

PHANTOM-MYCENAEANS IN THE BLACK SEA¹*(Supplementum Ponticum 4)*

Jan G. de Boer

The Black Sea Coast before the Late Bronze Age

There are indications of a shared material culture from the Early Neolithic period (Karanovo I) till at least the Late Chalcolithic period (Karanovo VI) between northern Anatolia/central Anatolia/the southern Black Sea coast and eastern Thrace/the western Black Sea coast². This is supported by the theory of a so-called West Pontic “maritime interaction sphere” (MIS), a “structure”, caused by the transitions from the Neolithic onwards, and which is proven by the continuity in the material culture along the coast of the Black Sea and their differentiation from cultural groups further inland between 6000-3200 BC (Price 1993, 177, Table 1; Lichardus 1989, 96-9). It is likely that this culture spread, by crossing the Bosphorus, which could have been possible with the help of rafts or dugouts.

It seems that this shared culture ended with the beginning of the Early Bronze Age when intruders from the north Pontic region replaced (after an hiatus in the whole of south-eastern Europe and for an unknown period³) the Late Chalcolithic population. About 40 submerged settlements have been discovered along the Bulgarian Black Sea coast from which 10 belonged to the Late Chalcolithic and 30 to the

¹ In order not to be accused of plagiarism, I like to stress that the idea for the title of this article was taken from J.K. Papadopoulos, “Phantom Euboians”, who likewise critically examined the existence of Euboian traders in the west during the Late Iron Age. I like to thank dr F.C. Woudhuizen and drs J. Kelder for their remarks on the original manuscript of this article.

² For instance, there is a clear resemblance between the pottery from Late Chalcolithic Dündartepe (Samsun region) and the area around Sinope on the one hand and that of the Late Chalcolithic layer of the settlement in the harbour of Sozopol on the Western Black Sea coast on the other hand (Chapman *et al.* 2003, 33; Doonan 2004, 66; Draganov 1995, 237-8; Özdoğan 1991, 217-25; Thissen 1993, 229-34; Todorova 1993, 10-20).

³ See for the latest views regarding this problem, Todorova 2004, 107-15.

Early Bronze Age and of which three are excavated⁴. Three, Early Bronze Age, dugout boats were discovered in Boaza, around Topoli Station (both near Lake Varnensko, Varna region) and in a swamp near the village of Skala near the town of Burgas, all along the Bulgarian Black Sea coast (Todorov 1981, 8-9) while pictures and models of Chalcolithic and Early Bronze Age ships are known from Ezerovo II and Lake Varna (Frey 1991, 195-201; Toncheva 1973, 20). This could be an indication for local coastal fishing⁵ and possibly coastal trade. However, this is not enough evidence for a large seafaring trade network along the western and southern Black Sea coast as proposed by several authors (Frey 1991, 195-201; Todorova 1993, 10-20; Thissen 1993, 220). So cultural contact between the Black Sea area and Anatolia/the Aegean already started in the Chalcolithic and continued till the Middle Bronze Age (Todorova 1992, 9), but not necessarily by sea.

Ionia and Mycenae during the Late Bronze Age

As the Late Bronze Age history of both Ionia, especially Miletos which is considered as the mother-city of almost all Greek colonies in the Black Sea area during and after the 7th century BC, and the Pontic area seem to be connected to Mycenaean Greece, it could be an easy conclusion to suppose that memories of Mycenaean exploits in the Pontic area were inherited by the Ionians and led to a second colonization in the 7th century BC (Bilabel 1920, 60). A closer look at the evidence on Mycenaean in the Black Sea, however, makes this conclusion very doubtful. Any contact, either by sea or by land, during the Chalcolithic and Early Bronze Age between the Pontic area and Anatolia does not automatically mean that it developed during the Late Bronze Age into trade with the Mycenaean world. Especially since during the first half of the second millennium BC, Mediterranean links to central Europe caused the diminishing of the role of the Black Sea at the end of the Bronze Age (Easton *et al.* 2002, 105). Any proof for a Mycenaean penetration into the Black Sea area is depending on three factors: (a) Mycenaean mythical literary evidence for Mycenaean presence in the Black Sea area, (b) supposed Mycenaean finds in the Black Sea area, (c) possible Mycenaean presence in the Propontis and Troy, by which Troy should have been a “hub of trade” for Late Bronze Age presence into the Black Sea.

