction that was initially attributed to an

230 Rose 2014, 19.
231 Rose 2014, 21.
232 Rose 2014, 25.
233 Gimatzidis, Pieniążek and Mangaloğlu-Votruba 2018, 18.

earthquake by the excavator Carl Blegen[234] and later by many others. When the city was rebuilt around 1300 BCE, this was done according to a completely different plan. Already during the construction of the buildings, precautions were taken for a siege, for example by embedding up to 2 m high pithoi into the ground. This enlarged fortification (Troy VIIa) was built about fifty years after the fortification of Hattusa and fifty years before the Cyclopean citadels in southern Greece.

The second half of the thirteenth century BCE was marked by military conflicts throughout western Anatolia.[235] Troy VIIa (Figure 24) also fell to destruction between 1190 and 1180 BCE. Brian Rose considers this to be "the same sort of destruction" as that of Ugarit attributed to the Sea Peoples, i.e., it was brought about by the conquest of marauding troops.

FIGURE 24: Bronze figurine from Troy VIIa (after Becks and Thumm 2001, 419; Luwian Studies #0305).

Little is known about the post-destruction phase (Troy VIIb1; 1180–1130 BCE), although a decline in population density is evident. During the fieldwork in 1995, Donald Easton found a biconvex bronze seal in these strata that remains the only secure pre-Classic inscription from Troy to date (Figure 25).[236] It bears the incomplete name of a scribe in Luwian hieroglyphic script on the obverse and the incomplete name of a woman, presumably his wife, on the reverse. Troy VIIb2 (c. 1130–1050 BCE) was then not followed by a 200-year interruption, as Blegen had postulated. Human activity around the citadel continued, but was predominantly cultic in character. The pot-

234 Blegen *et al.* 1958, 6.
235 Rose 2014, 33.
236 Hawkins and Easton 1996.

FIGURE 25: Bronze seal (front) from Troy VIIb, c. 3 cm in diameter (after Hawkins and Easton 1996, 112; Luwian Studies #0504).

tery collections changed drastically. Molds for tools that have parallels in southeastern Europe are just one of many signs of a demographic shift that now included inhabitants later referred to as Phrygians.[237] Brian Rose has abandoned the terminology of Blegen with Troy VIII and speaks simply of protogeometers and geometers.

It is obvious that Hisarlık was the royal residence of the kings who ruled over Troy, but not the city itself. The location of the city remains unknown. On the west side of the citadel, outside the fortified walls, some foundations of terraced houses have been uncovered.[238] Further evidence for a Bronze Age building on the hill – but outside the citadel walls – is lacking. The authors of this paper have been advancing the idea for some time that the city of Troy was essentially located in the alluvial plain west of Hisarlık – and its remains there are buried to this day under 5–7 m of alluvial clay and river gravel.[239] For over forty years, the alluvial sediments of the coastal plain have been studied by İlhan Kayan of Izmir University. In the process, over 450 boreholes have been drilled, resulting in diverse reconstructions of the Late Bronze Age coastline at c. 1200 BCE (Figure 26). İlhan Kayan soberly summarized the main results of his investigations in *Studia Troica* with a specific instruction:

> From an archaeological point of view, the [floodplain] area along the foot of the northern slope of Troia is an important one … In the light of these findings we consider that it would be very useful to make an archaeological excavation about 7 m deep.[240]

After more than 150 years of archaeological investigations and many large-scale excavation campaigns, the scientific yield of the digs on the

237 Rose 2014, 38–39.
238 Becks, Rigter and Hnila 2006.
239 Zangger and Mutlu 2015.
240 Kayan 1996, 248.

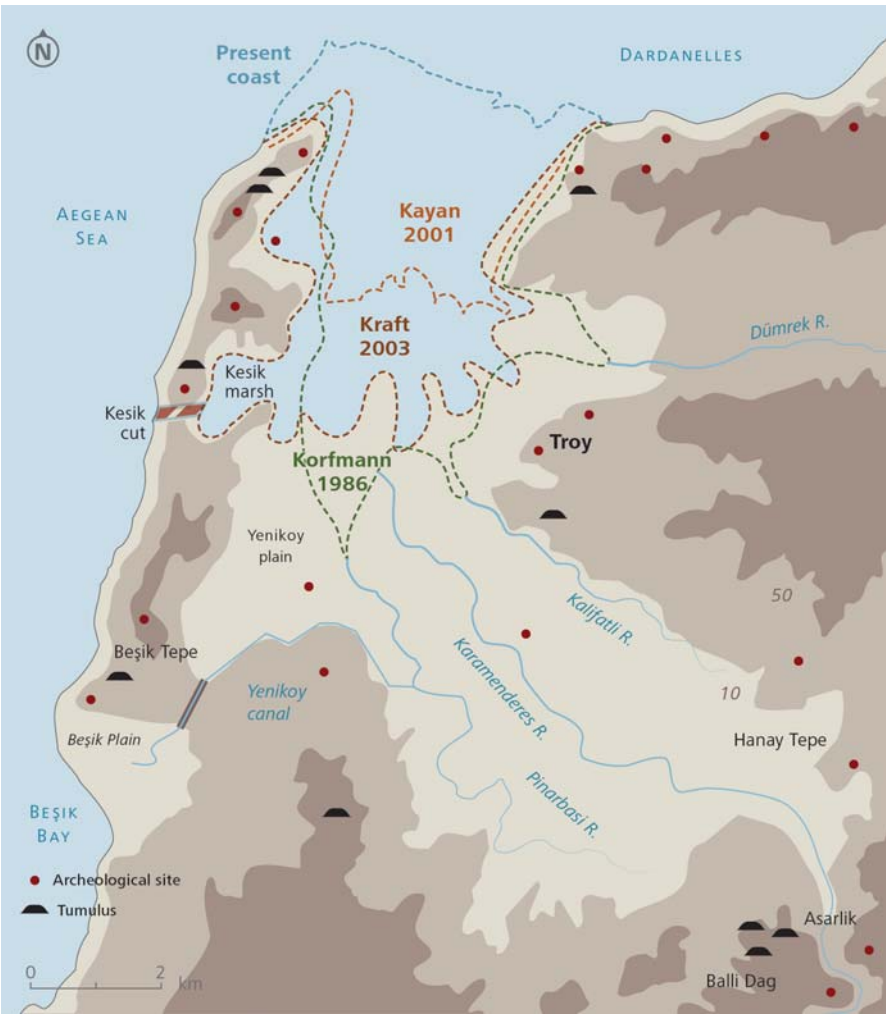


FIGURE 26: FIGURE 26: Topography at Troy today and proposed coastlines at 1200 BCE according to Korfmann 1986, Kayan 2001 and Kraft *et al.* 2003 (Luwian Studies #2203).

now much reduced hill of Hisarlık is diminishing. We venture the assertion here that archaeological research in Troy will once again become exciting and promising as soon as the settlement layers beneath the alluvial deposits are targeted.

8 Archaeological surveys

In the eighteenth and nineteenth centuries, numerous travelers crossed western Asia Minor, mostly on more or less camouflaged fact-finding missions. When architectural remains were exposed, they mentioned these archaeological sites in their published reports. Often, local farmers led these strangers – presumably for a tip – to the particularly interesting sites off the beaten path. While excavations of Classical sites began on a grand scale soon after Heinrich Schliemann's bravura feat at Troy, commencement of systematic explorations of the prehistoric settlement pattern took until 1926. At that time, first Emil Forrer roamed the country – looking for pre-Roman settlements – then, in the 1950s, James Mellaart conducted extensive surveys in southern Anatolia.[241] At a time when Neolithic settlements were thought to be absent in Anatolia, Mellaart took part in the discovery of Çatalhöyük and Hacılar. Mellaart's scrutiny of the Bronze Age material culture and settlement patterns were also milestones. David French continued this research in the 1960s.[242]

Systematic intensive surveys to locate prehistoric and early historic settlements first took place in western Turkey in the 1970s. Their number increased steadily until about 2010. Pioneering work was Mehmet Özdoğan's comprehensive survey of northwestern Anatolia, the Marmara region and Thrace in the 1980s, as it helped to understand the complex Balkan-Anatolian relations of the Bronze Age.[243] By 2020, about 60 percent of the area of western Turkey (west of an imaginary line from Eskişehir to Antalya) had been systematically investigated by archaeologists.

Some regions have been the target of multiple surveys since the late 1980s, most notably the provinces of Bilecik, Eskişehir and Kütahya and the Çivril plain around Beycesultan. It seems that these regions were densely populated, while other areas were perhaps still covered by forests in the second millennium BCE and therefore not or hardly populated. These include the Datça peninsula on the Aegean coast. Somewhat puzzling are the settlement patterns in the Maeander valley and in the provinces of Çanakkale and Balıkesir. Today, it would be desirable if the previously unstudied areas were also surveyed. Even in regions that were surveyed in the 1980s and 1990s, it might be worthwhile to re-examine

241 Mellaart 1954.
242 French 1965.
243 Özdoğan 1981.

them using today's methods. Below we provide brief descriptions of the published archaeological surveys to give an overview of the results and an introduction to the literature.

8.1 Afyonkarahisar and Uşak surveys

Özdemir Koçak has been carrying out a survey in the Afyon and Uşak provinces since 2002, covering the districts of Bolvadin, Şuhut, Sandıklı, Başmakçı, Dazkırı and Dinar of Afyonkarahisar and the district Sivaslı of Uşak. While surface finds on the settlements predominantly date to the EBA,[244] recently some second-millennium BCE sites were found.[245] Most MBA and LBA settlements are located in the districts of Dinar, Şuhut, Sandıklı and Sivaslı.

8.2 Akhisar Kulaksızlar survey

The survey was conducted by Rafet Dinç in the Akhisar district of Manisa in 1994 and 1997. The first survey season focused on the site known to have been a marble idol workshop in Kulaksızlar and its environment including Harmandalı.[246] The second season was carried out in the Akhisar plain.[247] David French had surveyed this area in 1959–1960.[248] Dinç's research is thus complementary to that of French. Despite the short duration and the small size of the area covered, a relatively high number of dispersed second-millennium BCE sites were found.

8.3 Aydın and Muğla surveys

Sevinç Günel carried out a surface survey at Aydın between 2001 and 2003 which generated valuable information about the Bronze Age settlement history in the region. The survey area encompassed the Büyük Menderes (Maeander) plain and its surroundings. Before that, little was known about the protohistory of the domestic interior and its function as a tran-

244 Koçak 2004; 2005; 2006; Koçak and Işık 2007.
245 Koçak 2011; 2012; 2013; 2014; 2015; Koçak, Küçükbezci and Kızgut 2016; 2017; 2018; 2019.
246 Dinç 1996.
247 Dinç 1997.
248 French 1969.

sitional zone between the prominent sites of Miletus and Ephesus on the Aegean coast and central Anatolia.

The earliest sites investigated during the survey date back to the Neolithic. Küçüktepe and Tepecik near Çine are important places for the Neolithic.[249] The majority of sites dates to the EBA. Surface finds also indicate occupation during the second millennium BCE, especially during the MBA, e.g., at Tepecik Höyük, Deştepe (Dedekuyusu) Höyük, Bahçetepe and Çatalkaya.[250] Günel attributes a privileged position to Deştepe and Bahçetepe as both are located on the route connecting the coast with central Anatolia.[251] Çatalkaya stands out since it is located on a natural hill and still contains remains of a wall.[252] MBA pottery assemblages found at the sites reveal similarities with Beycesultan VI–V, Limantepe IV and the MBA of Panaztepe.[253] LBA occupation in the survey area seems weak compared to the amount of MBA. The LBA record may have been distorted by modern agricultural practices and constructions.

8.4 Bakırçay/Kaykos valley survey

The extensive survey in the floodplain valley south of Pergamon was initiated in 2007 by Felix Pirson and Barbara Horejs, following in the footsteps of Kurt Bittel and Jürgen Driehaus who had screened the region already during the 1940s and 1950s. The new investigation involved natural scientific methods including drill holes to determine the horizontal and vertical extent of the floodplain deposits. Only limited surfaces from prehistoric times are still exposed. Sixteen sites dating to the second millennium BCE were identified in the vicinity of Pergamon.[254] During the Middle Bronze Age, population density appears to have been low. Subsequently, from 1700 to 1400 BCE, almost all of the sites identified within the survey area show signs of occupation.[255] Such a rise in settlement density after 1700 BCE is known from many places across western Asia Minor. Almost all imports and unusual finds were made in the lower valley and in the

249 Günel 2006, 154.
250 Günel 2003b, 114–18.
251 Günel 2006, 166.
252 Günel 2003b, 117; 2003a, 55–57.
253 Günel 2003c.
254 Pavúk and Horejs 2018, 462.
255 Pavúk and Horejs 2018, 471.

vicinity of the coast. Pavúk and Horejs now provisionally distinguish nine different Late Bronze Age ceramic groups in western Anatolia.[256]

8.5 Balıkesir and its districts

The province of Balıkesir benefits from its proximity to the Aegean Sea, to Troy and the Dardanelles. Between 1997 and 2000, Engin Beksaç carried out surveys in the districts of Ayvalık, Gömeç, Burhaniye, Edremit and Havran. Bronze Age settlements, including second-millennium BCE sites, are located along the coast, whereas Iron Age settlements were preferentially located inland. This pattern is reminiscent with the site distribution on Crete at that time and Beksaç explains it with the tension after 1200 BCE.[257] Kızçitfliği Höyük (Trikopi) is located on the Agean coast 3 km west of Gömeç and contains Troy VI ceramics as well as Mycenaean (or Mycenaean-style) pottery.[258] According to Beksaç, the Mycenaean influence on this area was minor.[259] Another prominent tell is Mandıratepe (Araplar/Üyücek), 3 km west of Edremit. EBA, MBA and LBA ceramic assemblages are ubiquitously present at this place.

8.6 Bilecik surveys

Turan Efe conducted first surveys in the Bilecik region in 1988–1995. A second generation of surveys was directed in 2013–2014 by Turan Efe and others and after 2013 by Deniz Sarı. Thanks to this fieldwork, the Bilecik province is now well investigated. The earliest sites date back to the Neolithic and are mostly located in the western part of the province, around the Bilecik city center.[260] Chalcolithic is also present at many places, yet the EBA II–III occupation was clearly dominant. Many settlements show a continuity from the Early Bronze Age until the end of the second millennium BCE. Yeniköy Höyük, 6 km east of the Bilecik city center,[261] and Kaletepe, just west of Kandilli village,[262] have yielded second-millennium BCE finds.

256 Pavúk and Horejs 2018, 475.
257 Beksaç 2001, 118–119; 2002, 287.
258 Beksaç 1999, 111.
259 Beksaç 2001, 118.
260 Efe *et al.* 2015, 495–501.
261 Efe *et al.* 2015, 498–499.
262 Sarı 2018, 336.

Kaletepe, located on a natural knoll, forms a citadel that was probably in use from the Iron Age until the late Roman period. Along its northern foot, a large number of second-millennium BCE ceramics and some slags were found. The assemblages include bead-rim bowl sherds dating to the MBA and flattened bead-rim bowl sherds dating to the LBA.[263]

Among the previously known second-millennium BCE sites, Demircihöyük in the Söğüt district and Yassıhöyük in Gölpazarı district were reinvestigated during fieldwork in 2017. Both of these sites have yielded EBA I, EBA II and second-millennium BCE finds.

8.7 Bodrum peninsula

In the early 1990s, Adnan Diler began surveying Bodrum and the Datça peninsulas; this fieldwork lasted until recently. Initially, the survey aimed to explore the Classical olive oil and wine production. Later it focussed on investigating the Lelegian settlements of Caria.

Many sites on the peninsula, especially in the western part, indicate Early Iron Age habitation.[264] The second-millennium BCE occupation near Bodrum and on the Datça peninsulas appears thinner than in adjacent coastal regions of western Anatolia. A few sites yielded Mycenaean assemblages, mostly in cemeteries. The survey at Damlıboğaz/Hydai, located approximately 5 km west of the Milas district in the Muğla province, revealed EBA occupation through ceramic assemblages and architectural remains.[265] EBA was also found at Pilavtepe.[266] Diler argues that some handmade beaked vessels in the Milas museum are from near the Sarıçay river next to Damlıboğaz.[267] Pilavtepe, approximately 6 km southwest of Milas, has produced a Mycenaean chamber tomb and Mycenaean ceramics.[268] On Çavuş Adası, a small island located 3 km west of the Bodrum peninsula across the Gümüşlük bay, imported and local Mycenaean and Early Iron Age ceramic finds were detected.[269]

263 Sarı 2019, 441.
264 Diler, Gümüş and Eryılmaz 2013, 255–270.
265 Diler 2004, 146–47; Diler *et al.* 2009, 134.
266 Diler 2007, 484.
267 Diler 2002, 225.
268 Benter 2009; Diler 2009, 135.
269 Diler 2007, 484.

8.8 Bozcaada/Tenedos survey

The island of Bozcaada, ancient Tenedos, is located on the Aegean Sea, southwest of the Dardanelles, some 6 km off the coast. The visible remains of the town on the southern shore of the island date mainly to the Medieval. An island-wide survey was conducted by Ali Yalçın Tavukçu and others in 2008–2009. Most of the finds date to the Classical and later periods. The necropolis yielded assemblages dating from the Early Bronze Age until the Iron Age.[270] Some prehistoric remains, including ceramic assemblages and a rectangular mud-brick building, are dated to the EBA II / Troy I (c. 2920–2350 BCE). The archaeologists found traces of an ancient harbor between the the district center and the Çayır Yolu in the northwest but were unable to make finds there. By interviewing locals, the field researchers learned that 15 shipwrecks have been found in the area off the coasts of the island.[271]

8.9 Central Lydia Archaeological Survey

The Central Lydia Archaeological Survey (CLAS) was carried out by Christopher Roosevelt and Christina Luke in 2005–2014 and covered the districts of Ahmetli, Saruhanlı, Gölmarmara and Salihli in the province of Manisa.[272] Its chief objectives were to record the archaeological remains surrounding Marmara Gölü (the Gygaean Lake in Classical times) and to gain insights into the settlement history of the area. The whole study area turned out to have been densely populated during the second millennium BCE. Kaymakçı, just west of Göl Marmara, ranks as the largest second-millennium BCE site in the region (see 7.19).[273]

8.10 Çaltılar Höyük survey

Çaltılar Höyük is located in the upper reaches of the Xanthus river system (modern Eşen Çay) in northern Lycia (Figure 27). It is a sizable settlement mound with main phases of occupation dating from the late fourth millennium BCE to the sixth century BCE Archaic period. The survey focused on the site and thus did not cover a large region. It is included

270 Arslan and Sevinç 2003, 226.
271 Tavukçu, Tavukçu and Ağaoğlu 2010, 60.
272 Roosevelt 2007, 135.
273 Ünlüsoy, Roosevelt and Luke 2018.