However, it is still interesting to mention evidence for Mycenaean presence in Miletos, before turning attention to the Black Sea area. The site of Miletos was

⁴ In the case of those near Cape Urdoviza, in the harbour of the modern town of Sozopol, and near the town of Varna, the EBA sites are dated to *ca.* 2800 BC (Angelova *et al.* 1995, 20-9; de Boer 1994, 13-22; de Boer forthcoming; Draganov 1995, 225-41; Kuniholm *et al.* 1998, 399-409; Leshtakov 1994, 23-38; Porogeanov 1991, 109-12; Ribarov 1991, 113-18; Ribarov 1994, 51-6), while a prehistoric underwater settlement near the mouth of the Ropotamo River was shortly investigated (Karayotov 1990, 64-5; Karayotov 1992, 277-9).

⁵ The bones of some species of dolphins, whose habitat was far from the coast, were discovered during excavation of the Early Bronze Age settlements near Urdoviza and in the Sozopol harbour (de Boer forthcoming; Porogeanov 1991, 110; Ribarov 1991, 113-18; Ribarov 1994, 51-6).

occupied from at least 1700 BC, probably because it had, at least till the medieval period, always an excellent harbour. Miletos was in 7th and 6th century BC without doubt one of the most important Hellenic cities in Ionia and probably in the whole Greek world of those days (Gorman 2001, 13). In legends, there is evidence for migration from Minoan Crete and Mycenaean Greece⁶. Part of these legends is undoubtedly based on 5th and 4th century BC Athenian political propaganda, but there are traces in early Athenian traditions of migrations to Ionia⁷. The discussion about the identification of Millawanda or Millawata as Miletos and Ahhiyawa as Mycenaean Greece started with a publication by Forrer (Forrer 1924, 113-28). The earliest document which mentioned the name Millawata was the Madduwattas text from the reign of Tudhaliyas II/Arnuwandas I (*ca.* 1390-55), but both Ahhiyawa and Millawanda were mentioned in the Annals of Mursilis II, year three (1319 BC). Here the first connection between these two names was made. Millawanda was for some time outside the Hittite domains and under control of the King of Ahhiyawa. Mursilis II must have captured Miletos after it had hosted regular raiders into Hittite territory. The destruction layer at the end of the second phase of occupation at Miletos (to be discussed later) is probably related to the capture of Miletos by Mursilis II between 1318-14 BC. In the Tawagalawas letter (1265-1240 BC, if rightly assigned to the reign of Hattusillia III) Miletos was again under the king of Ahhiyawa and is called a coastal town but not in Ahhiyawa itself (Gurney 1981, 49-51). Nowadays, the identification of Millawanda or Millawata as Miletos is widely accepted (CAH II, 2, 1975, 362; Gorman 2001, 26).

Excavation at Miletos between 1938 and 1994 uncovered Minoan ceramics from MM II till LM IA and IB together with local Anatolian pottery. The first building phase consisted of a building with frescoes (LM IA/B) and 98% of the pottery found had a Minoan character. Other finds were imported or locally made and included discoid loomweights of the Minoan standard and finely decorated imported Minoan pottery (Gorman 2001, 21-2). Among these there was from a secure deposit dated to *ca.* 1450 BC (Aegean low chronology) or 1490/70 BC (Aegean high chronology) a vessel of local clay consisting of three joined fragments bearing three signs, incised before firing, in the Linear A script (Niemeier 1996, 87-99). The site of Miletos meets five of Warren's seven criteria for a

⁶ See Mimnermus of Colophon, fragm. 12, Strabo 14.1.3, based on Pherekydes of Athens, Pausanias 7.2.5

⁷ For instance, certain patterns of early Athenian religiously based beliefs of a migration could be observed in Ionia (Herodotus 1.146.2-147). According to Mimnermus of Colophon, a lyric poet of the 7th century BC, immigrants from Pylos founded Colophon in Ionia (FrGrH Jacoby, fragm. 12), Pherekydes of Athens regarded Neleus the founder of Miletos as coming from Pylos (Strabo 14.1.3, Pausanias 7.2.5) and the leader of a presumed large Mycenaean migration to Ionia which should, according to literary sources, have happened in between the Trojan War and the Dorian invasion, meaning somewhere in the 11th century BC (Eusebius 1.187.36). Miletos was according to Pausanias colonized by immigrants from Crete, joined by Carians from other islands (Pausanias 7.2.5).

Minoan colony. The first building phase ended in a destruction layer (end of LM IB, *ca.* 1450) (Gorman 2001, 23). The second and third building phases contained large amounts of LH IIIA1-2 (*ca.* 1435/05-1330/25) (95% of pottery in the second phase was Mycenaean) and LH IIIB-C material (Mee 1998, 139; Gorman 2001, 23). During the third phase (probably a mixed culture of Hittites and Mycenaeans) there existed a fortification with walls which were 4,4 m thick and the excavators found two fragments of local pithoi, each bearing a sign that was incised before firing. Both signs are regarded as Linear B (Niemeier 1998, 37). Till recently it was thought that Miletos had been from the 14th century BC onwards either a small Mycenaean outpost (Mellaart 1968, 188; Roebuck 1984, 25) or a settlement of “Mycenaeanized Carians” (Mellink 1964, 162-3). The archaeological evidence now gives indications that Miletos was probably for some time during the Late Bronze Age under strong Mycenaean influence. According to van Wijngaarden (1999), Miletos was a class 5 site (meaning that the amount of Mycenaean finds was 500 or more), and the site contained Mycenaean material from LH II, IIIA1, IIIA2, IIIB1, IIIB2, IIIC (Kelder 2006, 80). Mycenaean material was also found at other sites in Ionia⁸. Only Miletos, Colophon, and Müsgebi however can be considered as (temporary?) Mycenaean settlements or even colonies (Kelder 2006, 77). So, altogether, there is more than enough evidence for a Late Bronze Age Mycenaean connection with Ionia and especially with Miletos.

Mycenaean expansion to the north, Mycenaeans in the Propontis?

As shown in the previous section, the Mycenaeans arrived in Ionia around 1450 BC, in the second building period of Miletos. Mycenaean expansion to the north however was a much slower phenomenon. Mycenaean presence in Thessaly is only attested during LH IIIB (1340-1190 BC) (Smit 1989, 175), while in Macedonia, the Vardar valley was the most northern border of Mycenaean influence (matt-painted local pottery, decorated in the same way as LH IIIC pottery) during LH IIIC (1190-1050 BC). This Late Bronze Age Vardar culture was ended around 1050 BC by an invasion from the north of people who practised cremation burials (Mitrevski 1995, 191-2). In regard to the Aegean islands, the Mycenaeans settled on Rhodes and Kos already during LH IIIB (1450-1425 BC) (Mee 1998, 138), but only in LH IIIC (1190-1050 BC) on Chios and probably never on Lesbos (Mee 1998, 144). However, Hittite sources refer to the occupation of Lazpa (probably Lesbos) by Piyamaradus, a “renegade”, operating under the king of Ahhiyawa, while there also seems to be a connection between the god of Ahhiyawa and the god of Lazpa (Gurney 1981, 49). The only site near the Propontis

⁸ Other Mycenaean pottery was found at Mylasa, Müsgebi, Ephesus, Iasos, Panaztepe, Izmir, Colophon, Clazomenae, Torbali, Ephesus, Beşik Tepe, Pitane, Phocaia, Bayraklı, Sardis, Gavurtepe, Armagan, Arianda, Old Smyrna, Elaia, and Boğazköy, the former Hittite capital Hattusas (CAH II, 2, 795; Kelder 2006, 62-71; Mee 1978, 121-56; Mee 1998, 137-48; Mellaart 1968, 187-8; van Wijngaarden 1999, 492).