FIGURE 27: Aerial photo of Çaltılar Höyük (Google, Digital Globe and Google, CNES/Astrium).

here because the project contributed to the recently increased archaeological interest in western Anatolian tell sites. Çaltılar Höyük lies in the region referred to as the lands of the Lukka in Hittite, Ugaritic and Egyptian texts – a strategic intersection of the crossroads between the Aegean, Anatolia and the eastern Mediterranean. The overall goals of this project, led by Nicoletta Momigliano and conducted 2008–2010, was to illuminate the settlement history, material culture and environment of Chalcolithic to Early Iron Age Çaltılar Höyük and to explore the role of this region within the context of broader interactions between the eastern Mediterranean, Anatolia and the Aegean in these early periods.[274] Most of the material found dates to the Late Chalcolithic (late fourth millennium BCE), the Early Bronze Age and the Middle Iron Age / Archaic period (ninth to sixth century BCE). There is a paucity of second-millennium BCE ceramic assemblages.[275]

8.11 Çanakkale and Balıkesir surveys

Surveys at Çanakkale and Balıkesir were carried out 2009–2018 by Derya Yalçıklı. The fieldwork covered the district of Yenice in the province of

274 Momigliano 2013, 178.
275 Momigliano 2011, 160.

Çanakkale and the districts of Gönen, Savaştepe, Balya, Altıeylül, Karesi and Dursunbey in the province of Balıkesir. An extensive surface survey had been conducted there in the 1980s by Mehmet Özdoğan. The survey by Yalçıklı supplemented this research.

The earliest finds date to the Paleolithic.[276] Neolithic is present in a number of places. Many of sites in the region show continuity from the Chalcolithic until a peak was reached in the Early Bronze Age. Habitation then continuous on a reduced level till the Classical period. The second-millennium BCE sites in the inner part of the Balıkesir province are dispersed. Near the coast, however, prominent and long-lasting settlements occur, including Kızçiftliği/Trikopi, Adramytteion and Mandıra Tepe. Some caves have yielded EBA and second-millennium BCE ceramics, these include Hasancık İni in the Yörükkeçidere village in the district of Gönen[277] and Alkaya Mağarası in the district of Dursunbey.[278] Paşaköy Höyük, about 10 km southeast of the city center of Balıkesir and Üçpınar (Dibekli) in the district of Karesi, yielded diagnostic second-millennium BCE pottery, previously classified by David French as Grey Ware and Buff Ware.[279] Mandıra Tepe, 4.5 km east of the Aegean coast in the district of Edremit, had been previously reported by Engin Beksaç and Mehmet Özdoğan and yielded a large number of second-millennium BCE finds.[280]

Another survey in this area was conducted 2016–2018 by Derya Yılmaz. Even though the area covered by this fieldwork was not as large as those examined by Yalçıklı and Özdoğan, Bronze Age sites were found. LBA occurs along the coastline of the Hellespont.[281]

8.12 Datça peninsula and Ionia peninsula surveys

This survey on the Ionian peninsula roughly comprises the lowlands of the districts of Torbalı, Menderes, Seferihisar and Urla in the province of Izmir and was conducted by Numan Tuna in 1980–1988. The only Bronze Age sites detected during this fieldwork were Arapkahve, 4 km west of Torbalı, and a site 3 km southwest of Torbalı.[282]

276 Yalçıklı 2013, 19–23.
277 Yalçıklı 2019, 21.
278 Yalçıklı 2019, 550.
279 French 1969, 45–46.
280 Yalçıklı 2019, 548–549.
281 Arslan and Bakan 2012, 455; Yılmaz 2019, 458.
282 Tuna 1987.

8.13 Denizli/Çivril and Baklan plains and Çal basin

Eşraf Abay and Fulya Dedeoğlu carried out fieldwork in the Çal and Baklan districts of Denizli in 2003–2009. The survey area encompasses the lowland in the southwest, west and south of Beycesultan. The importance of Beycesultan for much of western Anatolia is undisputed; hence investigating the surroundings of this key Bronze Age site was essential to determine the settlement pattern in the region.

James Mellaart had already explored some prehistoric sites in this area during the early 1950s.[283] Abay and Dedeoğlu identified a total of 107 sites.[284] Unfortunately, the coordinates for these sites were not published and many could not be established in retrospect, so the map furnished here does not include them all. In the Çivril plain, 24 sites dating to the Middle Bronze Age and Late Bronze Age were found.[285] Compared to the neighbouring regions, this number is unusually high; the area around Beycesultan was evidently densely populated during the second millennium BCE. As one would expect, the ceramic assemblages found during the survey resemble those known from Beycesultan.[286] According to the survey results, the region's MBA and LBA settlement organization must have been more dynamic than previously thought. In particular Yassı Höyük, 8 km southwest of Beycesultan, apparently competes with Beycesultan as a major settlement in the Çivril plain during the Bronze Age.

8.14 Edirne survey

Burçin Erdoğu carried out an archaeological survey in 1995–1997 in an area roughly comprising the districts of Süleoğlu, Havsa, Lapaşa, Meriç, İpsala and the central district of Edirne in the province of Edirne. The fieldwork revealed a productive second-millennium BCE occupation, including a dense LBA settlement pattern. Numerous sites were found along the Tunca river north of central Edirne and along the Süloğlu stream passing through the villages of Küküler and Arpaç. Sixteen settlements contained LBA finds and many of them continue after the transition to the Early Iron Age.[287]

283 Mellaart 1954.
284 Dedeoğlu 2013, 215.
285 Dedeoğlu 2008, 592.
286 Lloyd and Mellaart 1965.
287 Erdoğu 1997; 1999.

8.15 Eskişehir, Kütahya and Afyonkarahisar surveys

This survey aimed at investigating Phrygian settlements and the Phrygian expansion in the Eskişehir, Kütahya and Afyonkarahisar provinces. It was carried out 2001–2004 by Taciser Tüfekçi Sivas and Hakan Sivas. The survey area encompasses most of Eskişehir, the eastern part of Kütahya and the northern part of Afyonkarahisar. Although the survey aimed at Phrygian remains, it also produced second-millennium BCE sites; all of which are located within the Eskişehir province.[288]

8.16 Gelibolu peninsula survey

The survey on the Gelibolu peninsula in northwestern Anatolia, directed by Mehmet Özdoğan and Reyhan Körpe, began in 2012 and is still ongoing. It focused on documenting Classical sites, but also reported Bronze Age remains, for instance at Akbaş Kalesi, 500 m inland from the Dardanelles and just southwest of the ancient city of Sestos. This location appears to have been continuously occupied from the Early Bronze Age to the early Ottoman period.[289] Early Bronze Age and Late Bronze Age ceramic assemblages occur northeast of the knoll. Among the stray finds is Late Bronze Age Grey Ware. It is likely that future fieldwalking in the area will further increase the number of second-millennium BCE sites.

8.17 Granicus river valley survey

The Granicus river (modern Biga Çayı) runs through the lowlands on the northeastern side of the Troad and exits in the Sea of Marmara 3 km south of Karabiga. This fertile region was investatigated during an intensive survey conducted 2004–2007 under the direction of Brian Rose and Reyhan Körpe. It complemented the extensive survey Mehmet Özdoğan had carried out in this region during the 1980s. Virtually all the sites recorded belong to the historic periods: roughly 40 percent of the sites in the survey area date to the Archaic and Classical periods, only one percent was occupied during the second millennium BCE, hence the researchers conclude that there were virtually no Bronze Age ceramics.[290]

288 Tüfekçi Sivas and Sivas 2004; 2005; 2006.
289 Körpe 2016, 326; Körpe and Yavuz 2014, 359–360.
290 Rose and Körpe 2008, 345.

8.18 Hanaytepe (Bozköy) prehistoric survey

The survey around Hanaytepe was conducted by Rüstem Aslan, Stephan Blum, Tobias Kienlin, Faika Evrim Uysal and Sebastian Kirschener in 2009.[291] The site is located 7.5 km southeast of Hisarlık, just west of the village Taştepe in the district of Ezine. It was excavated to some extent by Frank Calvert before and during Heinrich Schliemann's work at Troy (Figure 13).[292] In addition to Hanaytepe, the survey area roughly encompassed İn Limanı on the Agean coast and the villages of Çamoba, Pınarbaşı and Mecidiye. The researchers' main objectives were to conduct a systematic survey of Hanaytepe itself and also to gain insights into the protohistory of its surroundings. Hanaytepe was inhabited from the Early to the Late Bronze Age. It was a major place during the LBA and its ceramic assemblages resemble those of Troy VI. The large number of characteristic pottery permitted establishing a chronological sequence. Since many of the Troy VI layers at Hisarlık were destroyed during levelling in Hellenistic time, Hanaytepe may help illuminating this period.

8.19 Isparta, Burdur and Antalya surveys / lake district

The prehistoric sites of the lake district and its vicinity had been studied already in the early 1900s.[293] Later, during the 1940s and early 1950s, a second phase of investigations took place.[294] In 1974, Mehmet Özsait embarked on an extensive exploration of prehistorical sites of the lake district, a project that lasted for over thirty years covering major parts of the Isparta and Burdur provinces as well as the northwest part of Antalya. The most noticable second-millennium BCE sites are Çavdır Höyük,[295] Gelendost Höyük, Ağıl Höyük,[296] Findos Höyük[297] and Şeref Höyük.[298] Gelendost Höyük is located 6.3 km northeast of Lake Eğirdir and was first mentioned by James Mellaart.[299] According to Özsait, the site was a seat of central control over the region from the Chalcolithic to the Late

291 Aslan *et al.* 2011, 294; Aslan and Polat 2012, 157.
292 Calvert 1859.
293 Ormerod 1911.
294 Kansu 1945; Mellaart 1954.
295 Özsait 1991, 36–37.
296 Özsait 1999, 81.
297 Özsait 1999, 79–80.
298 Özsait 2004, 288.
299 Mellaart 1954, 192.

Bronze Age.[300] Ağıl Höyük lies some 3 km northeast of Lake Eğirdir and has yielded second-millennium BCE bead-rim type ceramics. Middle and Late Bronze Age pottery is also well attested from Findos Höyük, Akmescit Höyük and Şeref Höyük.[301]

8.20 Izmir, Manisa, Aydın surveys

Recep Meriç launched systematic surveys in the region of Izmir, Manisa and Aydın in 1982 and continued with fieldwork for about six years.[302] The survey area roughly encompassed the basins of the Küçük Menderes (Kaystros) and Gediz (Hermos) rivers and thus a large portion of the Izmir and Manisa provinces. The famous ancient city of Ephesus lies in this area – and its predecessor, Apasa, the capital of the Arzawa kingdom, is assumed to be hidden somewhere close. The historical geography of the region was part of this investigation.[303]

Second-millennium BCE sites are sparsely dispersed across the survey area. A clustering occurs in the lowlands around the well-known archaeological sites of Ayasuluk hill in modern Selçuk (see 7.15) and Bademgediği Tepe, west of Torbali (see 7.4). Nemrut Höyük[304] and Kumtepe Höyük (Sakaltepe) also yielded second-millennium BCE finds on the surfaces, including some Mycenaean sherds.[305] Küçük Yamanlar is located on a natural hill in Karşıyaka Izmir and associated with Classical Kordoleon. The site produced second-millennium BCE ceramic assemblages including carinated bowl sherds,[306] providing evidence that Bayraklı (see 7.7) was not the only important prehistoric site in the vicinity.

8.21 Karaburun peninsula survey

The Karaburun peninsula between Izmir and the island of Chios has been surveyed by Çiler Çilingiroğlu and others since 2015.[307] Most archaeological sites are located in flat areas and near the shoreline. Late Chalcolithic

300 Özsait 1994, 304; 2004, 287–288.
301 Özsait and Özsait 1996.
302 Meriç 1983, 51–52.
303 Büyükkolancı 2008; Garstang and Gurney 1959, 88.
304 Meriç 1989, 387.
305 Meriç 1985, 199.
306 Meriç 1986, 301.
307 Cilingiroglu *et al.* 2017, 151–152.

and Early Bronze Age is abundant, whereas evidence for second-millennium BCE occupation is scarce. Kömürburnu in the northernmost point of the peninsula has yielded significant findings from the Late Neolithic throughout the whole Bronze Age until the Classical period. During a previous survey in 2008 a tholos tomb was found at Kömürburnu.

8.22 Kütahya, Bilecik and Eskişehir surveys

The initial part of this survey was conducted by Turan Efe between 1988 and 1995 and it encompasses the Kütahya, Bilecik and Eskişehir provinces in the inner part of western Anatolia. The area had been investigated by Charles Burney and David French before.[308] During Efe's fieldwork, numerous Bronze Age sites were discovered.

The oldest artefacts found were Paleolithic stonetools at Karaköy, Göynük mevkii,[309] Kocahüyük and Beyköy.[310] The earliest human occupation in the region dates to the Neolithic and the transition to the Chalcolithic and is recorded in many sites. As observed elsewhere in western Anatolia, the number of EBA sites exceeds those of all other periods. Many sites dating to the second millennium BCE were also found in particular in the Eskişehir province. The settlements grew in size during the second millennium BCE.

A new survey of the Eskişehir and Kütahya region was conducted 2017–2020 under the direction of Erkan Fidan from Bilecik University, adding some more Bronze Age sites to the map. Towards the end of the second millennium BCE, the number of sites decreased. One of the most extensive tells in the region, Tavşanlı Höyük, was abandoned.[311] This site may help illuminating the transition between Early and Middle Bronze Age.[312] Having intensively surveyed the site in previous years, first excavations at Tavşanlı Höyük began in 2021.

308 Burney 1956; French 1967.
309 Efe 1990, 406–407.
310 Efe 1991, 164.
311 Efe 1994, 579.
312 Efe 1991, 169.

8.23 Lesbos

Nigel Spencer conducted a survey on the island of Lesbos during the early 1990s.[313] He reported altogether 22 Middle and/or Late Bronze Age sites which are spread quite evenly along the coast of the whole island (Figure 28). In over a century of archaeological research there have been only

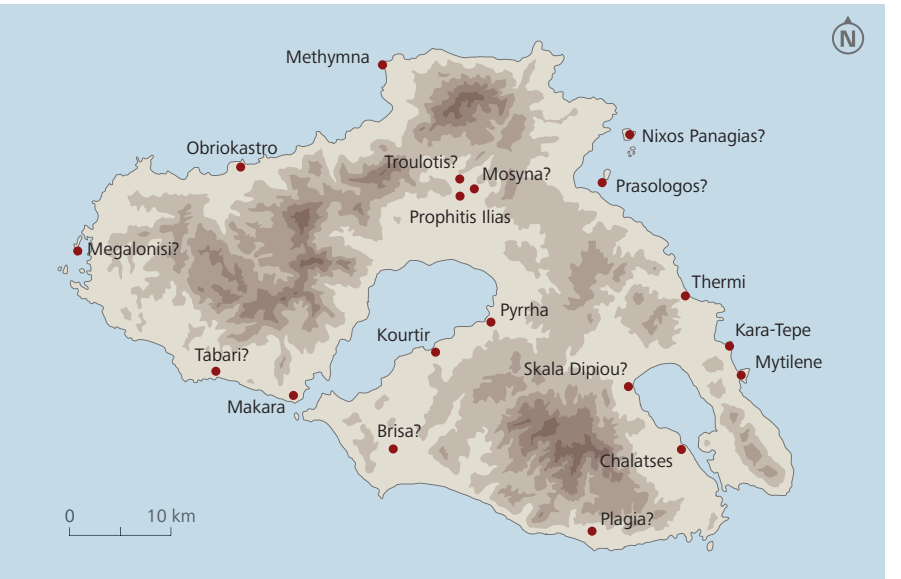


FIGURE 28: Middle and Late Bronze Age settlements on Lesbos (Spencer 1995a; Luwian Studies, #3033).

four excavations whose results were published: Thermi, Antissa, Messa and Mytilene. The best-known site is that of Thermi on the eastern side of the island which was excavated by Winifred Lamb in 1929–1933. The Middle and Late Bronze Age material culture shows basically the same ceramic repertoire across the entire island, one that is dominated by Anatolian cultural tradition. Nigel Spencer wrote that "through the archaeological record one sees an island which in some respects is noticeably un-Greek in the Bronze Age and the early historical periods."[314]

Earlier investigators have concluded that the lack of obviously Greek material during the early periods makes the task of interpreting the data

313 Spencer 1995a; 1995b.
314 Spencer 1995b, 271.

more difficult.[315] Truly spectacular appears to be the site of Kourtir on the south bank of the central Gulf of Kalloni. Despina Chatzi conducted a survey there in 1970 and dug trial trenches in 1972. She came to the conclusion that Kourtir would be five times as extensive as Thermi, making it potentially one of the most significant sites in the northeast Aegean.[316]

8.24 Maeander plain/valley and its surroundings

This survey was conducted by Engin Akdeniz in 1995 in the province of Aydın and its districts including the modern towns Yenihisar, Germencik, Koçarlı, Çine, Bozdoğan, Sultanhisar, Nazilli, Kuyucak and Didim. During the survey, 40 archaeological sites were found. These were clustered around Aydın and more dispersed elsewhere in the survey area. While the earliest finds date to the Late Neolithic, most date to the Early Bronze Age, the Roman, late Roman and Byzantine periods. Three sites are Middle Bronze Age and only Küçüktepe (Halilbeyli) falls into the Late Bronze Age.[317]

8.25 Manisa and its districts

David French had carried out an initial survey in the Manisa region[318] and Engin Akdeniz followed suit in 2007, 2008 and 2010, with the aim to illuminate the prehistory and protohistory of this area.[319] While the surveys in 2007–2008 were mainly carried out in the lowland areas of Manisa, the 2010 survey paid attention to rough terrain higher up.

The fieldwork in 2007 focussed on the Sarıgöl, Kırkağaç, Soma, Demirci and Gördes districts of the Manisa province. Altogether 59 archaeological sites were investigated, 41 of these were prehistoric or protohistoric, dating to the Neolithic to LBA. Ceramic assemblages reveal a dense Early Bronze Age habitation. Three MBA and 16 LBA sites were identified. Most of the tells have been continuously inhabited from EBA to LBA. Among the sites, Avlutepe Höyük in the Eğriköy plain 1 km southwest of

315 Spencer 1995b, 270.
316 Spencer 1995b, 273.
317 Akdeniz 1997.
318 French 1969.
319 Akdeniz 2011.

Gülbahçe yielded large quantities of potsherds from the second millennium BCE.[320]

The 2008 and 2010 surveys concentrated on the Akhisar, Kırkağaç, Soma, Salihli, Gördes, Kula and Selendi districts of Manisa, where altogether 122 sites were investigated. Habitation began in the Late Neolithic; 10 sites were found dating to the MBA and 6 sites to the LBA. The MBA and LBA sites are concentrated in the districts of Kırkağaç, Akhisar, Saruhanlı and Kula. MBA and LBA sites, on the other hand, are mostly clustered in the western part of Manisa around Saruhanlı, Akhisar and Kırkağaç. The density of ceramics found at the surface gradually decreases from the EBA to LBA.

The researcher distinguished between tells, hillside and hill settlements. While MBA and LBA sites mostly occur in the form of mound settlements (*höyük*), two sites are important exceptions to this rule. Koldere in the southeast of Koldere village in the Saruhanlı district of Manisa is located on a hill which slightly protrudes above the plain.[321] Su Deliği Tepe, 1.5 km southeast of Gökçeahmet in the district of Akhisar, is also situated on a natural knoll.

8.26 Şeref Höyük / Komama and its environs

The regional survey at Şeref Höyük near the village of Ürkütlü in the district of Bucak and its surrounding region in the province of Burdur has been carried out by Ralf Becks and others since 2014.[322] The survey area in the southwest of Turkey roughly encompasses the flat area between the district of Korkuteli in the province of Antalya and the district of Bucak in the province of Burdur. The chronological spectrum ranges from the Early Chalcolithic to Late Antiquity, with EBA II–III being abundantly present. The only second-millennium BCE site, however, is Şeref Höyük itself, with 320 × 460 m extent the largest tell site in the lake district. It ranks as the key site for the understanding of MBA and LBA in southwestern Anatolia. Surface finds made on the tell date from the Late Chalcolithic to the Roman period.