which produced some Mycenaean material is Troy, which possibly already had contact with the Minoans (Linear A inscribed "spindle whorls" from Troy (Silver 2000, 6)). Troy probably already had contacts with Mainland Greece in the Middle Helladic period but Mycenaean pottery was found only as early as LH IIA. The portion of ceramics increases in LH IIIA2-B1, the latter phases of Troy VI, but must not be overestimated, as 98-99% of the pottery remains local (Korfmann 1995, 177). According to the recent excavators of Troy, there existed a Mycenaean trade-route into the Black Sea in which the metal products from Colchis and the northern Black Sea were carried to the Aegean by passing at Troy in the period around 1250 BC, just before the end of Troy VIh (Korfmann 1995, 181; Sperling 1991, 156). In their view the function of Troy VI may have been a turntable of trade and the Trojans may have traded in horses from the steppes north of the Black Sea and from the highlands of central Anatolia, amber from the Baltic region, copper from the north of Anatolia, the Balkans and/or central Asia, gold from the Troad or from Colchis, tin from Bohemia or central Asia, iron from the coastal regions of north-eastern Turkey, and slaves, timber, and finished ships from the southern Black Sea coast and textiles from the Crimea, and the Caucasus region (Korfmann 1997, 94-5; Korfmann 1998, 382-5; Korfmann 2001, 360). All these assumptions, however, lack any archaeological proof in the Black Sea area itself, neither were traces of any of the durable part of these products found during the excavations of Troy for this period. Finally, Troy is also considered to be a class 5 site with material from LH IIB till LH IIIC, but was certainly an Anatolian city with possible trade contacts with the Mycenaean (Mee 1978, 148). Evidence of possible Mycenaean presence was also found at the harbour of Troy, Beşik Bay, just before the end of Troy VIh, around 1280 BC (Sperling 1991, 156). The excavation at Troy certainly indicates that its Late Bronze Age population found employment on a much larger scale than in a purely local economy, but if we allow for the fact that the Dardanelles were much more important than the Bosphorus during the Late Bronze Age this is an indication that Aegean links were more important in the determination of Troy's prosperity than those with the Black Sea (Easton *et al.* 2002, 102). It is unlikely that during the Late Bronze Age any vessels passed along the Dardanelles and the Sea of Marmara into the Black Sea, but it is possible that Troy acted as a trans-shipment point or port of trade for independent carriers of the overland routes to the north and the east. The Sea of Marmara could have formed a corridor between the Aegean and Pontic maritime interaction spheres. Mycenaean traders, if there were any at all in this region, were probably bound for Troy, not for the Black Sea (Mee 1998, 144). Regarding the situation during the end of the Late Bronze Age, recent research has made plausible that Homer describes the geomorphological situation of Troy in the 10th-8th century BC, which means of his own time and not that from the Late Bronze Age (Kraft *et al.* 2003, 163-6). George Bass (although with the intention of proving the opposite) gives a large amount of examples for the entrance into the Black Sea during the advanced Iron Age and Archaic Greek periods (Bass 1997, 72-7).

At Sarköy on the northwestern coast of the Sea of Marmara, a hoard should have been found by Savas Harmankaya, including one Mycenaean sword and several Mycenaean axes, but this hoard is still unpublished and any further information is lacking (Mellink 1985, 558).

Archaeological evidence for direct trade contact between the Mycenaean and Hittites is very scarce and consists only of the material from Maşat (to be discussed later) and the Mycenaean material from Boğazköy (already discussed). It is possible that archaeologically invisible exports like slaves, horses, and wool took place, but these can by their very nature not be detected.

Therefore it may safely be concluded that there is no evidence that Mycenaean expansion ever reached the Propontis.

Mycenae and the Black Sea

Regarding a Mycenaean presence in the Black Sea, there is a certain amount of so-called Mycenaean archaeological material and, of course, the myths. The story of Apollonius of Rhodes of the voyage of Jason and the Argonauts in search of the golden fleece to Aia is supposed to be situated on the eastern coast of the Black Sea, and that of Iphigenia in Taurus. If one accepts the conventional date for the Iliad and ascribes the Catalogue of Trojan Allies to Homer the poet of the Iliad, one must conclude that by the late 8th century BC some Greeks, at least, knew about a number of native settlements on the Paphlagonian coast. If, on the other hand, one believes that the Catalogue of Trojan Allies was passed down from the end of the Bronze Age, one must assume that the Mycenaean Greeks were familiar with this coast, and that the native settlements on that coast retained their identity through the troubled Late Bronze Age into the Early Iron Age (Drews 1976: 21-2).

The mythical stories of Jason and the Argonauts and Iphigenia in Taurus

Regarding the myths, there are two stories important in this context, first the story of the Argonauts and second the story of Iphigenia in Taurus, as some see these myths as reflections of early trade contacts of the Greeks with the Black Sea area (Bouzek 1997, 169).