320 French 1969, 52.
321 Akdeniz 2011, 85.
322 Becks 2016.

8.27 Thrace, Marmara and northwest Anatolia surveys

The survey project in Thrace, the Marmara region and northwest Anatolia was initiated by Mehmet Özdoğan in 1979 and carried out until 1990. The research aimed at exploring the prehistoric and protohistoric sites in the region to understand the interrelations between Anatolia, the Aegean and the Balkan. The fieldwork was carried out in a number of places in the Turkish part of Thrace, the Marmara region and in the Balıkesir and Çanakkale provinces. Thrace had never been investigated in detail before; so this fieldwork led to the discovery of numerous archaeological sites and it yielded important insights into the prehistoric and protohistoric periods in particular.

Mehmet Özdoğan concludes that East Thrace and western Anatolia had always been separate cultural regions in prehistoric times. Archaeological assemblages from Thrace have similarities with those from the Balkan. Only the survey on the Gelibolu peninsula revealed third and second-millennium BCE sites with Anatolian characteristics.[323] The distribution of the sites shows no significant anomalies. Epipalaeolithic and Palaeolithic sites are concentrated in the province of Istanbul, on the Black Sea and Marmara coasts.[324] In Thrace, many sites yielding Early Bronze Age material cultures occur. Second-millennium BCE sites are scarce in northwest Anatolia, even more so in the Balıkesir province.[325] Eastern Thrace, in particular the region around Edirne, is rich in sites yielding Late Bronze Age and Early Iron Age material – and the transition horizon often reflects an influence from the northern Balkan. Özdoğan associates these sites with the Sea Peoples' movements and suggests that they settled in this region.[326]

Characteristic for eastern Thrace, especially the Edirne and Kırklareli provinces, are megaliths, or dolmens, dating to the Late Bronze Age and Early Iron Age (1400–900 BCE). The tumulus of Taşlıcabayır lies just south of Kırklareli, near the village of Asilbeyli. It was discovered in 1980 and destroyed in 1982.[327] A subsequent rescue excavation produced 52 vessels dating to the Early Iron Age and resembling Troy VIIb2 mate-

323 Özdoğan 1983, 64.
324 Özdoğan 1984, 221–224; 1985, 411.
325 Özdoğan 1988, 166–167.
326 Özdoğan 1983, 64–68; 1984, 225–226.
327 Özdoğan 1984, 225–226.

rial culture.[328] The site reflects the nomadic communities who descended from the north steppes around 1100 BCE.

8.28 Upper Maeander basin (mountainous part) survey

Fulya Dedeoğlu conducted the survey in the upper Maeander valley in 2011–2014. Its area covers the mountainous part around the Çivril plain in the Denizli province.[329] This survey complements the project carried out by Abay and Dedeoğlu around Beycesultan.[330] Here too, a region densely populated during MBA and LBA was found producing more sites than comparable surveys in adjacent areas. Most sites are 1–1.5 ha in size and Aşağı Asartepe, located about 23 km northeast from Beycesultan, extends even over 5.5 ha.[331] The Middle Bronze Age ceramics consist predominantly of Red Light-Brown Wares. The most common forms include bowls with a hemispherical body and thickened or rounded rims. MBA ceramic assemblages are similar to those of Beycesultan V–IV, Kusura C and Aphrodisias' MBA horizons. LBA ceramics are mostly buff or brown coloured with thick rims. The LBA ceramic assemblages resemble those of Beycesultan.[332]

The upper Maeander valley was predominantly occupied during the Middle Bronze Age. The number of sites in the mountainous areas decreases in the Late Bronze Age.[333] Well-stratified sites of the upper Maeander valley, such as Kusura and Beycesultan, show a hiatus after the Middle Bronze Age, corresponding to the destruction of Beycesultan Vb.[334] This hiatus also occurs at Pekmeztepe Höyük in Aphrodisias. There, the MBA ends around 1600 BCE, whereas LBA does not begin until 1300 BCE.[335] The survey results indicate that the destruction initially found at level V in Beycesultan reflects an event which brought the Middle Bronze Age to a sudden end in the entire region. Dedeoğlu recognizes a hierarchical organization among the MBA sites in the region

328 Özdoğan and Akman 1992, 411–412..
329 Dedeoğlu 2013, 215–216.
330 Abay and Dedeoğlu 2005; 2007.
331 Dedeoğlu 2013, 217.
332 Dedeoğlu, Konakçı and Çarkı 2014, 155–156.
333 Dedeoğlu 2015, 196; Dedeoğlu, Konakçı and Çarkı 2016, 557.
334 Abay 2012, 58; Dedeoğlu 2015, 196–197.
335 Joukowsky 1986, 176, table 6; 1987, 32.

and a dynamically organized socio-political structure among them.[336] Mac Sweeney, on the other hand, sees Beycesultan as being independent with its own sociopolitical dynamics.[337]

8.29 Urla and Seferihisar (Izmir) surveys

The survey at Urla and Seferihisar has been carried out after 2006 under the direction of Yasar Ersoy and Elif Koparal. The research aimed to shed more light on the surroundings of Classical Klazomenai and Teos but dealt with the entire Urla peninsula. By 2015, over 360 sites had been investigated, with occupation remains ranging from the Neolithic to the Ottoman period. Chalcolithic and Bronze Age finds occur frequently, MBA and LBA are found in statigraphic context at Liman Tepe / Klazomenai,[338] and the Classical, Roman and later periods are dominant throughout the survey area.[339] Previously unknown sites dating to the second millennium BCE have been found on natural hills sparsely distributed across the Urla peninsula.[340] At Yarentepe, approximately 11 km south of Liman Tepe, surface finds from the MBA, LBA, Geometric, Archaic and Classical periods reveal an uninterrupted occupation.[341] Özbek Ilısu, a coastal site, 8 km northwest of Liman Tepe, yields ceramic finds from Late Chalcholitic, EBA, MBA and LBA.[342]

8.30 Uşak Province and its districts

Harun Oy launched an extensive survey in 2013 to explore the EBA sites in the Uşak province and its districts. Subsequently, in 2017, Mehmet Ali Yılmaz initiated a survey project to investigate the protohistoric sites in these provinces. The fieldwork revealed that the Uşak province and its districts were densely occupied during the Early Bronze Age. Settlement density decreased during the Middle Bronze Age and Late Bronze Age material is scarce throughout the survey area. In the eastern part of the survey region, the MBA and LBA settlement pattern is somewhat denser.

336 Dedeoğlu 2015, 195.
337 Mac Sweeney 2010, 7–24.
338 Erkanal and Günel 1995.
339 Koparal, Emirciler and Massa 2017, 484.
340 Ersoy and Koparal 2008, 58–59; 2009, 77; 2014, 408.
341 Ersoy and Koparal 2008, 52.
342 Ersoy and Koparal 2016, 86.

Banaz Höyük, located 2.5 km south of Banaz village in the Banaz district, is with 400 m diameter one of the largest tells in the Uşak province.[343] The site has yielded Chalcolithic flint blades as well as EBA, MBA, LBA and Iron Age pottery. The MBA ceramic assemblage contains bead-rim bowls, while the LBA is characterized by the wheel-made buff wares.[344] Ayvacık Höyük is another noticeable site and produced predominantly EBA and some diagnostic MBA pottery resembling Beysecultan V (1900–1750 BCE) and IVc (1750–1650 BCE).[345]

9 Conclusions and implications

9.1 Organization and economy

Summarizing the present state of knowledge regarding the material evidence of Late Bronze Age western Asia Minor leads to the conclusion that the region was politically fragmented at the time. Its organization into city-states and small states, each with a local ruler, is quite similar to the situation in Mycenaean Greece on the opposite side of the Aegean – or to Canaan. The Luwian language was predominant throughout almost all of western and south-central Asia Minor and may have been a unifying factor (Figure 7), although other languages and dialects were present. A knowledge of writing probably existed throughout the second millennium BCE and may also have been a unifying element, especially in the Late Bronze Age and Early Iron Age. The names of the petty states changed, and at various times they split and reunited.[346] Even though the western Anatolian states never constituted a monolithic cultural unit, associations of interest and, at times, military alliances with changing strategic partners unquestionably occurred.

The political situation was a patchwork of different forms of administration, and the economic system was diverse; but in this diversity was also remarkably stable. Human communities maintained distinct specializations depending on the geostrategic location of their settlement and its natural resources. They used handicrafts to produce surpluses to supplement subsistence agriculture. The most important surplus industries may

343 Oy 2017b, 57.
344 Yılmaz 2019, 432.
345 Oy 2017a, 84.
346 Woudhuizen 2022.

FIGURE 29: The reverse side of the Mycenaean Warrior Vase shows advancing warriors with lifted spears, feather crowns and round shields (after Furtwängler and Loeschke 1886, plates 42–43; Luwian Studies #0310).

have been mining, weaving and pottery production – the latter perhaps related to the contents of vessels. Late Bronze Age industry was thus not profoundly different from the industry of the early modern period. The find contexts that have come down to us, however, are distorted by particular taphonomic conditions. The majority of the goods traded were likely perishable in nature; it is therefore difficult to estimate how economically important lines of work such as logging, hunting and horse breeding might have been.

Rural settlements thrived mainly on the edges of fertile floodplains, which are larger and much more numerous in western Asia Minor than, for example, in Greece. Places were chosen for settlement if they had abundant water and were near fertile arable land. The vastness of the land and the low population density make it likely that extensive forests still existed during the Bronze Age. Rural communities were extremely robust – many settlements lasted for 5,000 years. Surplus commodities were taken by caravan to a trading hub, often on the coast, from where they were shipped to markets abroad. Fishing villages lined the coast. Places that had particularly advantageous natural harbors developed into hubs linking domestic, regional and transregional networks. At such pivotal points products and people from across the eastern (and perhaps central) Mediterranean came together, without doubt creating a vibrant cosmopolitan

FIGURE 30: Schematic representation of the profile of a captured feather-crowned warrior from the group of attacking Sea Peoples as shown in the decorations of the mortuary temple of Ramesses III (Luwian Studies #4018).

atmosphere. Modern-day Bodrum's marina and waterfront are perhaps still reminiscent of this bygone world, even if goods are no longer handled there on a large scale.

In addition to the nodes of long-distance trade and the fishing villages, another type of facility existed on the coast: ports of call established by peoples from other shores and preferably built in places that were hidden and difficult to access from inland. These facilities have not received much scholarly attention to date,[347] although they were commonplace until recently. The Russian Fort Ross in northern California and British Gibraltar are remnants of this kind. Apparently, Mycenaean Greeks maintained such a port of call at Müsgebi, but probably elsewhere as well. It is quite likely that the western Anatolian states also possessed similar facilities on foreign shores. From a nautical point of view, the shores of Crete, Cyprus and Euboea are likely candidates. There may have been a gradual transition from a safe haven on a foreign shore, where practically only one's own people lived, to a place with a mixed population including a governor from the local region.

A characteristic external feature of Luwian warriors appear to have been the feather crowns, which are repeatedly found in representations both in western Asia Minor (Figure 16) and in Mycenaean Greece. The reverse of the famous Mycenaean Warrior Vase apparently shows the enemies of the Greeks, and they wear such feather crowns (Figure 29). In Medinet Habu they are the most distinct feature of the Sea Peoples (Figure 30). Balkan cultures, including those in Thrace, differed from the Luwian culture in many respects, and the Dardanelles seem to have formed a relatively sharp frontier between them. Peaceful exchanges alternated with hostile raids. The Troad, and Troy itself, apparently served as a

347 Tartaron 2013, 289–290.

frontier and distributor, with trade routes covering the vicinity, including some Aegean islands, Thrace and the Marmara region. In the thirteenth century BCE, Troy emerged as an important place in long-distance trade, especially trade with Cyprus and Syria.

The repeated raids of the armies of the Hittite great kings on Cyprus and the consequent subjugation of the island at the end of the thirteenth century BCE affected exchange along the sea routes through the eastern Mediterranean. The repeated annexation of Cyprus by both Tuthaliya IV and Suppiluliuma,[348] at a time when the Hittite court was already weakened, may therefore have become the trigger for the momentous chain of events that ultimately brought about a break of unprecedented proportions in cultural development.

The Mycenaean Greeks appear to have known little more of western Asia Minor than what they saw as they passed along the coast. The places and geographical features there that Homer lists in the catalogue of the Trojan contingents are on the coast (Ida, Tereia and Phithire) or extend to the coast (the rivers Aisepos, Axios, Maeander and Xanthos).[349] Owing to the large land mass, the Luwians will have felt most threatened on the coast. The main threat from the interior of the country, if any, would have been from their own neighbors. Only occasionally did the Hittite great king feel compelled to keep the peace – or instigate strife – with his armies in the west.

9.2 Scenes of doom

Today, when so much attention is paid to talk of supposed identities, an independent culture is increasingly being ascribed to the primarily Luwian-speaking people who once lived between the Mycenaean states in the west and the Hittite realm in the east. The gap in the knowledge of this region was usually concealed by extending the Hittite realm westward to cover almost all of Asia Minor, so that the Hittite frontier touched or even overlapped the sphere of influence of Mycenaean Greeks.[350] If such a constellation ever existed, it was not permanent. In the end, it was the Hittite rulership that collapsed, and to this day it is not clear who overpowered it.

348 Bryce 2019, 261–262.
349 Homer, *Iliad* 2.816–877.
350 Cline 2014, frontispice.

Quarrels within the royal family contributed to the downfall, but this was hardly the only cause.

A synopsis of archaeological excavations and surveys confirms the hypothesis that western Asia Minor had a rich and well-connected population. There are a number of pointers supporting this conclusion: for example the claim that Mursili II took 66,000 prisoners from Arzawa;[351] a letter in the Amarna correspondence addressing the king of Arzawa;[352] and the last king of Ugarit, Ammurapi, writing that all his troops were in Lycia.[353] There must have been a clear reason for that. Until now these documents have been like puzzle pieces that do not fit together. By completing the map of political geography in the thirteenth century BCE, we now have the potential to paint a coherent picture and thereby also contribute to a better understanding of the cultural decline around 1200 BCE.

Monocausal explanations such as climate change or "earthquake storms,"[354] which have been proposed in recent years as possible triggers of the sudden cultural change, are insufficient to explain the complex sequence of events. A destruction horizon extends from Pylos in the west to Ugarit in the east and includes prominent citadels such as Mycenae, Troy, numerous sites on Crete and most of the excavated sites on the Anatolian coast. Two aspects that are crucial for the reconstruction of the sequence of events are still missing. First, the destruction levels cannot be dated precisely, because archaeological dating methods do not provide the required accuracy. Second, the perpetrators of the destruction remain unknown. It cannot be ruled out that there were various forces causing havoc during a period of conflict that may have lasted many years. Homer's reference to ten years of war may find a context. And it may not only have been the mysterious Sea Peoples who wreaked havoc, but also the forces opposing them.

The surviving documents, although belonging to completely different genres, are for the most part unreliable in terms of historical accuracy. They merely indicate that the Sea Peoples were first sighted off the coast of Lycia,[355] from where they moved swiftly to Cyprus and then on to Syria. Homer and other authors, in their memoirs of the Trojan War,

351 Bryce 1974, 110.
352 Waal 2022.
353 Sandars 1985, 143.
354 Cline 2014, 11.
355 Daniel 1942, 292.

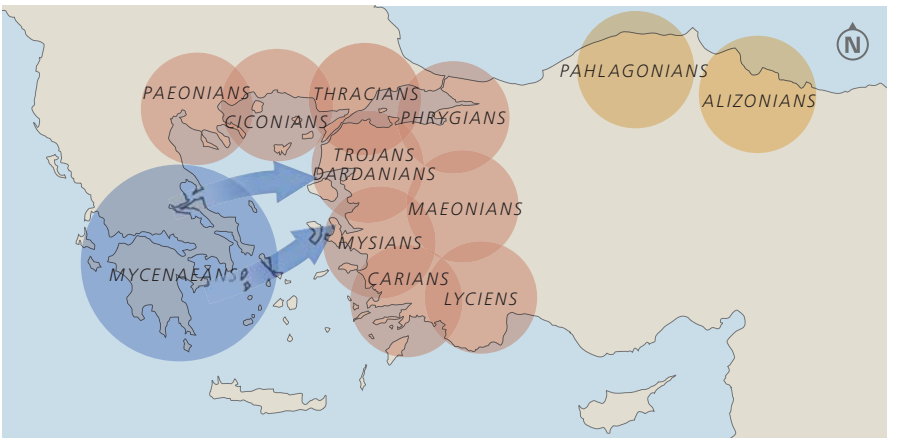


FIGURE 31: Greek forces (blue) and the majority of the Trojan allies during the Trojan War according to Homer, *Iliad* 2.816–877 (Luwian Studies #0113).

describe how the Mycenaeans formed an alliance and attacked the coasts of western Asia Minor,[356] finally assembling for the decisive battle at Troy (Figure 31). In both cases, the movement is from west to east. The simplest explanation would therefore be that the Mycenaeans were the Sea Peoples. Then again, the Sea Peoples' attacks were specifically designed to weaken the great king of Hatti and break his authority over Cyprus and south-central Asia Minor. Homer, however, does not even mention the Hittites. If there was a battle for Troy in which Troy VIIa fell victim (between 1190 and 1180 BCE), this conflict seems to have occurred at a time when the Hittite empire had already ceased to exist. Moreover, Mycenaean Greece also suffered destruction to a great extent. The population density in southern Greece declined significantly in most places in the twelfth and eleventh centuries BCE. There must therefore have been at least two causes for the waves of destruction; one of them may have been triggered by the Mycenaeans, while another affected the Mycenaeans themselves.

The senior author has been arguing for about thirty years that there were actually three waves of destruction and that the whole conflict lasted for several decades (Figure 32).[357] According to this model, the western Anatolian states first entered a military alliance and assembled to form what is now referred to as the Sea Peoples, with the specific aim of break-

356 Zangger 2016, 200–235.
357 Zangger 1994, 214–227; 1995.

FIGURE 32: Possible provenance of parties who may have participated in the upheavels at c. 1192 BCE (Woudhuizen and Zangger 2021, 149; Luwian Studies #0111).

ing Hittite supremacy. This military alliance occurred in response to the Hittite conquest of Cyprus, which in turn was likely instigated when Mitanni seized control of the major copper mines of Ergani Maden in Isuwa near the upper Euphrates.[358] After the Luwian alliance had successfully brought down Hittite rule, the Mycenaean kings seem to have entered into a similar military alliance with a *primus inter pares* as their leader. Both times, with regard to the Luwian forces as well as with regard to the Mycenaean navy, the construction of a fleet and the formation of a large army properly armed and equipped must have taken a few years. Ancient Greek accounts emphasize how crucially important and difficult it was to convince the individual petty kings to join the common cause.[359]

At the third and ultimate stage of escalation, the Greeks found themselves as the victors of the all-embracing conflict, but they could not handle this victory well and even fell victim to a civil war. Various authors report how the victorious contingents of Greeks were anything but welcome upon their return.[360] The deputies did not want to relinquish power, confrontations ensued, and a wave of successive destruction rolled again from east to west, this time across the Peloponnese. This reconstruction of the chain of events combines traditional information about the Sea Peoples' invasions and historically plausible information about the so-called Trojan War as well as the description of civil war-like conditions from Homer's *Odyssey*.