Apollonius of Rhodes in the 3rd century BC was the first who wrote down, in his *Argonautica*, the complete story of the voyage of Jason and the Argonauts in their quest for the Golden Fleece into the mythical country of Aia. The *Iliad* (2.851-77; especially 853-5) displays a considerable knowledge of the southern coast of the Black Sea and its creator Homer is conventionally dated to the 8th century BC. However, a passage in the *Odyssey* (12.70) refers explicitly to the Argo and the implication of this quotation is that there existed a still earlier version of the Argonaut myth. Strabo (1.1.10) maintains that Homer mentioned the Propontis and the Black Sea as far as Colchis and the limits of Jason's expedition. In the *Iliad* (7.470-73) we find Euneos "Ship-man", the son of Jason and ruler of Lemnos selling wine to the Greek army before Troy. In the story of the Argonauts, however, Aia never had a real geographical existence but was simply a fantastic

country at the edge of the world (Hübner 2000, 23). The first one to identify Aia with Colchis was Herodotus (VII.193), who saw Colchis as the mythical land of gold and placed the expedition of the Argonauts one generation earlier than the Trojan war, meaning in the Mycenaean period.

This identification is still current today especially among Georgian archaeologists (Lordkipanidze, 1985, 80-2), as this myth of the voyage of the Argonauts is supposed to be a reflection of a voyage to Colchis in the Pontus during the Mycenaean period. Herodotus, however, lived in the the 5th century BC when the Greeks were already well acquainted with the Black Sea and Colchis, and Apollonius of Rhodes was even living centuries later in the Hellenistic period. So the identification of Aia as Colchis in the 5th century BC can be seen as a reflection of a then existing reality (Tsetskhladze 1997, 337-8). The legend of the Argonauts was quite popular in Greek literature in the 8th and 7th centuries BC, as can be concluded by the mentioning of it by authors like Eumelus, Hesiod, and Mimnermus (Lordkipanidze 2001, 11). However the large majority of the pictures from the voyage of the Argonauts on Attic vases dates from the 5th century BC onwards and the amount (93) is even then only little more than a quarter of for instance the pictures of Heracles in the land of the Scythians (425) (Tsetskhladze 1997, 339), meaning that this story was even after the 5th century BC not extremely popular as a theme on vases in the Greek world. Apollonius' *Argonautica* was probably far more a product of the author's own time (the Hellenistic period) than a throwback to the earliest ages of Greek exploration of the Black Sea (King 2004, 41). The same probably applies to the story of Iphigenia among the Tauri by Euripides from the 5th century BC, which was also written down in a time when the Greeks had good knowledge of the geography of the Black Sea.

But even if the myth of the Argonauts should be the real description of a voyage to Colchis and if this myth was already known to Homer in the 8th century BC, there is still not a trace of evidence that it describes a voyage in the Mycenaean times. This story could also fit in the frame of Greek pre-colonial contacts, possibly in the 8th century BC. This idea is supported by the archaeological finds at Vani (nowadays Georgia and supposed to be ancient Colchis), which give more evidence for early Archaic Greek material than for any Mycenaean finds (Lordkipanidze 2001, 6).

A related problem is whether Homer's (*Odyssey* 12.60f.) *Planktai* "Roving Rocks" correspond to the Symplegades "Clashing Rocks" of the later Greek writers Apollodorus (1.9.22) and Apollonius of Rhodes (2.549-610). Graham notes that for the later Greeks the "Clashing Rocks" unquestionably refer to the entrance of the Pontus and he goes on to maintain that within the areas of Greek navigation there is no place more suited to give rise to the myth of the moving or clashing rocks than the Bosphorus (Graham 1958, 37-8). Ancient geographers were right to point out in explanation of the myth that the strait seems closed from afar, and as you come nearer and move from one side to the other, it seems to open and close. When one adds to its appearance the formidable current, one sees that

the Bosphorus provides a very suggestive factual basis for the Symplegades myth. And if the myth arose from the passage of the Bosphorus, then the *Odyssey*'s reference, however vague, shows that Greek sailors had penetrated into the Black Sea before the *Odyssey* was composed. There is, however, no proof that this part of the *Odyssey* belongs to the earliest part and was in any way connected to the Mycenaean period. In conclusion, the geographic data found in Homer serve to reinforce the view that the Argonaut epos provides invaluable evidence of regular Greek knowledge about the Black Sea region in the 8th century BC. If Homer really was written down in the 8th century BC, it appears that he had access to records of an earlier period, but more likely to those of the Iron Age than those of the Late Bronze Age⁹.