One could object that the Sea Peoples' inscriptions in Medinet Habu explicitly name Arzawa among the victims of the raids, while according to the above model, Arzawa would have been the main perpetrator. However, the decorations commissioned by pharaoh Ramesses III in his mortuary temple are of course not accurate representations of historical events, but a glorification of the pharaoh's deeds and, as such, simply propaganda. Carchemish is also mentioned as a victim, even though the city was not involved, yet its forces likely supported the army of the great king of Hatti in the conflict. The scenes depicted on the funerary temple at Medinet are attributed to a date almost twenty years after the fall of Ugarit.[361] At that time, the coastal cities of Arzawa had indeed been raided, according to later Greek authors, by Mycenaean troops before

358 Zangger 1995, 31.
359 Homer, *Odyssey* 14.235.
360 Plato, *The Laws* 3.678; Thucydides, *History of the Peloponnesian War* 1.12.
361 Zangger 1994, 36; 2016, 139; Cline and O'Connor 2011, 183.

they gathered at Troy.[362] Although Arzawa was certainly one of the main aggressors in the beginning, at a later stage the region was among the victims of the conflicts.

Meanwhile, a new text yielding information on the incipient phase of the conflict has surfaced. In the summer of 1952, during excavations at Enkomi directed by Claude Schaeffer and Porphyrios Dikaios, a clay tablet, about the size of a fist and bearing over 20 lines of text, was found. It was retrieved from excavation horizon LC IIIA2 and is dated to c. 1220–1190 BCE.[363] The document is written in the local variant of the Cypro-Minoan script (Linear D) and is known under its inventory number as Enkomi 1687. It belongs to the Department of Antiquities in Cyprus and is on display at the Archaeological Museum in Nicosia (Figure 33). Fred Woudhuizen has recently proposed a comprehensive decipherment of the Linear C and Linear D documents from Enkomi and Ugarit.[364] With the exception of this one document, all of them are bills of lading, i.e., inventories of goods in transit, and thus are quite comparable in genre to the Linear B documents from Greece. The registration of imports had obviously been introduced by the Hittite central government in order to levy taxes on goods.

FIGURE 33: Document Enkomi 1687 – according to Woudhuizen 1982, 127 – a call for help from a Cypriot navarch (Luwian Studies #0168).

Enkomi 1687, however, has a completely different character. It is a letter from an admiral who was on a flotilla patrol towards the Aegean around 1192 BCE.[365] During a stopover in Rhodes, he summarily claimed the port city of Kameiros for the Hittites, in whose service he now stood. He had a right to it, he claimed, because Hattusili III and Halpazitis, the

362 Apollodorus of Athens, *Epitome* 3.33; Eustathios of Thessalonica, *Commentary on the Iliad* 322.25.
363 Dikaios 1953; Masson 1971; Palaima 1989.
364 Woudhuizen 2017.
365 Woudhuizen 2017, 123–158.

king of Aleppo, had once maintained a fortress there and there was a continuing valid territorial claim from that time. From Rhodes, the Cypriot naval force continued north until, near Samos, it encountered an overwhelmingly large fleet. This force was under the leadership of Akamas from Ilion. A man with this name had previously been mentioned in documents from peaceful times, both on a cylinder seal from Enkomi and on a tablet from Ugarit. Back then he was a supplier and represented the city of Ephesus. Now he commanded an armada apparently advancing from Troy, heading south for an uncertain destination. The Cypriot ships got into a skirmish, so the outnumbered Cypriot admiral soon turned away. He sailed back to a Hittite port of refuge at Limyra in eastern Lycia, where he had already stopped over on the outward journey (Figure 11). From there he wrote the letter (in Luwian using Linear D) as a request for reinforcements. The fact that ships were indeed sent to the region is well known from documents written during the last days of Ugarit.[366] If Fred Woudhuizen's translation is to be believed, Enkomi 1687 provides an eyewitness account of the first sighting of the fleet that we now refer to as the Sea Peoples.

This description of a fleet advancing from Troy is indeed astonishingly consistent with the ominous Luwian hieroglyphic text dubbed "Beyköy 2." This text, known only through a drawing, was first shown by Oliver R. Gurney at the *Recontre Assyriologique Internationale* in Ghent in 1989, without being included in the proceedings of the conference. Gurney, in turn, had been given the drawing by James Mellaart, in whose study it was later found by Mellaart's son and given to the senior author for publication. Fred Woudhuizen subsequently published a complete translation, including explanations and a commentary.[367] When this document first appeared in 1989, much of the information available today did not exist. If the drawing is a forgery, its contents were clairvoyantly well invented.

Otherwise there are no documents from the time of the conflicts. The kings, to whose courts the art of writing was largely confined, were themselves involved in the fighting and thus absorbed. Who exactly was fighting whom at the time can at best be deduced from the state of affairs that appeared when the dust had settled. In the heroic days of the Late Bronze Age, Egypt, Hatti and Mycenaean Greece were important forces. At the beginning of the Iron Age, quite different beneficiaries emerged from the

366 RS 20.238, *Ugaritica* 5.24; Sandars 1985, 143.
367 Woudhuizen and Zangger 2018; Zangger and Woudhuizen 2018.

upheavals. In northwestern Anatolia the Phrygian kingdom formed, on the Lebanese coast the Phoenician city-states gained economic strength, and in northern Italy the Etruscan culture developed, among other things, unprecedented hydraulic installations. *Cui bono?* Even if the people from these regions were not necessarily among the protagonists of the upheavals, they had obviously either been spared (Phoenicia), had absorbed refugees and resettlers (Etruria) or had invaded largely abandoned pastures (Phrygia).

9.3 Epistemological considerations

At the conclusion of this paper it is perhaps appropriate to offer some reflections on how it came to be that Middle and Late Bronze Age western Asia Minor received so little scholarly interest throughout the twentieth century. This requires a recapitulation of the history of research as well as some epistemological considerations. Enthusiasm for Troy and the ancient Anatolian cultures, which had lasted for more than 2,500 years, began to fade with the rise of the Ottoman Empire. The cohesiveness, organization, success and ultimately power of the Ottomans caused a change in the perception of the past in Europe. Politically, the continent was fragmented at the time, which meant there was no corresponding force able to counter the Ottoman army. The first expression of conscious Europeanism was the ecumenical council held in Florence between 1431 and 1449. The council aimed to reunify the churches to counter the Ottoman threat with united forces. Notwithstanding this, the Ottoman army conquered Constantinople, the center of Western scholarship, in 1453, leading to an exodus of European scholars, primarily to Italy.[368]

The Ottoman realm grew into a heterogeneous multiethnic empire and became a great power that increasingly threatened Western Europe. At this time, pamphlets invoking the danger posed by the Turks proliferated. Leading the way was Martin Luther, among other things with his 1529 pamphlet *On War Against the Turks*, in which he stated, "the Turk is God's rod and the devil's servant, there is no doubt about it."[369] It did not help: Ottoman armies besieged Vienna twice, the second time in 1683.

368 Rijser 2012, 107.
369 Guthmüller 2000, 3; Speckmann 2016, 80–81.

At this point at the latest, the intellectual elite of Central Europe was no longer inclined to claim it was descended from the Trojans.[370]

The Age of Enlightenment in the eighteenth century and humanism in the nineteenth century brought a complete departure from earlier concepts. At the time, ancient Greece and Rome were elevated to the new historical model. Such an appropriation of the past was supposed to lend an identity to the fragmented European states – a concept passionately advocated by philhellenists such as Johann Joachim Winckelmann.[371] In the nineteenth century, this neoclassical movement was significantly reinforced,[372] eventually forming the basis of Wilhelm von Humboldt's reform of the Prussian educational and science system.

When, in 1836, the German scholar Johann Uschold published a 350-plus-page compendium on the history of the Trojan War, he recollected historical knowledge that was no longer fashionable. He realized that the famous Carians, Lydians, Phrygians, Mysians and Lycians in Asia Minor "were regarded in antiquity as branches of one and the same people." The predecessors of these peoples also inhabited Greece in prehistoric times, he said. "So much information from the best known writers of antiquity has been preserved that we cannot understand why these peoples have been passed over in earlier treatises."[373]

In 1868, Heinrich Schliemann spontaneously had the idea of excavating Troy as his new purpose in life, but Troy was only his second choice. Schliemann would have preferred to dig in Greece, but his application to excavate in Mycenae was rejected.[374] The Greek government changed its mind after Schliemann's work at Troy received so much attention. Schliemann switched to the European side and did not return to Ottoman Turkey.

After Crete had gained autonomy from Ottoman rule in 1898, about a dozen archaeological excavations began on the island, most notably the one at Knossos led by Arthur Evans. Evans then took up the challenge of establishing a theoretical basis for the Aegean Bronze Age in his book series *The Palace of Minos at Knossos*.[375] He created the three-part chro-

370 Burgdorf 2007, 43; Lienert 2001, 211.
371 Décultot 2009, 40.
372 Guthmüller 2000, 2; Sarnowsky 2007, 38; Vaessen 2018, 83.
373 Uschold 1836, XIV.
374 Ludwig 1932, 157.
375 Evans 1921; 1921; 1928a; 1928b; 1935a; 1935b.

nology (Early, Middle, Late Bronze Age) for the third and second millennia BCE, which is still largely valid today, and provided the chronological and geographical framework for the new discipline of Aegean protohistory.

The Aegean is surrounded by three landmasses: Anatolia, mainland Greece and Crete. By the time Evans published his series of books, a few sites of outstanding archaeological significance were known from each of these regions: Troy and Hattusa in Anatolia, Mycenae and Tiryns in southern Greece and Knossos, Malia and Phaistos on Crete. Evans decided to consider only two of these regions. Knossos was for him the center of Minoan civilization, and Mycenae the center of Mycenaean culture. Troy and Hattusa, however, were in Anatolia, so Evans disregarded them. Instead he defined a third culture in the Cyclades – also on European territory.

At that time the Greek-Turkish war (1919–1922) was raging and Evans was not interested in directing research interest to cultures outside Europe's borders. Troy was more famous perhaps than any other archaeological site in the world, and was also the first Bronze Age citadel to be discovered and excavated, but it was located on Turkish soil. The assertion of Western supremacy, which was leveraged as a justification for exploiting colonial territories, dominated thinking at the time.[376]

Evans's notion that Crete was the cradle of Europe and the forerunner of modern Western society was something he had already internalized before his work in Crete began – thus without solid empirical evidence.[377] Ilse Schoep, who researched Evans's motivations, writes: "This myth of the European origins of modernity was completed by downplaying external Eastern influences" and attributing extraordinary creative powers to the Minoans.[378] Even before Evans entered the field, he clearly said that he did not want his Cretans to be "immigrant wanderers from Central Asia."[379] Evans's patterns of thought and interpretations were gratefully accepted by most contemporary scholars, "suggesting that his discovery, or rather creation, of the Minoan civilization met a widely felt need in Europe."[380] The Eurocentric position prevailed because the appropria-

376 Mac Sweeney 2010, 68; Sommer 2005, 1.
377 Schoep 2018, 6.
378 Schoep 2018, 6.
379 Evans 1896, 909; Schoep 2018, 13.
380 Schoep 2018, 6.

tion of Crete as Ur-European ultimately served European nationalist and colonialist goals.[381]

Evans's rhetoric lives on to this day in mainstream academic discourse.[382] As far as the second millennium BCE is concerned, the interest of European scholars is, by and large, primarily focused on Crete and the southern Greek mainland – with relations to Anatolia largely neglected. In the twentieth century, there were only two scholars who initiated large-scale excavations at Bronze Age sites on Turkish soil. In 1906, Hugo Winckler launched excavations in Hattusa, and from 1954 to 1959 James Mellaart dug at Beycesultan. Pioneers of prehistoric archaeology in western Anatolia – Heinrich Schliemann, Hugo Winckler, Emil Forrer, James Mellaart and Fred Woudhuizen – had a hard time being accepted by the scientific community or were even ostracized altogether.[383] The excavations at Hattusa, however, were so exceedingly productive that eventually Evans's portfolio of Bronze Age cultures had to be expanded to include the Hittites. The research gap in western Asia Minor – where Troy is located – remained (Figure 2).

European scholarship had reacted to the unexpected discovery of Bronze Age cultures (brought about by an amateur, i.e., Schliemann) by simply extending the existing thought model about the cultural claim to leadership about a thousand years backward from Classical Antiquity into protohistoric times. This is why Bronze Age European cultures are considered more important than their Anatolian counterparts. European scholars, who were dealing with the Bronze Age of Anatolia, were indeed often trained as classicists or ancient historians and thus all too familiar with the established models of thought and the European claim to leadership. They knew, therefore, that after the conquest of Lydia by the Persian empire, the eastern Mediterranean was increasingly exposed to European influences. And they extrapolated this cultural flow from West to East into earlier times, although in the second millennium BCE it was the other way around: new developments reached Europe from the East (Figure 34). *Ex oriente lux.*

In the 1930s, Kemal Atatürk sent students to European countries, especially France, Germany and Hungary, so that they could receive a solid archaeological education; he then also invited German professors

381 Ruehl 2015, 272; Schoep 2018, 7.
382 Schoep 2018, 5.
383 Zangger 2017, 74–77, 104–110, 210.

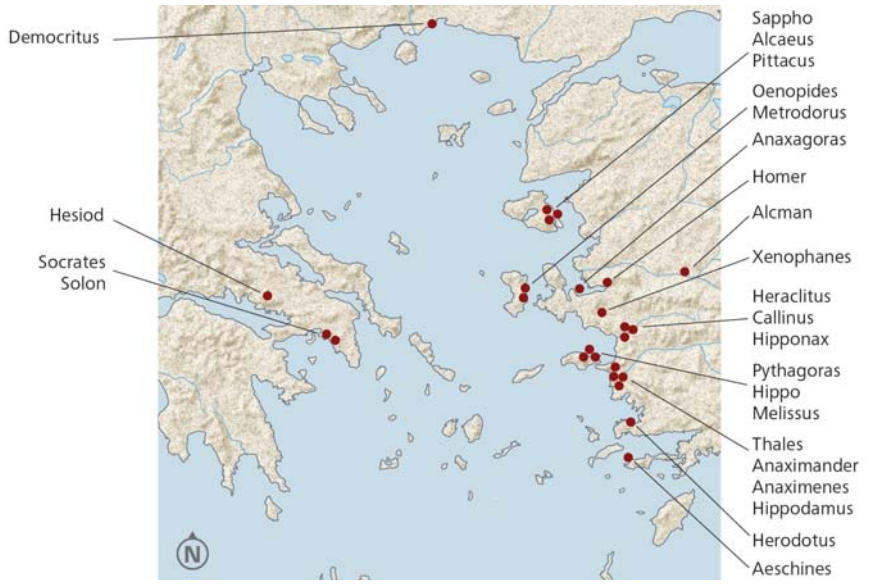


FIGURE 34: Hometowns of early Greek thinkers (Luwian Studies #0116).

to teach archaeology in Turkey. After World War II, another generation of Turkish archaeologists came to study archaeology, especially in Germany,[384] where they internalized Eurocentric thinking. After their return home, schools of thought became established around these Turkish archaeologists, and these schools cultivated the European claim to cultural hegemony. Even today, the attention of Turkish scholars and students of archaeology is mainly focused on remains at Greek and Roman sites. This perpetuates the bias willfully created by Arthur Evans.

The philhellenic movement may have come to an end, but Aegean protohistory was conceived at a time when racism was particularly virulent,[385] and the paradigms of the discipline have subsequently never been questioned. Even when natural scientific techniques became commonplace in archaeological investigations targeted at the Bronze Age, this expansion of methodology and the ensuing results had no noticeable effect on the outdated paradigms. And so, still today, the way scholars view and study the archaeological evidence of the Aegean Bronze Age remains skewed by Eurocentric bias.

384 Kolb 2010, 32.
385 Mac Sweeney 2012, 67.

Acknowledgements

This paper was produced with the support of Luwian Studies and a one-year research grant by the University of Zurich.

Bibliography

Abay, Eşref (2012): "Beycesultan". In: *Ege Üniversitesi Arkeoloji Kazıları*, edited by Altan Çilingiroğlu, Zeynep Mercangöz and Gürcan Polat, 39–64. Izmir: Arkadaş Matbaacılık Ltd. Şti.

Abay, Eşref and Fulya Dedeoğlu (2005): "2003 Yılı Denizli/Çivril Ovası Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **22**: 41–50.

Abay, Eşref and Fulya Dedeoğlu (2007): "2005 Yılı Çivril Ovası Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **24**: 277–293.

Akdeniz, Engin (1997): "Güneybatı Anadolu Sahillerinde Prehistorik Bir Yerleşim: Tavşan Adası". *Arkeoloji Dergisi* **5**: 1–13.

Akdeniz, Engin (2004): "Kuşadası Kadıkalesi Kazısında Bulunan Bir Hitit Heykelciği". *Olba* **9**: 21–59.

Akdeniz, Engin (2006): "A New Excavation in Western Anatolia: Kadıkalesi (Ancient Anaia) (A Preliminary Report for Prehistoric-Protohistoric Results 2001–2005)". *Olba* **13**: 1–33.

Akdeniz, Engin (2011): "2009 Yılı Manisa İli ve İlçelerinde Yürütülen Prehistorik-Protohistorik Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **28**: 83–98.

Akurgal, Ekrem (1950): "Bayraklı. Erster vorläufiger Bericht über die Ausgrabungen in Alt-Smyrna". *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi* **8** (1–2): 52–97.

Akurgal, Ekrem (1976): "Pitane (Çandarlı)". In: *The Princeton Encyclopedia of Classical Sites*, edited by Richard Stillwell, 715. Princeton: Princeton University Press.

Akurgal, Ekrem (1983): "Das dunkle Zeitalter Kleinasiens". In: *Griechenland, die Ägäis und die Levante während der "Dark Ages"*, edited by Sigrid Deger-Jalkotzy, Veröffentlichungen der Kommission für mykenische Forschung **418**: 67–78. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Akurgal, Meral (2010): *Smyrna: Bayraklı Höyüğü – The Bayrakli Mound.* Izmir: Bayrakli Belediyesi.

Allen, Susan Heuck (1990): "Northwest Anatolian Grey Wares in the Late

Bronze Age: Analysis and Distribution in the Eastern Mediterranean". Dissertation, Brown University.

Aro, Sanna and Anne-Maria Wittke (2015): "Luwischer Kulturraum". In: *Der Neue Pauly Supplemente Band 10: Frühgeschichte der Mittelmeerkulturen*, edited by Anne-Maria Wittke, 618–630. Stuttgart: Metzler.

Arslan, Nürettin and C. Bakan (2012): "Lampsakos/Lampseki ve Çan 2010 Yılı Yüzey Araştırma Sonuçları". *Araştırma Sonuçları Toplantısı 2. Cılt* **29**: 453–467.

Arslan, Nurettin and Nurten Sevinç (2003): "Die eisenzeitlichen Gräber von Tenedos". *Istanbuler Mitteilungen* **53**: 223–250.

Aslan, Rüstem, Stephan W.E. Blum, Tobias L. Kienlin and Faika Evrim Uysal (2011): "2009 Yılı Bozköy-Hanaytepe ve Çevresi Prehistorik Dönem Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **28**: 291–302.

Aslan, Rüstem and Fecri Polat (2012): *Bozköy-Hanaytepe ve Çevresi Prehistorik Dönem Araştırmaları*. Studies on the Troad **2**. Çanakkale: Troia Vakfı yayınları.

Aydıngün, Haldun and Şengül Aydıngün (2018): "Tarih Öncesi Çağlarda Dünya Ticaretinin Merkezindeki Karadeniz". In: *Karadeniz Jeopolitiği*, edited by Hasret Çomak *et al.*, 3–8. Istanbul: Beta Basım Yayım.

Aydıngün, Şengül (2017a): "An Excavation Site at the Junction of River-Lake and Sea (Works of the First Five Years)". In: *Excavations of Küçükçekmece Lake Basin (Bathonea)*, edited by Şengül Aydıngün, 13–68. Istanbul: Arkeoloji ve Sanat Yayınları.

Aydıngün, Şengül (2017b): *Excavations of Küçükçekmece Lake Basin (Bathonea)*. Istanbul: Arkeoloji ve Sanat Yayınları.

Aydıngün, Haldun (2022): "Hittite Traces in Istanbul". In: *The Political Geography of Western Anatolia in the Late Bronze Age*, edited by Ivo Hajnal, Eberhard Zangger and Jorrit M. Kelder, Archaeolingua Series Minor **45**: 331–352. Budapest: Archaeolingua.

Aykurt, Ayşegül (2010): "İzmir Bölgesi Orta Tunç Çağı Seramiği". *Belleten* **74** (269): 1–69.

Bachhuber, Christoph (2022): "In Search of a Luwian Land". In: *The Political Geography of Western Anatolia in the Late Bronze Age*, edited by Ivo Hajnal, Eberhard Zangger and Jorrit M. Kelder, Archaeolingua Series Minor **45**: 353–375. Budapest: Archaeolingua.

Bakır, Tomris (2003): "Daskyleıon (Tyaıy Drayahya) – Hellespontıne Phrygıa Bölgesı Akhaemenıd Satrapliği". *Anadolu* **3**: 1–26.

Bakır, Tomris (2006): "Daskyleion". In: *Stadtgrabungen und Stadtfor-*

schung im westlichen Kleinasien. Geplantes und Erreichtes: Internationales Symposion, 6./7. August 2004 in Bergama (Türkei), edited by Wolfgang Radt, Byzas **3**: 61–72. Istanbul: Ege Yayinlari.

Bammer, Anton (1999): "Zur Bronzezeit im Artemision". In: *100 Jahre österreichische Forschungen in Ephesos*, edited by Herwig Friesinger, Denkschriften / Österreichische Akademie der Wissenschaften, Philosophisch-historische Klasse **260**: 399–404. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Barjamovic, Gojko (2010): "Sites, Routes and Historical Geography in Central Anatolia". In: *Ipamati kistamati pari tumatimis: Luwian and Hittite Studies Presented to J. David Hawkins on the Occasion of his 70th Birthday*, edited by Itamar Singer, 10–25. Tel Aviv: Emery and Claire Yass Publications in Archaeology.

Bayne, Nicholas P. (2000): *The Grey Wares of North-West Anatolia – In the Middle and Late Bronze Age and the Early Iron Age and Their Relation to the Early Greek Settlements*. Asia Minor Studien **37**. Bonn: R. Habelt.

Becks, Ralf (2016): "Tarih Öncesinde Likya – The Prehistory of Lycia". In: *Luk-ka'dan Likya'ya – Sarpedon ve Aziz Nikolaos'un Ülkesi / From Lukka to Lycia – The Land of Sarpedon and St. Nicholas*, edited by Havva Işkan and Erkan Dündar, 26–35. Istanbul: Yapi Kredi Yayinlari.

Becks, Ralf and Marta Guzowska (2004): "On the Aegean Type Weaving at Troia". *Studia Troica* **14**: 101–115.

Becks, Ralf, Wendy Rigter and Pavol Hnila (2006): "Das Terrassenhaus im westlichen Unterstadtviertel von Troia". *Studia Troica* **16**: 27–88.

Becks, Ralf and Diane Thumm (2001): "Untergang der Stadt in der Frühen Eisenzeit: Das Ende aus archäologischer Sicht". In: *Troia – Traum und Wirklichkeit*, edited by Andreas W. Wetter *et al.*, 419–424. Stuttgart: Theiss.

Beksaç, Engin (1999): "Balıkesir İli Ayvalık ve Gömeç İlçelerinde Pre ve Protohistorik Yüzey Araştırması 1997". *Araştırma Sonuçları Toplantısı 2. Cılt* **16**: 109–119.

Beksaç, Engin (2001): "Balıkesir İli Ayvalık, Gömeç, Burhaniye, Edremit, ve Havran İlçelerinde Pre- ve Protohistorik Yerleşmelerin Yüzey Araştırması 1999". *Araştırma Sonuçları Toplantısı 2. Cılt* **18**: 113–122.

Beksaç, Engin (2002): "Balıkesir İli Ayvalık, Gömeç, Burhaniye, Edremit, ve Havran İlçelerinde Pre- ve Protohistorik Yerleşmelerin Yüzey Araştırması 2000". *Araştırma Sonuçları Toplantısı 2. Cılt* **19**: 283–288.

Beksaç, Engin (2004): "Adramytteion/Ören 2002 Kazısı". *Kazı Sonuçları Toplantısı* **25**: 327–338.

Benter, Matthias (2009): "Das mykenische Kammergrab vom Pilavtepe". In: *Die Karer und die Anderen*, edited by Frank Rumscheid, 349–358. Bonn: Dr. Rudolf Habelt GmbH.

Bertemes, François (2013): "Tavşan Adası. Das Thera-Event und seine Auswirkung auf das minoische Kommunikationsnetzwerk". *Tagungen des Landesmuseum für Vorgeschichte Halle* **9**: 191–209.

Bertemes, François (2016): "Tavşan Adası, Türkei: Die Arbeiten des Jahres 2012". *IDAI Publications – e-Forschungsberichte* **1**: 168–173.

Bertemes, François and Karin Hornung-Bertemes (2009): "Minoer in Didyma. Ein Siegel und seine Geschichte". In: *Zurück zum Gegenstand. Festschrift für Andreas E. Furtwängler,* edited by Ralph Einicke *et al.*, Schriften des Zentrums für Archäologie und Kulturgeschichte des Schwarzmeerraumes **1**: 169–194. Langenweissbach: Beier & Beran.

Bilgen, A. Nejat (2015): *Seyitömer Höyük I.* Istanbul: Arkeoloji ve Sanat.

Bilgen, A. Nejat (2019). *Seyitömer Höyük II.* Istanbul: Arkeoloji ve Sanat.

Bilgen, A. Nejat, Zeynep Bilgen, M. Hamdi Okatan, Rana B. Usta and Bayram Uygun (2021): "New Evidence of the Cultural Relationship Between Inner North-West Anatolia and Northern Syria-Mesopotamia during the Early and Middle Bronze Ages: Exceptional Finds from Seyitömer Höyük". In: *Cultural exchange and current research in Kültepe and its surroundings: Kültepe, 1–4 August 2019*, edited by Fikri Kulakoğlu, Guido Kryszat and Cécile Michel, Subartu **46:** 293–323. Turnhout: Brepols.

Blegen, Carl W., Cedric G. Boulter, John L. Caskey and Marion Rawson (1958): *Troy: Excavations Conducted by the University of Cincinnati 1932–1938, IV: Settlements VIIa, VIIb and VIII.* Princeton: Princeton University Press.

Boehlau, Johannes and Karl Schefold (1940): *Larisa am Hermos: Die Ergebnisse der Ausgrabungen 1902–1934. Band I, Die Bauten.* Berlin: de Gruyter.

Bossert, Helmuth Theodor (1946): *Asia.* Edebiyat Fakültesi **323**. Istanbul: İstanbul Üniversitesi Edebiyat Fakültesi Yayınları.

Brückner, Alfred (1925): "Forschungsaufgaben in der Troas". *Archäologischer Anzeiger* **40**: 230–248.

Bryce, Trevor R. (1974): "Some Geographical and Political Aspects of Mursilis' Arzawan Campaign". *Anatolian Studies* **24**: 103–116.

Bryce, Trevor R. (2006): *The Trojans and Their Neighbours.* London: Routledge.

Burgdorf, Wolfgang (2007): "Zur türkischen Geschichte innerhalb Europas – Anmerkungen über die Grundlagen eines EU-Beitritts der Türkei". In: *Die Türkei und Europa,* edited by Gabriele B. Clemens, Studien zur neueren europäischen Geschichte **1**: 39–56. Hamburg: Lit.

Burney, Charles A. (1956): "Northern Anatolia before Classical Times". *Anatolian Studies* **6**: 179–203.

Büyükkolancı, Mustafa (2007): "Apaša, das alte Ephesos und Ayasoluk". In: *Frühes Ionien – Eine Bestandaufnahme*, edited by Justus Cobet, 21–26. Wiesbaden: Philipp von Zabern.

Büyükkolancı, Mustafa (2008): "Selçuk Ayasuluk Tepesi (Eski Efes) Apasas'mı?" In: *Batı Anadolu ve Doğu Akdeniz GeçTunç Çağı kültürleri üzerine Yeni Araştırmalar*, edited by Armağan Erkanal-Öktü, Sevinç Günel and Deniz Ulaş, 41–55. Ankara: Hacettepe Üniversitesi Yayınları.

Cahill, Nicholas (2019): "Inside Out: Sardis in the Achaemenid and Lysimachean Periods". In: *Spear-won Land: Sardis from the King's Peace to the Peace of Apamea*, edited by Andrea M. Berlin and Paul J. Kosmin, 11–36. Madison: University of Wisconsin Press.

Çakirlar, Canan and Ralf Becks (2009): "'Murex' Dye Production at Troia. Assessment of Archaeomalacological Data from Old and New Excavations". *Studia Troica* **18**: 87–103.

Calvert, Frank (1859): "The Tumulus of Hanai Tepeh in the Troad". *The Archaeological Journal* **16**: 1–6.

Calvert, Frank (1880): "Thymbra, Hanai Tepeh". In: *Ilios – The City and Country of the Trojans*, edited by Heinrich Schliemann, 706–720. New York: Harper.

Çilingiroğlu, Çiler, Ahmet Uhri, Berkay Dincer and Canan Çakirlar (2017): "Karaburun Arkeolojik Yüzey Araştırması (Kaya) 2015". *Araştırma Sonuçları Toplantısı 1. Cılt* **34**: 151–174.

Cline, Eric H. (2014): *1177 B.C. – The Year Civilization Collapsed.* Princeton: Princeton University Press.

Cline, Eric H. and David O'Connor (2012): "The Sea Peoples". In: *Ramesses III: The Life and Times of Egypt's Last Hero*, edited by Eric H. Cline and David O'Connor, 180–208. Ann Arbor: University of Michigan Press.

Cook, John Manual (1958): "Old Smyrna, 1948–1951". *The Annual of the British School at Athens* **53/54**: 1–34.

Cook, John Manual and David J. Blackman (1971): "Archaeology in Western Asia Minor 1965–1970". *Archaeological Reports* **17**: 33–62.

Çoruhlu, Tülün (2008): "Ören (Adramyteion Antik Kenti) 2006 Yılı Kazı Çalışması". *Kazı Sonuçları Toplantısı 3. Cılt* **29**: 525–540.

Daniel, John Franklin (1942): "Review of Sjöqvist, Erik: Problems of the Late Cypriote Bronze Age". *American Journal of Archaeology* **46**: 286–293.

Darga, A. Muhibbe (2004): "Şarhöyük-Dorylaion (Eskişehir) Kazılarında Hitit Buluntuları". In: *Festschrift für Fahri Işık zum 60. Geburtstag*, edited by Taner Korkut, 269–283. Istanbul: Ege Yayınları.

Darga, A. Muhibbe and Frank Starke (2003): "Eine Tonbulle mit hieroglyphenluwischem Siegelabdruck aus Şarhöyük-Dorylaion". *Studia Troica* **13**: 161–164.

Décultot, Elizabeth (2009): "Winckelmanns Konstruktion der griechischen Nation". In: *Graecomania – Der europäische Philhellenismus*, edited by Gilbert Heß, Elena Agazzi and Elizabeth Décultot, Klassizistisch-Romantische Kunst(t)räume **1**: 39–59. Berlin: de Gruyter.

Dedeoğlu, Fulya (2008): "Cultural Transformation and Settlement System of Southwestern Anatolia from Neolithic to LBA: A Case Study from Denizli/Çivril Plain". In: *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East, Madrid, April 3–8 2006*, edited by Joaquín Córdoba, 587–601. Madrid: UAM Ediciones.

Dedeoğlu, Fulya (2013): "Yukarı Menderes Havzası Dağlık Bölge Yüzey Araştırması 2011 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **30**: 215–226.

Dedeoğlu, Fulya (2015): "Küfü Çayı Vadisi: M.Ö. 2. Binyıl Yerleşimleri". In: *Mustafa Büyükkolancı'ya Armağan / Essays in Honour of Mustafa Büyükkolancı*, edited by Celal Şimşek, Erim Konakçı and Bahadır Duman, 193–202. Istanbul: Ege Yayınları.

Dedeoğlu, Fulya and Eşref Abay (2014): "Beycesultan Höyük Excavation Project: New Archaeological Evidence from Late Bronze Layers". *Arkeoloji Dergisi* **19**: 1–39.

Dedeoğlu, Fulya, Erim Konakçı and Ali Ozan (2014): "Yukarı Menderes Havzası Dağlık Kesim Yüzey Araştırması Projesi 2013 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **31**: 151–160.

Dedeoğlu, Fulya, Ali Ozan and Erim Konakçı (2016): "Yukarı Menderes Havzası Dağlık Kesim Yüzey Araştırması Projesi 2014 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **33**: 553–562.

de Jesus, Prentiss (1978): "Metal Resources in Ancient Anatolia". *Anatolian Studies* **38**: 97–102.

de Jesus, Prentiss S. (2019): "Comments on the Antiquity of Mining Rocks and Minerals". In: *Mineral Resources of Turkey*, edited by Franco Pirajno *et al.*, Modern Approaches in Solid Earth Sciences **16**: 1–18. Cham: Springer Nature.

Derin, Zafer (2015): "İzmir, Yassıtepe Höyüğü Orta Tunç Çağı Yerleşimi". In: *Mustafa Büyükkolancı'ya Armağan / Essays in Honour of Mustafa Büyükkolancı*, edited by Celal Şimşek, Bahadır Duman and Erim Konakçı, 203–213. Istanbul: Ege Yayınları.

Dikaios, Porphyrios (1953): "A Second Inscribed Clay Tablet from Enkomi". *Antiquity* **27** (108): 233–243. doi.org/10.1017/S0003598X00025096.

Diler, Adnan (2002): "Damlıboğaz/Hydai Araştırmaları – 2000". *Araştırma Sonuçları Toplantısı 1. Cılt* **19**: 225–236.

Diler, Adnan (2004): "Bodrum Yarımadası Leleg Yerleşimleri, Mylasa/ Damlıboğaz ve Çevresi Yüzey Araştırması – 2002". *Araştırma Sonuçları Toplantısı 2. Cılt* **21**: 143–154.

Diler, Adnan (2007): "Bodrum Yarımadası Geleg Yerleşimleri Pedasa, Mylasa, Damlibogaz (Hydai), Kerai (Sedir Adası), Kissebükü (Anastasioupolis) ve Mobolla Kalesi Yüzey Araştırmaları 2004–2005". *Araştırma Sonuçları Toplantısı 2. Cılt* **24**: 479–500.

Diler, Adnan (2009): "Bodrum Yarımadası Leleg Yerleşmeleri Pedasa, Aspat, Kissebükü (Anastasioupolis), Mylasa Sarıçay Ovası – Damlıboğaz (Hydai) – Pilav Tepe, Kendreai (Sedir Adası) ve Mobolla Yüzey Araştırmaları 2006–2007". *Araştırma Sonuçları Toplantısı 3. Cılt* **26**: 125–142.

Diler, Adnan, Şahin Gümüş and N. Seda Eryılmaz (2013): "Bodrum Yarımadası Leleg Yerleşimleri, Adalar, Aspat (Strobilos), Küssebükü (Anastasipoupolis), Damlıboğaz (Hydai), Sedir Adası (Kedrai) Yüzey Araştırmaları 2011". *Araştırma Sonuçları Toplantısı 1. Cılt* **30**: 255–270.

Diler, Adnan, Sinem Türkoğlu, Ufuk Cörtük and Şahin Gümüş (2009): "Bodrum Yarımadası Leleg Yerleşmeleri Pedasa, Aspat, Kissebükü (Anastasioupolis), Mylasa Sarıçay Ovası – Damlıboğaz (Hydai) – Pilav Tepe, Kendreai (Sedir Adası) ve Mobolla Yüzey Araştırmaları 2006–2007". *Araştırma Sonuçları Toplantısı 3. Cılt* **26**: 125–142.

Dinç, Rafet (1996): "1994 Yılı Akhisar-Kulaksızlar Mermer İdol Atölyesi Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **13**: 11–41.

Dinç, Rafet (1997): "Kulaksızlar Mermer Atölyesi ve Çevre Araştırmaları." *Araştırma Sonuçları Toplantısı 2. Cılt* **14**: 255–282.

Doğan-Alparslan, Meltem, Metin Alparslan and Tolga Pelvanoğlu (2020): "Berufe und Handwerk bei den Hethitern". In: *Metallurgica Anatolica. Festschrift für Ünsal Yalçın anlässlich seines 65. Geburtstags*, edited by H. Gönül Yalçın and Oliver Stegemeier, 179–187. Istanbul: Ege Yayinlari.

Efe, Turan (1990): "1988 Yılında Kütahya, Bilecik ve Eskişehir İllerinde Yapılan Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı* **7**: 405–424.

Efe, Turan (1991): "1989 Yılında Kütahya, Bilecik ve Eskişehir İllerinde Yapılan Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı* **8**: 163–178.

Efe, Turan (1994): "1992 Yılında Kütahya, Bilecik ve Eskişehir İllerinde Yapılan Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı* **11**: 571–592.

Efe, Turan, Murat Türteki, Deniz Sarı and Erkan Fidan (2015): "Bilecik İli 2013 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **32**: 495–504.

Erdem, Aylin Ü. (2017): "İzmir Bayraklı Höyüğü 2015 Yılı Tunç Çağ Çalışmaları / İzmir Bayraklı Mound Bronze Age Researches in 2015". *Kazı Sonuçları Toplantısı 2. Cılt* **38**: 417–426.

Erdemgil, Selahattin and Mustafa Büyükkolancı (1997): "Jüngste Archäologische Nachweise für die älteste Geschichte von Ephesos". In: *Ephesos. Gebaute Geschichte*, edited by Friedmund Hueber, 26–28. Mainz am Rhein: Philipp von Zabern.

Erdoğu, Burçin (1997): "Edirne İli 1995 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **14**: 273–292.

Erdoğu, Burçin (1999): "1997 Yılı Edirne İli Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **16**: 345–358.

Erim, Kenan Tevfik (1981): "The 1977 Campaign at Aphrodisias in Caria". *Türk Arkeoloji Dergisi* **25** (2): 55–63.