The archaeological evidence

Several scholars have postulated the theory of a Mycenaean presence and trade in the Black Sea (Buchholz 1959, 1-40; Buchholz 1983, Abb 10; Buchholz 1992; French 1982, 22; Hiller 1991, 215; Korfmann 1995, 181; Roebuck 1986, 116), each from a different angle: Troy as a harbour for the Late Bronze Age Black Sea trade (Korfmann), Mycenaean pottery found inland Northern Anatolia (French), or the spread of double-axes in the western and northern Pontic region during the Late Bronze Age (Buchholz). Others propose a Mycenaean trade route from the Aegean along the Sea of Marmara, the Black Sea coast, along the Danube and further inland (Bonev 1988, 75).

The so-called archaeological evidence for a Mycenaean intrusion into the Black Sea consists mainly of three completely separated groups of archaeological finds: (a) supposedly Mycenaean finds on the southern Black Sea coast; (b) supposedly Mycenaean finds on the western Black Sea coast; (c) supposedly Mycenaean finds in Thrace.

Mycenaean on the southern and eastern Black Sea coast?

The first of the above mentioned three groups of archaeological finds includes the material found during the excavations of the Hittite settlement at Maşat Höyük (modern name Yalinyazi), situated about 20 km SW of the town of Zile, which was excavated by Tashin Özgüç of the University of Ankara in 1973 (Özgüç 1978, 66). Maşat was situated in a valley within the mountain system of northern Anatolia, which is geographically situated between the plateau of central Anatolia and the Black Sea littoral, and the distance from the Black Sea to Maşat is about 130 km (Alp 1977, 637-47). Among much local Hittite pottery some Mycenaean LH III A2/B and Cypriot white-slip II ware was found, dating to the 13th century BC (Mee 1978, 133; French 1982, 21). Around 1982, Mycenaean LH IIIA2 stirrup jars were again found at Maşat (Mellink 1985, 558). At the beginning of the 2nd millennium BC, around the middle of the 20th century BC, the Old

⁹ For the same arguments regarding Troy in the *Iliad*, see Hertel 1992, 177-81.

Assyrian Kingdom had already established trade colonies in Cappadocia, like the one discovered at Kültepe (Orlin 1970, 45). From here, Assyrian traders developed an overland trade route all over Anatolia. It is likely that the Anatolian successors of these Assyrian traders were responsible for the presence of Mycenaean material at a site so far to the north of Anatolia as Maşat. The arrival of these Mycenaean and Cypriote objects at Maşat was probably the result of overland trade, starting from the Cilician harbours into the interior of the Hittite empire (Cline 1994, 122-4). This idea is supported by the recent find of a LH IIIA2 pyxis at the site of Kuşaklı in the northeast periphery of the Hittite territory (Yildirim/Gates 2006, 299), while there are no Mycenaean finds north of the river Gediz (Mee 1978, 143). Maşat probably acted as a stronghold of the Hittite empire against the hostile nomadic Kashka people, which fact makes trade contact through the Black Sea even less likely.

Between Maşat and the Black Sea coast, no other Mycenaean material was found, so the suggestions of D. French and S. Hiller that the Mycenaean material reached Maşat through the Black Sea is rather premature (French 1982; Hiller 1991)¹⁰.