Erkanal-Öktü, Armağan (2020): "Panaztepe Kurşun Eserleri Işığında Madencilik ve İkonografi Üzerine Bazı Düşünceler". In: *Metallurgica Anatolica. Festschrift für Ünsal Yalçın anlässlich seines 65. Geburtstags*, edited by H. Gönül Yalçın and Oliver Stegemeier, 147–155. Istanbul: Ege Yayinlari.

Erkanal, Hayat (2008): "Liman Tepe: New Light on Prehistoric Aegean Cultures". In: *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age, Proceedings of the International Symposium*, edited by Harald Hauptmann, Vasıf Şahoğlu and Rıza Tuncel, 179–190. Urla-Izmir: Izmir Ankara University Press.

Erkanal, Hayat (2012): "Liman Tepe (1992–)". In: *DTCF Arkeoloji Bölümü Tarihçesi ve Kazıları (1936–2011), Anadolu/Anatolia, Supplements III. 2*, edited by Orhan Bingöl, Aliye Öztan and Harun Taşkıran, 219–230. Ankara: Ankara Üniversitesi Basımevi.

Erkanal, Hayat (2013): "Geç Tunç Çağı'nda Liman Tepe". In: *Batı ve Doğu Akdeniz Kültürleri üzerine Araştırmalar*, edited by Armağan Erkanal-Öktü, Sevinç Günel and Deniz Ulaş, 91–100. Ankara: Hacettepe Üniversitesi.

Erkanal, Hayat and Sevinç Günel (1995): "1993 Liman Tepe Kazısı". *Kazı Sonuçları Toplantısı 1. Cılt* **16**: 263–279.

Erkanal, Hayat and Turhan Özkan (2000): "1998 Bakla Tepe Kazıları". *Kazı Sonuçları Toplantısı 1. Cılt* **21**: 263–278.

Erkanal-Öktü, Armağan (2018): *Panaztepe I: Die Friedhöfe von Panaztepe*. Ankara: Türk Tarih Kurumu Yayınları.

Ersoy, Yasar and Elif Koparal (2008): "Klazomenai Khorası ve Teos Sur İçi Yerleşim Yüzey Araştırması 2006 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 3. Cılt* **25**: 47–70.

Ersoy, Yasar and Elif Koparal (2009): "Urla ve Seferihisar İlçeleri Yüzey Araştırması 2007 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 3. Cılt* **26**: 73–90.

Ersoy, Yasar and Elif Koparal (2014): "Urla ve Seferihisar İlçeleri Yüzey Araştırması 2012 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **31**: 407–418.

Ersoy, Yasar and Elif Koparal (2016): "İzmir İli, Urla ve Seferihisar İlçeleri Yüzey Araştırması 2014 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 2. Cilt* **33**: 79–100.

Evans, Arthur (1896): "The Eastern Question in Anthropology". In: *Report of the Sixty-Sixth Meeting of the British Association for the Advancement of Science, Held at Liverpool in September 1896*, 906–922. London: John Murray.

Evans, Arthur (1921): *The Palace of Minos at Knossos: The Neolithic and Early and Middle Minoan Ages*. Vol. I. London: Macmillan.

Evans, Arthur (1928a): *The Palace of Minos at Knossos: Fresh Lights on Origins and External Relations: The Restoration in Town and Palace after Seismic Catastrophe towards close of M.M. III, and the Beginnings of the New Era*. Vol. 2.1. London: Macmillan.

Evans, Arthur (1928b): *The Palace of Minos at Knossos: Town-Houses in Knossos of the New Era and Restored West Palace Section, with its State Approach*. Vol. 2.2. London: Macmillan.

Evans, Arthur (1935a): *The Palace of Minos III.* London: Macmillan.

Evans, Arthur (1935b): *The Palace of Minos IV.* London: Macmillan.

Forrer, Emil (1919): "Die acht Sprachen der Boghazköi-Inschriften". *Sitzungsberichte der Preußischen Akademie der Wissenschaften, Sitzung der Philosophisch-Historischen Klasse* **63**: 1029–1041.

Forrer, Emil (1921): "Ausbeute aus den Boghazköy-Inschriften". *Mitteilungen der Deutschen Orient-Gesellschaft* **61**: 20–38.

Forstenpointner, Gerhard, Michael Kerschner and Ulrike Muss (2008): "Das Artemision in der Späten Bronzezeit und der Frühen Eisenzeit". In: *Die Archäologie der ephesischen Artemis. Gestalt und Ritual eines Heiligtums*, edited by Ulrike Muss, 33–46. Wien: Phoibos.

French, David H. (1965): "Early Pottery Sites from Western Anatolia". *Bulletin of the Institute of Archaeology (London)* **5**: 15–24.

French, David H. (1967): "Prehistoric Sites in Northwest Anatolia I: The Iznik Area". *Anatolian Studies* **17**: 49–100.

French, David H. (1969): "Prehistoric Sites in Northwest Anatolia II: Balıkesir and Akhisar/Manisa Areas". *Anatolian Studies* **19**: 41–98.

French, David H. (2016): *Roman Roads & Milestones of Asia Minor.* Ankara: British Institute at Ankara.

Freu, Jacques (1980): *Luwiya: Géographie historique des provinces méridionales de l'empire hittite; Kizzuwatna, Arzawa, Lukka, Milawatta.* Nice: Centre de recherches comparatives sur les langues de la Méditerranée ancienne, Document n° 6 , Tome 2, Université de Nice.

Furtwängler, Adolf and Georg Loeschke (1886): *Mykenische Vasen: Vorhellenistische Thongefäße aus dem Gebiete des Mittelmeeres.* Berlin: A. Asher & Co.

Garstang, John and Oliver Robert Gurney (1959): *The Geography of the Hittite Empire.* Vol. 5. London: The British Institute of Archaeology at Ankara.

Gimatzidis, Stefanos, Magda Pieniążek and Sila Mangaloğlu-Votruba (2018): *Archaeology Across Frontiers and Borderlands – Fragmentation and Connectivity in the North Aegean and the Central Balkans from the Bronze Age to the Iron Age.* Oriental and European Archaeology **9**. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Greaves, Alan M. (2002): *Miletos – A History.* New York: Routledge.

Greaves, Alan M. (2010): "Western Anatolia". In: *The Oxford Handbook of the Bronze Age Aegean (ca. 3000–1000 BC)*, edited by Eric H. Cline, 877–889. New York: Oxford University Press.

Gültekin, Hakkı and Musa Baran (1964): "The Mycenaean Grave Found at the Hill of Ayasuluk". *Türk Arkeoloji Dergisi* **13** (2): 125–133.

Günel, Sevinç (1999a): *Panaztepe II: M.Ö. 2. Bine Tarihlendirilen Panaztepe Seramiğinin Batı Anadolu ve Ege Arkeokojisindeki Yeri ve Önemi (Die Keramik von Panaztepe und ihre Bedeutung für Westkleinasien und die Ägäis im 2. Jahrtausend).* Ankara: Türk Tarih Kurumu Basımevi.

Günel, Sevinç (1999b): "Vorbericht über die mittel- und spätbronzezeitliche Keramik von Liman Tepe". *Istanbuler Mitteilungen* **49**: 41–82.

Günel, Sevinç (2003a): "Aydın Bölgesi Yüzey Araştırmaları Işığında Çatalkaya, Dedekuyusu ve Bahçetepe Yerleşimleri". *Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi* **20** (1): 53–70.

Günel, Sevinç (2003b): "Aydın ve Muğla İlleri 2001 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **20**: 113–126.

Günel, Sevinç (2003c): "Vorbericht über die Oberflächenbegehungen in den Provinzen Aydın und Muğla". *Anatolia Antiqua* **11**: 75–100.

Günel, Sevinç (2006): "New Contributions to Western Anatolian Cultural History: Aydın Region Survey Project". *Prähistorische Zeitschrift* **81** (2): 153–174.

Günel, Sevinç (2010): "Mycenaean Cultural Impact on the Çine (Marsyas) Plain, Southwest Anatolia: The Evidence from Çine-Tepecik". *Anatolian Studies* **60**: 25–49.

Günel, Sevinç (2015): "Çine-Tepecik – New Contributions on Late Bronze Age Cultures in Western Anatolia". In: *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, edited by Nikolaos Chr. Stampolidis, Çiğdem Maner and Konstantinos Kopanias, 627–646. Istanbul: Koç University Press.

Günel, Sevinç and Suzanne Herbordt (2010): "Ein hethitischer Siegelabdruck aus Çine-Tepecik". *Archäologischer Anzeiger,* 1. Halbband: 1–11.

Guthmüller, Bodo (2000): *Europa und die Türken in der Renaissance.* Tübingen: Niemeyer.

Guzowska, Marta, Ralf Becks, Eva Andersson Strand, Joanne Cutler and Marie-Louise Nosch (2015): "Textile Tools from Troia, Western Anatolia". In: *Tools, textiles and contexts: investigating textile production in the Aegean and Eastern Mediterranean Bronze Age,* edited by Eva Andersson Strand and Marie-Louise Nosch, Ancient Textiles Series **21**: 309–328. Oxford: Oxbow Books.

Hanfmann, George M.A. (1962): "A 'Hittite' Priest from Ephesos". *American Journal of Archaeology* **66**: 1–4.

Hawkins, John David (1998): "Hattusa: Home to the Thousand Gods of Hatti". In: *Capital Cities: Urban Planning and Spiritual Dimensions, Bible Lands Museum Jerusalem Publication*, edited by Joan Goodnick Westenholz, 65–82. Jerusalem: Bible Lands Museum.

Hawkins, John David (2000): *Corpus of Hieroglyphic Luwian Inscriptions. Vol 1: Inscriptions of the Iron Age. Part 1: Text: Introduction, Karatepe, Karkamiš, Tell Ahmar, Maraş, Malatya, Commagene.* Berlin: de Gruyter.

Hawkins, John David and Donald F. Easton (1996): "A Hieroglyphic Seal from Troy". *Studia Troica* **6**: 111–118.

Hertel, Dieter (2011): "Das vorklassische Pergamon und sein Siedlungsprofil". *Istanbuler Mitteilungen* **61**: 21–84.

Hertel, Dieter and Andreas Schachner (2000): "Nachwort". In: *The Grey Wares of North-West Anatolia*, edited by Nicholas P. Bayne, Asia Minor Studien **37**: 299–317. Bonn: R. Habelt.

Horejs, Barbara (2008): "Eine spätbronzezeitliche Bestattung in Halkapınar bei Ephesos". *Jahreshefte des Österreichischen Archäologischen Institutes in Wien* **77**: 107–129.

Hrozný, Bedřich (1915): "Die Lösung des hethischen Problems". *Mitteilungen der Deutschen Orient-Gesellschaft* **56**: 17–50.

İren, Kaan and Çiçek Atay (2012): "Pers Satrapının Gölgesinde Çok Kültürlü Bir Kent". *Aktüel Arkeoloji* **25**: 70–77.

Joukowsky, Martha Sharp (1986): *Prehistoric Aphrodisias: An Account of the Excavations and Artifact Studies, vol. 1: Excavations and Studies.* Providence: Brown University Center for Old World Archaeology and Art.

Joukowsky, Martha Sharp (1987): "Prehistoric Aphrodisias". In: *Aphrodisias de Carie, Colloque de l'Université de Lille III, 13 November 1985*, edited by Nathalie de Chaisemartin *et al.*, 31–37. Paris: Editions recherche sur les civilisations.

Joukowsky, Martha Sharp (1991): "Prehistoric Developments on the Acropolis (Theater Hill)". *JRA Supplementary Series Number 2, Aphrodisias Papers* **2**: 9–13.

Kadish, Barbara and Kenan Tevfik Erim (1969): "Excavation of Prehistoric Remains at Aphrodisias 1967". *American Journal of Archaeology* **73**: 49–65.

Kaiser, Ivonne and Amy Raymond (2015): "Miletus IIIb – Ramping up

to a Minoanized Locale". In: *Ein Minoer im Exil – Festschrift für Wolf-Dietrich Niemeier, Universitätsforschungen zur prähistorischen Archäologie*, edited by Diamantis Panagiotopoulos *et al.*, 147–161. Bonn: Rudolf Habelt.

Kaiser, Ivonne and Julien Zurbach (2015): "Late Bronze Age Miletus: The Anatolian Face". In: *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age,* edited by Nikolaos Chr. Stampolidis, Çiğdem Maner and Konstantinos Kopanias, 557–580. Istanbul: Koç University Press.

Kansu, Şevket Aziz (1945): "Isparta ve Burdur'da Prehistorya Araştırmaları". *Belleten* **9**: 278–281.

Kaptan, Ergun (2008): "Metallurgical Residues from Late Chalcolithic and Early Bronze Age Liman Tepe". In: *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age*, edited by Hayat Erkanal *et al.*, ANKUSAM Publication **1**: 243–250. Ankara: Ankara University Press.

Karavul, Can, Zehra Dedebali, Ayhan Keskinsezer, Günay Beyhan and Aşkın Demirkol (2010): "Magnetic and Electrical Resistivity Image Survey in a Buried Adramytteion Ancient City in Western Anatolia, Turkey". *International Journal of the Physical Sciences* **5** (6): 876–883.

Kayan, İlhan (1996): "Holocene Stratigraphy of the Lower Karamenderes-Dümrek Plain and Archaeological Material in the Alluvial Sediments to the North of the Troia Ridge". *Studia Troica* **6**: 239–249.

Kayan, İlhan (2001): "Die troianische Landschaft. Geomorphologie und paläogeographische Rekonstruktion der Alluvialebenen". In: *Troia – Traum und Wirklichkeit*, edited by Andreas W. Wetter *et al.*, 309–314. Stuttgart: Theiss.

Koçak, Mustafa (2004): "Afyon Bolvadin Yüzey Araştırmaları 2002 (Neolitik Çağdan İlk Tunç Çağına Kadar)". *Araştırma Sonuçları Toplantısı 1. Cılt* **21**: 173–184.

Koçak, Mustafa (2005): "Bolvadin, Çay ve Sultandağı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **22**: 19–28.

Koçak, Mustafa (2006): "Afyon İli ve İlçeleri Yüzey Araştırmaları 2004". *Araştırma Sonuçları Toplantısı 1. Cılt* **23**: 83–94.

Koçak, Mustafa and Fahri Işık (2007): "2005 Yılı Afyonkarahisar İli ve İlçeleri Arkeolojik Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **24**: 357–380.

Koçak, Özdemir (2011): "Afyonkarahisar Ili ve Ilçeleri 2009 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **28**: 181–200.

Koçak, Özdemir (2012): "Afyonkarahisar İli ve İlçeleri 2010 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **29**: 231–261.

Koçak, Özdemir (2013): "Afyonkarahisar İli ve İlçeleri 2011 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **30**: 39–52.

Koçak, Özdemir (2014): "Afyonkarahisar İli ve İlçeleri 2012 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **31**: 75–96.

Koçak, Özdemir (2015): "Afyonkarahisar İli ve İlçeleri Ile Uşak İli Sivaslı İlçesi 2013 Yılı Yüzey Araştırmaları." *Araştırma Sonuçları Toplantısı 1. Cılt* **32**: 355–374.

Koçak, Özdemir, Hatice Gül Küçükbezci and Rahim Kızgut (2016): "Afyonkarahisar İli ve İlçeleri 2014 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **33**: 21–46.

Koçak, Özdemir, Hatice Gül Küçükbezci and Rahim Kızgut (2017): "Afyonkarahisar İli ve İlçeleri 2015 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **34**: 233–264.

Koçak, Özdemir, Hatice Gül Küçükbezci and Rahim Kızgut (2018): "Afyonkarahisar İli ve İlçeleri 2016 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **35**: 355–374.

Koçak, Özdemir, Hatice Gül Küçükbezci and Rahim Kızgut (2019): "Afyonkarahisar İli ve İlçeleri 2017 Yılı Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 3. Cılt* **36**: 239–260.

Kolb, Frank (2010): *Tatort "Troia"*. Paderborn: Ferdinand Schöningh.

Kolb, Frank (2011): "Schliemanns bronzezeitliche Hisarlik-Siedlungen: ihre Bedeutung im Kontext heute bekannter bronzezeitlicher Siedlungen im westlichen Kleinasien". *Mitteilungen aus dem Heinrich-Schliemann-Museum Ankershagen* **9**: 41–59.

Konakçı, Erim (2014): "Laodikeia'nın İlk Yerleşimi Asopos Tepesi (First Settlement of Laodikeia: Asopos Hill)". In: *10. Yılında Laodikeia (2003–2013 Yılları)*, edited by Celal Şimşek, Laodikeia Çalışmaları **3**: 87–123. Istanbul: Ege Yayınları.

Konakçı, Erim (2016): "Laodikeia Yüzey Araştırması ve Asopos Tepesi Kazıları". *Denizli – Geçmişten Günümüze* **47**: 52–55.

Koparal, Elif, Volkan Emirciler and Michele Massa (2017): "Urla ve Seferihisar İlçeleri Yüzey Araştırması 2015 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **34**: 483–504.

Korfmann, Manfred (1983): *Demircihüyük – Die Ergebnisse der Ausgrabungen 1975–1978, I: Architektur, Stratigraphie und Befunde*. Mainz: Philipp von Zabern.

Korfmann, Manfred (1986): "Troy: Topography and Navigation". In:

Troy and the Trojan War, edited by Machteld Mellink, 1–16. Bryn Mawr: Bryn Mawr College.

Korfmann, Manfred (1988): "Beşik-Tepe. Vorbericht über die Ergebnisse der Grabungen von 1985 und 1986". *Archäologischer Anzeiger* **3**: 391–404.

Korfmann, Manfred, Ayşe Baykal-Seeher, Sinan Kiliç and Hartmut Kühne (1994): *Anatolien in der Frühen und Mittleren Bronzezeit.* Beihefte zum Tübinger Atlas des Vorderen Orients, Reihe B, Geisteswissenschaften **73**. Wiesbaden: Dr. Ludwig Reichert.

Körpe, Reyhan (2016): "2014 Yılı Gelibolu Yarımadası Sestos Antik Kenti ve Çevresi Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **33**: 325–338.

Körpe, Reyhan and Mehmet Yavuz (2014): "2012 Sestos Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **31**: 356–368.

Kourkoulakos, Antonis (2022): "Did Ḫattušili I Destroy Beycesultan II? An Interpretation of the Site's New C-14 Dating". In: *The Political Geography of Western Anatolia in the Late Bronze Age*, edited by Ivo Hajnal, Eberhard Zangger and Jorrit M. Kelder, Archaeolingua Series Minor **45**: 377–393. Budapest: Archaeolingua.

Kozal, Ekin (2006a): "Anatolien im 2. Jt. v.u.Z. und die Hinterlassenschaften materieller Kultur aus dem Ostmittelmeerraum, insbesondere Zyperns". Dissertation, Universität Tübingen.

Kozal, Ekin (2006b): "'Made in' Zypern – Kyprische Gefäße der Spätbronzezeit in Troia". In: *Troia – Archäologie eines Siedlungshügels und seiner Landschaft*, edited by Manfred O. Korfmann, 253–258. Mainz: Philipp von Zabern.

Kozal, Ekin (2017): *Fremdes in Anatolien: Importgüter aus dem Ostmittelmeerraum und Mesopotamien als Indikator für spätbronzezeitliche Handels- und Kulturkontakte.* Schriften zur Vorderasiatischen Archäologie **11**. Wiesbaden: Harrasowitz.