Other supposed evidence for Minoan and Mycenaean presence on the eastern Black Sea coast is rather vague. P. Lévêque lists several indications of Aegean-Pontic contacts, among others a possible silver “Vaphio cup” (named after Vaphio, to the south of Sparta) from Kirovakan in Armenia which is dated to the 15th or 16th century BC (Mellink 1988, 115-6). Other traces of contact, either direct or indirect, between Transcaucasia and Mycenae during the mid-second millennium BC come from the site of Trialeti, located on the Tsalk Plateau in southern Georgia, far from the Black Sea. Here, in burials belonging to the last phase of the Middle Bronze Age (*ca.* 1600 to *ca.* 1450 BC) materials with Aegean parallels are found mostly in the field of technical and stylistic features of the cauldrons. But again, there is no evidence that these similarities were caused by any direct contact by sea. Also mention should be made of a piece of very insecure evidence for possible Minoan presence at Samsun (ancient Amisos) on the southern Black Sea coast. Here is supposed to have been found a terracotta ram or horned sheep with a Linear A inscription (Bossert 1937, pl. 532). The object is now in the Ashmolean Museum and usually assigned to the mid-late first millennium BC, most likely making this inscription a modern falsification. So-called Mycenaean ceramics, found at Akalan, were probably misidentified linear Galatian sherds from the first millennium BC (Mee 1978, 124; Özgünel 1996, 8). So all together, there is hardly any evidence for direct Mycenaean presence or trade, either by land or by sea, on the southern and eastern Black Sea coast during the Late Bronze age.

Mycenaeans on the Western Black Sea coast?

During the last decades, hundreds of stone-anchors were found on the sea-bottom

¹⁰ For other arguments against this theory, see also Mee 1998, 144.

along the Bulgarian and recently also on the northern Black Sea coast (Dimitrov 1976, 81-3; Dimitrov 1977, 162-3; Dimitrov 1978, 70-9; Fol *et al.* 1982, 467-86; Frost 1982, 280-9; Frost 1986, 354-69; Frost 1997, 101-14; Kondrashev, in print; Lazarov 1974, 107-14; Orachev/Oracheva 1988, 18-29). The average size of these stone anchors found near Sozopol, Pomorie, and Kaliakra was about 100x80x30 cm (Lazarov 1974, 107-14). The first ones were published by M. Lazarov in 1974, 8 found near Sozopol, 2 near Pomorie, one near Kaliakra, and one near Balchik (Lazarov, 1974, 111-12). B. Dimitrov and Fol *et al.* in 1982 described anchors found near Sozopol and Nessebar between 1976 and 1978¹¹. Since these publications the number of anchors found has accumulated for instance near Shabla (Orachev/Oracheva, 1988, 19), and the author himself has seen large amounts of unpublished stone anchors from the archaeological museum of Achtopol in the south till the navy museum of Varna and the archaeological museum at Kavarna in the north. More recently stone anchors were found near the Taman coast (Kondrashev, in print).

Large stone anchors in the Mediterranean were solely used during the Middle and Late Bronze Age (Frost 1982, 281), but the Black Sea stone anchors cannot be compared in typology with those in the Mediterranean (Frost 1986, 362) and all of the Bulgarian stone anchors were found outside an archaeological context (Dimitrov 1976, 81) so they cannot be dated. Some of the Bulgarian stone anchors were three holed and a high percentage was large in size but not like the giant ones which were found in the Mediterranean area and which are dated to the Bronze Age (Frost 1986, 280). In the Mediterranean, stone anchors are often found on land sites like Ugarit, Byblos, and Kition in a religious context. This situation is never found at the Black Sea coast with only one possible exception in the case of "Arrian's find" (in the 2nd century AD) of a stone anchor in a temple at Phasis, nowadays Georgia (*Periplus* 9), possibly proving that at least some stone anchors in the Black Sea predated the imperial Roman period. However, stone anchors were also used during the late Roman period and by medieval Arabic and Indian traders (Frost 1997, 107-9), and small stone anchors were till recently still used by small fishing boats around the Mediterranean. Honor Frost raised the possibility that the Black Sea stone anchors were lost by Arabic traders in the early Medieval period (Frost 1997, 112) when these traders were sailing through the Black Sea and up the Russian rivers as we know from the account of a visit to the Bulgars in 922 by Ibn Fahad and the accounts of Ibn Rustah. In Israel, three-hole stone anchors were found at Caesarea Maritima and these were dated to the strata of the late 10th century (early Fatimid) till 13th century AD, already being used in the wall of a building from the early 11th century AD. The size and the weight of the various anchors from Medieval Caesarea vary from 20 kg to more than 100 kg (Raban 2000, 260-5). Other stone anchors were found

¹¹ Only around Nessebre, about 100 stone anchors were found. Fol *et al.* 1982, 467-73 gives a catalogue of stone anchors found near Sozopol, and 482-6 of stone anchors found near Nessebre.