Kraft, John C., İlhan Kayan, Helmut Brückner and George Rapp (2003): "Sedimentary Facies Patterns and the Interpretation of Paleogeographies of Ancient Troia". In: *Troia and the Troad: Scientific Approaches*, edited by Günther A. Wagner, Ernst Pernicka and Hans-Peter Uerpmann, 361–378. Berlin: Springer.

Lamb, Winifred (1937): "Excavations at Kusura near Afyon Karahisar: I". *Archaeologia* **86**: 1–64.

Lamb, Winifred (1938): "Excavations at Kusura near Afyon Karahisar: II". *Archaeologia* **87**: 217–273.

Laviosa, Clelia (1984): "The Minoan Thalassocracy, Iasos and the Carian Coast". In: *The Minoan Thalassocracy: Myth and Reality*, edited by Robin Hägg and Nanno Marinatos, Skrifter Utgivna av Svenska Institutet i Athen **4**: 183–185. Stockholm: Paul Åströms.

Lengeranli, Yunus (2008): "Metallic Mineral Deposits and Occurences of the İzmir District". In: *The Aegean in the Neolithic, Chalcolithic and the Early Bronze Age*, edited by Hayat Erkanal *et al.*, ANKUSAM Publication **1**: 355–367. Ankara: Ankara University Press.

Lienert, Elisabeth (2001): "Ein mittelalterlicher Mythos – Deutsche Trojadichtungen des 12. bis 14. Jahrhunderts". In: *Troia – Traum und Wirklichkeit*, edited by Andreas W. Wetter *et al.*, 204–211. Stuttgart: Theiss.

Lloyd, Seton and James Mellaart (1965): *Beycesultan, vol. II: Middle Bronze Age Architecture and Pottery.* Occasional Publications of the British Institute of Archaeology in Ankara **8**. London: British Institute of Archaeology in Ankara.

Ludwig, Emil (1932): *Schliemann – Geschichte eines Goldsuchers.* Berlin: Paul Zsolnay.

Mac Sweeney, Naoíse (2010): "Hittites and Arzawans: A View from Western Anatolia". *Anatolian Studies* **60**: 7–24.

Mac Sweeney, Naoíse (2012): "A Land without Autochthones. Anatolian Archaeology in the Early Twentieth Century". In: *Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East, 12 April – 16 April 2010, the British Museum and UCL, London, vol. 2*, edited by Roger Matthews and John Curtis, 64–72. Wiesbaden: Harrassowitz.

Mangaloğlu-Votruba, Sıla (2011): "Liman Tepe'de Geç Hellas III C Dönemi". *Anadolu/Anatolia* **37**: 43–73.

Marchese, Ronald T. (1976): "Report of West Acropolis Excavations at Aphrodisias, 1971–1973". *American Journal of Archaeology* **80**: 393–413.

Marinatos, Spyridon (1939): "The Volcanic Destruction of Minoan Crete". *Antiquity* **13**: 425–439.

Massa, Michele, Orlene McIlfatrick and Erkan Fidan (2017): "Patterns of Metal Procurement, Manufacture and Exchange in Early Bronze Age Northwestern Anatolia: Demircihüyük and Beyond". *Anatolian Studies* **67**: 51–83.

Masson, Olivier (1971): "Deux Petits Lingots de Cuivre Inscrits d'Enkomi, 1953". In: *Alasia I*, edited by Claude F.-A. Schaeffer, 449–455. Paris: Mission Archéologie d'Alasia.

Matsas, Dimitri (2004): "Samothrake. Archäologisches Museum". In: *Kleinere griechische Sammlungen, Supplementum 3, Neufunde aus Griechenland und der westlichen Türkei,* edited by Ingo Pini, Corpus der minoischen und mykenischen Siegel **5**: 497–500. Heidelberg: Propylaeum.

Mee, Christopher B. (1978): "Aegean Trade and Settlement in Anatolia in the Second Millennium B.C.". *Anatolian Studies* **28**: 121–155.

Mee, Christopher B. (1998): "Anatolia and the Aegean in the Late Bronze Age". In: *The Aegean and the Orient in the second millennium: proceedings of the 50th anniversary symposium, Cincinnati, 18–20 April 1997,* edited by Diane Harris-Cline and Eric H. Cline, Aegaeum **18**: 37–148. Liège: Université de Liège.

Mellaart, Arlette (2002): "Reflections on a Summerhouse – The Savfet Pasha Yalı in Kanlıca". *Cornucopia – Turkey for Connoisseurs* **5** (25): 106–122.

Mellaart, James (1954): "Preliminary Report on a Survey of Pre-Classical Remains in Southern Turkey". *Anatolian Studies* **4**: 175–240.

Mellaart, James (1955): "Some Prehistoric Sites in North-Western Anatolia". *Istanbuler Mitteilungen* **6**: 53–88.

Mellaart, James (1998): "Beycesultan". In: *Ancient Anatolia – Fifty Years' Work by the British Institute of Archaeology at Ankara*, edited by Roger Matthews, 61–68. Ankara: British Institute of Archaeology at Ankara.

Mellaart, James and Ann Murray (1995): *Beycesultan, vol. III, Part 2: Late Bronze Age and Phrygian Pottery and Middle and Late Bronze Age Small Objects.* Occasional Publications **12**. London: British Institute of Archaeology at Ankara.

Mellink, Machteld J. (1963): "Archaeology in Asia Minor". *American Journal of Archaeology* **67**: 173–190.

Mellink, Machteld J. (1983): "The Hittites and the Aegean World: Part 2. Archaeological Comments on Ahhiyawa-Achaians in Western Anatolia". *American Journal of Archaeology* **87**: 138–141.

Mercangöz, Zeynep (2008): "Kuşadası Kadı Kalesi Kazısı 2001 Yılı Çalışmaları". *Kazı Sonuçları Toplantısı 2. Cılt* **24**: 125–138.

Meriç, Recep (1982): *Metropolis in Ionien. Ergebnisse einer Survey-Unternehmung in den Jahren 1972–1975.* Beiträge zur klassischen Philologie **142**. Königstein: Anton Hain.

Meriç, Recep (1983): "1982 Yılı İzmir-Aydın-Manisa İllerinde Tarihsel Coğrafya Konulu Yüzey Araştırmaları Raporu". *Araştırma Sonuçları Toplantısı* **1**: 51–52.

Meriç, Recep (1985): "1984 Yılı İzmir ve Manisa İlleri Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı* **3**: 199–208.

Meriç, Recep (1986): "1985 Yılı İzmir ve Manisa İlleri Yüzey Araştırması". *Araştırma Sonuçları Toplantısı* **4**: 301–310.

Meriç, Recep (1987): "1985 Yılı Alaşehir Kazı Çalışmaları." *Kazı Sonuçları Toplantası 2. Cılt* **8**: 259–271.

Meriç, Recep (1989): "1987 İzmir-Manisa-Aydın İlleri Yüzey Araştırması". *Araştırma Sonuçları Toplantısı* **6**: 385–392.

Meriç, Recep (2003): "Excavations at Bademgediği Tepe (Puranda) 1999–2002: A Preliminary Report". *Istanbuler Mitteilungen* **53**: 79–98.

Meriç, Recep (2009): *Das Hinterland von Ephesos. Archäologisch-topographische Forschungen im Kaystros-Tal.* Ergänzungshefte zum Jahrbuch des Österreichischen Archäologischen Instituts **12**. Wien: Österreichisches Archäologisches Institut.

Meriç, Recep and Ali Kazım Öz (2015): "Bademgediği Tepe (Puranda) Near Metropolis". In: *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, edited by Nikolaos Chr. Stampolidis, Çiğdem Maner and Konstantinos Kopanias, 609–626. Istanbul: Koç University Press.

Momigliano, Nicoletta (2009): "Minoans at Iasos?" In: *The Minoans in the Central, Eastern and Northern Aegean – New Evidence*, edited by Colin F. Macdonald, Erik Hallager and Wolf-Dietrich Niemeier, Monographs of the Danish Institute at Athens **8**: 121–140. Athens: Aarhus University Press.

Momigliano, Nicoletta, Alan Greaves, Tamar Hodos and Belgin Aksoy (2011): "Report on the Çaltılar Survey Project 2010". *ANMED* **2011**: 159–163.

Momigliano, Nicoletta (2012): *Bronze Age Carian Iasos – Structures and Finds from the Area of the Roman Agora (c. 3000–1500 BC).* Rome: Giorgio Bretschneider.

Momigliano, Nicoletta (2013): "Çaltılar Archaeological Project 2012". *ANMED* **11**: 178–184.

Mountjoy, Penelope A. (1998): "The East Aegean – West-Anatolian Interfaces in the Late Bronze Age". *Anatolian Studies* **48**: 33–67.

Mountjoy, Penelope A. (2011): "A Bronze Age Ship from Ashkelon with Particular Reference to the Bronze Age Ship from Bademgediği Tepe". *American Journal of Archaeology* **115**: 483–488.

Muhly, James D. (1985): "Sources of Tin and the Beginnings of Bronze Metallurgy". *American Journal of Archaeology* **89** (2): 275–291.

Muhly, James D. (2011): "Metals and Metallurgy". In: *The Oxford Handbook of Ancient Anatolia 10,000–323 B.C.E.*, edited by Sharon R. Steadman and Gregory McMahon, 858–876. New York: Oxford University Press.

Müller-Karpe, Andreas (1994): *Anatolisches Metallhandwerk.* Offa Bücher **75**. Neumünster: Wachholtz.

Nessel, Bianka (2014): "Werkzeuge zur Produktion von Metallobjekten und weitere Geräte aus der Trojanischen Sammlung in Berlin". In: *Heinrich Schliemanns Sammlung Trojanischer Altertümer – Neuvorlage. Vol. 2: Untersuchungen zu den Schatzfunden, den Silber- und Bronzeartefakten, der Gusstechnik, den Gefässmarken und den Bleigewichten*, edited by Matthias Wemhoff, 205–276. Berlin: Staatliche Museen zu Berlin – Preussischer Kulturbesitz.

Niemeier, Wolf-Dietrich (1998): "The Mycenaeans in Western Anatolia and the Problem of the Origins of the Sea Peoples". In: *Mediterranean Peoples in Transition – Thirteenth to Early Tenth Centuries BCE*, edited by Seymour Gittin, Amihai Mazar and Ephraim Stein, 17–65. Jerusalem: Israel Exploration Society.

Niemeier, Wolf-Dietrich (2005): "Minoans, Mycenaeans, Hittites and Ionians in Western Asia Minor: New Excavations in Bronze Age Miletus-Millawanda". In: *The Greeks in the East*, edited by Alexandra Villing, 1–35. London: British Museum.

Niemeier, Wolf-Dietrich (2009): "Milet und Karien vom Neolithikum bis zu den 'Dunklen Jahrhunderten' – Mythos und Archäologie". In: *Die Karer und die Anderen*, edited by Frank Rumscheid, 7–25. Bonn: Habelt.

Niemeier, Wolf-Dietrich (2012): "Griechenland und Kleinasien in der späten Bronzezeit. Der historische Hintergrund der homerischen Epen". In: *Homer, gedeutet durch ein großes Lexikon*, edited by Michael Meier-Brügger, 141–180. Berlin: de Gruyter.

Oberheid, Robert (2007): *Emil O. Forrer und die Anfänge der Hethitologie. Eine wissenschaftshistorische Biografie*. Berlin: de Gruyter.

Ormerod, Henry Ardene (1911): "Prehistoric Remains in South-Western Asia Minor – II". *The Annual of the British School at Athens* **18**: 80–94.

Oy, Harun (2017a): "Banaz'da Bir Tunç Çağı Yerleşimi: Ayvacık Höyük". *Akademik ve Sosyal Araştırmalar Dergisi* **5** (50): 74–93.

Oy, Harun (2017b): "Uşak-Banaz İlk Tunç Çağı Araştırmaları 2015 Yılı Çalışmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **34**: 51–74.

Oy, Harun (2017c): "West Anatolian Mining in Early Bronze Age (3000–2000 BC)". *Journal of Ancient History and Archaeology* **4** (2): 12–24.

Özdoğan, Mehmet (1981): "Trakya'da Tarihöncesi Araştırmalarının Bügünkü Durumu ve Bazı Sorunlar". *Güneydoğu Avrupa Araştırmaları Dergisi* **10/11**: 21–58.

Özdoğan, Mehmet (1983): "Doğu Marmara ve Trakya Araştırmaları, 1982". *Araştırma Sonuçları Toplantısı* **1**: 63–68.

Özdoğan, Mehmet (1984): "1983 Yılı Doğu Marmara ve Trakya Araştırmaları". *Araştırma Sonuçları Toplantısı* **2**: 221–232.

Özdoğan, Mehmet (1985): "1984 Yılı Trakya ve Doğu Marmara Araştırmaları". *Araştırma Sonuçları Toplantısı* **3**: 409–420.

Özdoğan, Mehmet (1986): "Prehistoric Sites in the Gelibolu Peninsula". *Anadolu Araştırmaları* **10**: 51–66.

Özdoğan, Mehmet (1988): "1986 Yılı Trakya ve Marmara Bölgesi Araştırmarı". *Araştırma Sonuçları Toplantısı 2. Cılt* **5**: 157–173.

Özdoğan, Mehmet (1993): "The Second Millennium of the Marmara Region". *Istanbuler Mitteilungen* **43**: 151–162.

Özdoğan, Mehmet and Murat Akman (1992): "1990 Yılı Trakya ve Marmara Bölgesi Araştırmaları". *Araştırma Sonuçları Toplantısı* **9**: 405–423.

Özgen, Hüseyin Murat (2016): "Adramytteion (Ören) 2015 Çalışmalarının Ardından". *Türk Eskiçağ Bilimleri Enstitüsü Haberler* **41**: 22–25.

Özsait, Mehmet (1991): "1989 Yılı Gölhisar Çevresi Tarihöncesi Araştırmaları". *Araştırma Sonuçları Toplantısı* **8**: 35–44.

Özsait, Mehmet (1994): "1992 Yılı Isparta-Gelendost Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı* **11**: 301–310.

Özsait, Mehmet (1999): "1997 Yılı Isparta ve Çevresi Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **16**: 77–88.

Özsait, Mehmet (2004): "2002 Yılı Isparta Ili Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 2. Cılt* **21**: 285–294.

Özsait, Mehmet and Nesrin Özsait (1996): "Seref Höyük: Komama". *Anadolu Araştırmaları* **14**: 361–389.

Palaima, Thomas G. (1989): "Cypro-Minoan Scripts: Problems of Historical Context". In: *Problems in Decipherment*, edited by Yves Duhoux, Thomas G. Palaima and John Bennet, 121–187. Louvain-la-Neuve: Peeters.

Pavúk, Peter (2012): "Of Spools and Discoid Loom-Weights: Aegean-Type Weaving at Troy Revisited". In: *Kosmos: Jewellery, Adornment and Textiles in the Aegean Bronze Age. Proceedings of the 13th International Aegean Conference, University of Copenhagen, Danish Na-*

tional Research Foundation's Centre for Textile Research, 21–26 April 2010, edited by Marie-Louise Nosch, 121–130. Leuven: Peters.

Pavúk, Peter (2014): *Troia VI Früh und Mitte. Keramik, Stratigraphie, Chronologie*. Studia Troica Monographien **3**. Bonn: Rudolf Habelt.

Pavúk, Peter (2015): "Between the Aegeans and the Hittites: Western Anatolia in the 2nd Millennium BC". In: *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, edited by Nikolaos Chr. Stampolidis, Çiğdem Maner and Konstantinos Kopanias, 81–113. Istanbul: Koç University Press.

Pavúk, Peter and Barbara Horejs (2018): "Ceramics, Surveys, and Connectivity in Western Anatolia: The Middle and Late Bronze Age Bakirçay/Kaikos Valley Restudied". *Ägypten und Levante* **28**: 457–484.

Pavúk, Peter and Magda Pieniążek (2016): "Towards Understanding the Socio-Political Structures and Social Inequalities in Western Anatolia during the Late Bronze Age". In: *Rich and Poor: Competing for Resources in Prehistory. Tagungsband des 8. Mitteldeutschen Archäologentages in Halle, 22.–24. November 2015*, edited by Harald Meller *et al.*, 531–551. Halle (Saale): Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Pernicka, Ernst (1987): "Erzlagerstätten in der Ägäis und ihre Ausbeutung im Altertum". Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz **34** (2), 607–714.

Pernicka, Ernst, Clemens Eibner, Önder Öztunali and Günther A. Wagner (2003): "Early Bronze Age Metallurgy in the North-East Aegean". In: *Troia and the Troad: Scientific Approaches*, edited by Günther A. Wagner, Ernst Pernicka and Hans-Peter Uerpmann, 143–172. Berlin: Springer.

Pieniążek, Magda (2016): "A Polity in Transition: Troy in the 2nd Millennium BC". In: *Von Baden bis Troia: Ressourcennutzung, Metallurgie und Wissenstransfer; eine Jubiläumsschrift für Ernst Pernicka*, edited by Martin Bartelheim, Barbara Horejs and Raiko Krauß, Oriental and European Archaeology **3**: 513–534. Rahden/Westf.: Marie Leidorf.

Pieniążek, Magda (2018): "Foreign Influences and Indigenous Transformations: The Case of Seals and Jewellery from the Late Bronze Age North Aegean". In: *Archaeology Across Frontiers and Borderlands – Fragmentation and Connectivity in the North Aegean and the Central Balkans from the Bronze Age to the Iron Age*, edited by

Stefanos Gimatzidis, Magda Pieniążek and Sila Mangaloğlu-Votruba, Oriental and European Archaeology **9**: 113–138. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Pieniążek, Magda, Peter Pavúk and Ekin Kozal (2018): "The Troad, South Aegean, and the Eastern Mediterranean – Long-Distance Connections during the Middle and Late Bronze Age". In: *Bronzezeitlicher Transport: Akteure, Mittel und Wege*, edited by Bianka Nessel, Daniel Neumann and Martin Bartelheim, RessourcenKulturen **8**: 375–410. Tübingen: Tübingen University Press.

Powell, Wayne, Evren Yazgan, Michael Johnson, K. Aslıhan Yener and Ryan Mathur (2021): "Mineralogical Analysis of the Kestel Mine: An Early Bronze Age Source of Tin Ore in the Taurus Mountains, Turkey". *Minerals* **11** (91): 1–16. doi.org/10.3390/min11010091

Radt, Wolfgang (1992): "Die frühesten Wehrmauern von Pergamon und die zugehörigen Keramikfunde". *Istanbuler Mitteilungen* **42**: 163–234.

Ramage, Andrew (1983): "House of Bronzes/Lydian Market: Stratification Sequence and the Lydian Levels". In: *Sardis from Prehistoric to Roman Times*, edited by Georg M.A. Hanfmann, 26–33. Cambridge: Harvard University Press.

Raymond, Amy (2005): "Importing Culture at Miletus: Minoans and Anatolians at Middle Bronze Age Miletus". In: *Emporia – Aegeans in the Central and Eastern Mediterranean. Proceedings of the 10th International Aegean Conference, Italian School of Archaeology, 14–18 April 2004*, edited by Roberg Laffineur and Emanuele Greco, 185–191. Eupen: Kliemo.

Raymond, Amy (2007): "Minoanization at Miletus: The Middle Bronze Age Ceramics". In: *Krinoi kai Limenes – Studies in Honor of Joseph and Maria Shaw*, edited by Philip P. Betancourt, Michael C. Nelson and Hector Williams. Prehistory Monographs **22**: 221–229. Philadelphia: Instap Academic Press.

Raymond, Amy, Ivonne Kaiser, L.-C. Rizotto and Julien Zurbach (2016): "Discerning Acculturation at Miletus: Minoanisation and Mycenaeanisation". In: *Beyond Thalassocracies: understanding processes of Minoanisation and Mycenaeanisation in the Aegean*, edited by Evi Gorogianni, Luca Girella and Peter Pavúk, 58–74. Oxford: Oxbow.

Reich, David (2018): *Who We Are and How We Got Here – Ancient DNA and the New Science of the Human Past.* Oxford: Oxford University Press.

Rijser, David (2012): "The Second Round: The Battle for Troy in the Renaissance". In: *Troy – City, Homer, Turkey*, edited by Jorrit M. Kelder, Günay Uslu and Ömer Faruk Şerifoğlu, 1–183. Zwolle: wbooks.

Roberts, Neil (2017): "The Land of the Hittites: Airs, Waters and Places". In: *Hittite Landscape and Geography*, edited by Mark Weeden and Lee Z. Ullmann, Handbook of Oriental Studies **121**: 17–27. Leiden: Brill.

Roosevelt, Christopher (2007): "Central Lydia Archaeological Survey: 2005 Results". *Araştırma Sonuçları Toplantısı 2. Cılt* **24**: 135–154.

Roosevelt, Christopher H. and Christina Luke (2009): "Central Lydia Archaeological Survey: 2007 Results". *Araştırma Sonuçları Toplantısı 2. Cılt* **26**: 433–450.

Roosevelt, Christopher H., Christina Luke, Sinan Ünlüsoy, Canan Çakirlar, John M. Marston, Caitlin O'Grady, Peter Pavùk, Magda Pieniążek, C.B. Scott, Nami Shin and Francesca Slim (2018): "Exploring Space, Economy, and Interregional Interaction at a Second-Millennium B.C.E. Citadel in Central Western Anatolia: 2014–2017 Research at Kaymakçı". *American Journal of Archaeology* **122** (4): 645–688.

Roosevelt, Christopher and Christina Luke (2012): "Central Lydia Archaeologıcal Survey: 2010 Results". *Araştırma Sonuçları Toplantısı 2. Cılt* **24**: 135–154.

Rose, Charles Brian (2014): *The Archaeology of Greek and Roman Troy.* New York: Cambridge University Press.

Rose, Charles Brian and Reyhan Körpe (2008): "The Granicus River Valley Survey Projekt 2007". *Araştırma Sonuçları Toplantısı 2. Cılt* **26**: 343–356.

Ruehl, Martin A. (2015): *The Italian Renaissance in the German Historical Imagination, 1860–1930.* Cambridge: Cambridge University Press.

Şahoğlu, Vasıf (2012): "Çeşme-Bağlararası (2002–2005, 2009)". In: *Dil ve Tarih-Coğrafya Fakültesi 75. Yıl Armağanı. Arkeoloji Bölümü Tarihçesi ve Kazıları (1936–2011), Anadolu / Anatolia Festschrift Series Supplement III. 2*, edited by Aliye Öztan, Orhan Bingöl and Harun Taşkıran, 83–90. Ankara: Ankara Üniversitesi Basımevi.

Şahoğlu, Vasıf (2015): "Çeşme-Bağlararası: A Western Anatolian Harbour Settlement at the Beginning of the Late Bronze Age". In: *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, edited by Nikolaos Chr. Stampolidis, Çiğdem Maner and Konstantinos Kopanias, 593–608. Istanbul: Koç University Press.

Şahoğlu, Vasıf, Beverly Goodman-Tchernov, Ümit Gündoğan, Ümit

Çayır, Hayat Erkanal, Irfan Tuğcu, Timor Katz, Natalia Tyuleneva, Max Bichler and Johannes Sterba (2021): "Volcanic Ash, Victims, and Tsunami Debris from the Late Bronze Age Thera Eruption Discovered at Çeşme-Bağlararası (Turkey)". *Proceedings of the National Academy of Sciences* **119**. doi.org/10.1073/pnas.2114213118

Sandars, Nancy (1985): *The Sea Peoples*. London: Thames and Hudson.

Sarı, Deniz (2018): "Bilecik İli 2016 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **35**: 331–346.

Sarı, Deniz (2019): "Bilecik İli 2017 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **36**: 439–454.

Sarnowsky, Jürgen (2007): "Das spätmittelalterliche Europa und die Osmanen". In: *Die Türkei und Europa*, edited by Gabriele B. Clemens, Studien zur neueren europäischen Geschichte **1**: 21–38. Hamburg: Lit.

Sazcı, Göksel (2012): "Maydos Kilisetepe Höyüğü". *Arkeoloji ve Sanat Dergisi* **140**: 13–20.

Sazcı, Göksel (2013): "Maydos Kilisetepe Höyüğü – Eine bronzezeitliche Hafensiedlung an den Dardanellen". *Archäologisches Korrespondenzblatt* **43** (1): 29–40.

Sazcı, Göksel and Meral Başaran Mutlu (2018): "Maydos-Kilisetepe: A Bronze Age Settlement on the Border Between Asia and Europe". In: *Archaeology Across Frontiers and Borderlands – Fragmentation and Connectivity in the North Aegean and the Central Balkans from the Bronze Age to the Iron Age*, edited by Stefanos Gimatzidis, Magda Pieniążek and Sila Mangaloğlu-Votruba, Oriental and European Archaeology **9**: 139–157. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Schachermeyr, Fritz (1957): "Beycesultan". *Archiv für Orientforschung* **18**: 198–199.

Schachner, Andreas (1995): "Untersuchungen zur chronologischen Stellung der grau-minyschen Keramik in Westanatolien unter Berücksichtigung der Schliemann-Sammlung im Berliner Museum für Vor- und Frühgeschichte". *Acta Praehistorica et Archaeologica* **26/27**: 90–115.

Schoep, Ilse (2018): "Building the Labyrinth: Arthur Evans and the Construction of Minoan Civilization". *American Journal of Archaeology* **122** (1): 5–32.

Seeher, Jürgen (2000): *Die bronzezeitliche Nekropole von Demircihüyük-Sarıket*. Istanbuler Forschungen **44**. Tübingen: Ernst Wasmuth.

Seeher, Jürgen (2005): "Überlegungen zur Beziehung zwischen dem hethi-

tischen Kernreich und der Westküste Anatoliens im 2. Jahrtausend v. Chr." In: *Interpretationsraum Bronzezeit. Bernhard Hänsel von seinen Schülern gewidmet*, edited by Barbara Horejs, 33–44. Bonn: R. Habelt.

Service, Elman R. (1975): *Origins of the State and Civilization: The Process of Cultural Evolution*. New York: Norton.

Sommer, Michael (2005): *Die Phönizier*. Stuttgart: Alfred Kröner.

Speckmann, Thomas (2016): "Gegen den Rest der Welt". *ZEIT Geschichte* **2**: 78–83.

Spencer, Nigel (1995a): *A Gazetteer of Archaeological Sites in Lesbos*. Oxford: BAR.

Spencer, Nigel (1995b): "Early Lesbos between East and West: A 'Grey Area' of Aegean Archaeology". *The Annual of the British School at Athens* **90**: 269–306.

Spier, Jeffrey (1983): "Prehistoric and Protohistoric Periods". In: *Sardis from Prehistoric to Roman Times*, edited by George M.A. Hanfmann, 17–25. Cambridge: Harvard University Press.

Stampolidis, Nicholas Chr., Çiğdem Maner and Konstantinos Kopanias (eds.) (2015): *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*. Istanbul: Koç University Press.

Stos-Gale, Zofia Anna, George Maliotis, Noël Harold Gale and Nick Annetts (1997): "Lead Isotope Characteristics of the Cyprus Copper Ore Deposits Applied to Provenance Studies of Copper Oxhide Ingots". *Archaeometry* **39**: 83–123.

Tartaron, Thomas F. (2013): *Maritime Networks in the Mycenaean World*. Cambridge: Cambridge University Press.

Tavukçu, Ali Yalçın, Zerrin Aydın Tavukçu and Süheyla Ağaoğlu (2010): "Bozcaada (Tenedos) Araştırmaları 2009". *Araştırma Sonuçları Toplantısı 2. Cılt* **27**: 239–254.

Tüfekçi Sivas, Taciser and Hakan Sivas (2004): "2002 Yılı Eskişehir, Kütahya, Afyonkarahisar İlleri Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **21**: 155–166.

Tüfekçi Sivas, Taciser and Hakan Sivas (2005): "2003 Yılı Eskişehir, Kütahya, Afyonkarahisar İlleri Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **22**: 285–298.

Tüfekçi Sivas, Taciser and Hakan Sivas (2006): "2004 Yılı Eskişehir, Kütahya, Afyonkarahisar İlleri Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 2. Cılt* **23** (2): 163–174.

Tuna, Numan (1987): "Ionia ve Datça Yarımadası Arkeolojik Yüzey Araştırmaları". *Araştırma Sonuçları Toplantısı 1. Cılt* **5**: 303–357.

Ünlüsoy, Sinan, Christopher H. Roosevelt and Christina Luke (2018): "Gediz Vadisi'nde Bir Orta ve Geç Tunç Çağı Kalesi: Kaymakçı". *Arkeoloji Dergisi* **23**: 1–17.

Uschold, Johann (1836): *Geschichte des Trojanischen Krieges.* Stuttgart: Cotta.

Vaessen, Rik (2018): "Working in the Margins: Some Reflections on Past, Present and Future Research in Western Anatolia". In: *Archaeology Across Frontiers and Borderlands – Fragmentation and Connectivity in the North Aegean and the Central Balkans from the Bronze Age to the Iron Age,* edited by Stefanos Gimatzidis, Magda Pieniążek and Sila Mangaloğlu-Votruba, Oriental and European Archaeology **9***:* 71–92. Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Vermeule, Emily (1964): *Greece in the Bronze Age.* Chicago: The University of Chicago Press.

Waal, Willemijn (2022): "The Missing Link? Writing in West Anatolia During the Late Bronze Age". In: *The Political Geography of Western Anatolia in the Late Bronze Age*, edited by Ivo Hajnal, Eberhard Zangger and Jorrit M. Kelder, Archaeolingua Series Minor **45**: 229–269. Budapest: Archaeolingua.

Wace, Alan John Bayard and Maurice Scott Thompson (1912): *Prehistoric Thessaly: Being Some Account of Recent Excavations and Explorations in North-Eastern Greece from Lake Kopais to the Borders of Macedonia.* Cambridge: Cambridge University Press.

Wheatley, Paul (1971): *The Pivot of the Four Quarters: A Preliminary Enquiry into the Origins and Character of the Ancient Chinese City.* Edinburgh: Edinburgh University Press.

Widmer, Paul (2006): "Mykenisch *ru-wa-ni-jo* 'Luwier'". *Kadmos* **45** (1–2): 82–82.

Winckler, Hugo (1907): "Vorläufige Nachrichten über die Ausgrabungen in Boghazköi im Sommer 1907". *Mitteilungen der Deutschen Orient-Gesellschaft* **35**: 1–71.

Wittke, Anne-Maria, Eckart Olshausen and Richard Szydlak (2007): *Historischer Atlas der antiken Welt.* Stuttgart: J.B. Metzler.

Woudhuizen, Frederik Christiaan (1982): "Etruscan Origins: The Epigraphic Evidence". *Talanta – Proceedings of the Dutch Archaeological and Historical Society* **14/15**: 91–117.

Woudhuizen, Frederik Christiaan (2012): "Stamp Seal from Beycesultan". *The Journal of Indo-European Studies* **40** (1/2): 1–10.

Woudhuizen, Frederik Christiaan (2017): T*he Language of Linear C and Linear D from Cyprus.* Amsterdam: Dutch Archaeological and Historical Society.

Woudhuizen, Frederik Christiaan (2018): *The Luwians of Western Anatolia – Their Neighbours and Predecessors.* Oxford: Archaeopress.

Woudhuizen, Frederik Christiaan (2022): "Arzawa, Assuwa, and Mira: Three Names for One and the Same Country in Western Anatolia". In: *The Political Geography of Western Anatolia in the Late Bronze Age*, edited by Ivo Hajnal, Eberhard Zangger and Jorrit M. Kelder, Archaeolingua Series Minor **45**: 271–302. Budapest: Archaeolingua.

Woudhuizen, Frederik Christiaan and Eberhard Zangger (2018): "Arguments in Favour of the Authenticity of the Luwian Hieroglyphic Texts from the Mellaart Files". *Talanta – Proceedings of the Dutch Archaeological and Historical Society* **50**: 183–212.

Woudhuizen, Frederik Christiaan and Eberhard Zangger (2021): *Conversations about Space and Time: Early Mediterranean Scripts.* Istanbul: Ege Yayınları.

Yalçıklı, Derya (2013): "Çanakkale İli, Yenice İlçesi ve Balıkesir İli, Gönen İlçesi Yüzey Araştırması (2011)". *Araştırma Sonuçları Toplantısı 1. Cılt* **30**: 19–30.

Yalçıklı, Derya (2019): "Balıkesir İli 2017 Yılı Yüzey Araştırması". *Araştırma Sonuçları Toplantısı 1. Cılt* **36**: 543–562.

Yalçın, Ünsal (2016): "The Beginning of Metal Use in West Asia". In: *Ancient West Asian Civilization*, edited by Akira Tsuneki, Shigeo Yamada and Kenichiro Hisada, 115–130. Singapore: Springer.

Yalçın, Ünsal and Hadı Özbal (2009): "Ein neues Zinnvorkommen in Kayseri-Hisarcık, Zentralanatolien: Ein Vorbericht". *Turkish Academy of Sciences Journal of Archaeology* **12**: 117–122.

Yener, K. Aslıhan and Hadı Özbal (1987): "Tin in the Turkish Taurus Mountains: The Bolkardag Mining District". *Antiquity* **61**: 220–226.

Yener, K. Aslıhan (2000): *The Domestication of Metals – The Rise of Complex Metal Industries in Anatolia.* Leiden: Brill.

Yılmaz, Selehattin (2019): "Uşak Protohistorik Dönem Yüzey Araştırmaları Projesi (UPDAP) 2017 Yılı Sonuçları (İlk Sezon)". *Araştırma Sonuçları Toplantısı 2. Cılt* **36**: 425–454.

Zangger, Eberhard (1994): *Ein neuer Kampf um Troia – Archäologie in der Krise.* München: Droemer.

Zangger, Eberhard (1995): "Who Were the Sea People?" *Aramco World* (May/June): 21–31.

Zangger, Eberhard (1998): "Naturkatastrophen in der ägäischen Bronzezeit. Forschungsgeschichte, Signifikanz und Beurteilungskriterien". In: *Stuttgarter Kolloquium zur Historischen Geographie des Altertums 6, 1996, "Naturkatastrophen in der antiken Welt"*, edited by Eckart Olshausen and Holger Sonnabend, Geographica Historica **10**: 211–241. Stuttgart: Franz Steiner.

Zangger, Eberhard (2016): *The Luwian Civilization – The Missing Link in the Aegean Bronze Age*. Istanbul: Ege Yayınları.

Zangger, Eberhard (2017): *Die Luwier und der Trojanische Krieg – Eine Entdeckungsgeschichte*. Zürich: Orell Füssli.

Zangger, Eberhard, E.C. Krupp, Serkan Demirel and Rita Gautschy (2021): "Celestial Aspects of Hittite Religion, Part 2: Cosmic Symbolism at Yazılıkaya". *Journal of Skyscape Archaeology* **7** (1): 57–94.

Zangger, Eberhard and Serdal Mutlu (2015): "Artificial Ports and Water Engineering at Troy: A Geoarchaeological Working Hypothesis". *Olba* **23**: 553–589.

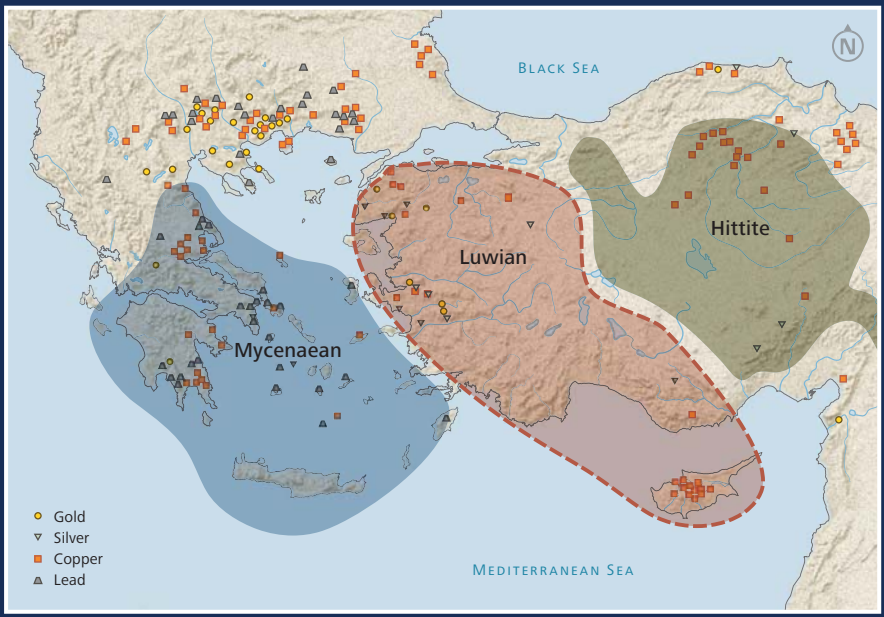
Zangger, Eberhard, Serdal Mutlu and Fabian Müller (2016): "Die Luwier: Bindeglied zwischen Mykenern und Hethitern". *Mitteilungen aus dem Heinrich-Schliemann-Museum Ankershagen* **10/11**: 53–89.

Zangger, Eberhard and Fred Woudhuizen (2018): "Rediscovered Luwian Hieroglyphic Inscriptions from Western Asia Minor". *Talanta – Proceedings of the Dutch Archaeological and Historical Society* **50**: 9–56.

Eberhard Zangger
Luwian Studies
e.zangger@luwianstudies.org

Alper Aşınmaz
ANAMED, Koç University Research Center for Anatolian Civilizations
aasinmaz22@ku.edu.tr

Serdal Mutlu
sr_mutlu@hotmail.com



This book contains most of the papers presented at the session of the same title held during the annual meeting of the European Association of Archaeologists in Bern in September 2019. Although we know of numerous Bronze Age archaeological sites in western Asia Minor, including some very large ones, remarkably little archaeological fieldwork has been done to uncover these sites and to illuminate their role in relation to their surroundings and other sites. Contemporary texts also suggest that the region was of great political and military importance, and that associations and states such as Assuwa, Arzawa and, toward the end of the thirteenth century BCE, Tarhuntassa seriously challenged Hittite hegemony over Anatolia.

"This volume aims to present a major step forward in our understanding of Late Bronze Age western Anatolia; its peoples, languages and cultures and the region's position vis-à-vis contemporary states in the Near East and the eastern Mediterranean."

From the foreword by Jorrit Kelder

9 786155 766541