Fig. 1. Stone anchor with *NHAZKOY*.

at Athlit near a coastal stronghold of the Crusaders, abandoned in 1292 AD. At Yavneh Yam and Ashkelon stone anchors were cut from the marble screens of a Byzantine church. Stone anchors from England, France, and Italy support the idea that stone anchors were also used by the Frankish ships of the Crusaders (Raban 2000, 265). In the Far East, stone anchors are known from the seabed of the Black Fort at Galle in Sri Lanka and in India even from a much later period. So stone anchors were used on a rather extensive scale almost everywhere from the Bronze Age through Graeco-Roman to Byzantine times, and tend to be a repetitive phenomenon through ages and cultural spheres (Frost 1963, 13-5). The interesting fact is, however, that one stone anchor from the Black Sea coast, found near Sozopol, formerly in the archaeological museum at Sozopol and now at an exhibition at Kiten, bears the Greek name *NHAZKOY* (Fig. 1). This anchor falls into the weight-range of 100-200 kg (Frost 1986, 362). At Sozopol most stone anchors were found near the island of St. Kyrik (Lazarov 1974, 113), possibly the first place where the Ionian colonists of Apollonia Pontica settled at the end of the 7th century BC. All stone anchors along the Bulgarian Black Sea coast were found near the sites of former Greek colonies or their anchorage's in case of emergency (some of these were exclusively used from the Archaic till the Hellenistic period).

The stone stock type of anchor in the eastern Mediterranean is not attested before the 7th century BC (Mc Caslin 1980, 47-52) so the stone anchors could still have

been used by the earliest Greek colonists in the Black Sea area, whereas some Bronze Age-like stone anchor types continued to be used even down to the Middle Ages (Phelps *et al.* 1999, 78). This makes it much more likely that some of the stone anchors were lost by the Ionian colonists and traders during the Archaic period until they were replaced by the primitive stone-stocked anchors, sometime between the late 7th and the early 6th centuries BC (Haldane 1986, 421; Kapitan 1982, 295; Kapitan 1986, 381). According to Strabo (7.3.9), the two-armed stock anchor was an invention of a Scythian named Anacharsis.

Finally, an extremely vague Mycenaean loose find from the western Black Sea coast concerns a supposedly LH IIIA-B range sherd at Tsarevo (Fossey 1997, 29-31). On the basis of the drawing of this object, it could easily be (like the material from Akalan) a misidentified linear sherd from the 1st millennium BC.

Mycenaeans in Thrace?

The third group of so-called evidence for Mycenaean presence in the Black Sea area consists of metal objects, like bronze ingots in inland Thrace, bronze swords and rapiers of an Aegean design, and double axes in Thrace, southern Russia, and the Caucasus.

During the last decades, several hoards and group finds of metal objects from the 14th till 10th century BC were found in northern Bulgaria, while socketed celts and sickles prevail in all of these finds (Panayotov 1980, 173). However, among them are also several horned rapiers, flange-hilted and dagger swords, which could be dated by their Mycenaean counterparts to a period between the 16th and 10th centuries BC (Panayotov 1980, 177-85). More of these Mycenaean or Mycenaean inspired dagger-swords were recently found, as observed by the author, in the area around Kazanlak, but these finds are still unpublished. Most of the metal hoards were found along the Danube or more to south in Central Thrace along the larger rivers, but not near the Black Sea coast (Panayotov 1980, map 1). Another group of finds concerning a possible Mycenaean presence in the Black Sea area are the double-axes and axe-spectres. Double-axes of Aegean design are found at several sites in central Bulgaria, but again almost nowhere near the Black Sea coast (Panayotov 1980, 179 and map 3). These double-axes can be divided in two groups, one from the 14th-13th century BC and another from the 13th-12th century BC. Double-axes in the northern Pontic area are found at the mouth and hinterlands of the Dnjestr, Bug, Dnjeper, and Donetz, including the Crimean peninsula (Hiller 1991, 210, see also plate LV). These double-axes have, however, a closer connection to Troy than to Mycenae (Hawkes 1936, 158). H.G. Buchholz even postulated (or more clearly invented) a trade route through the Black Sea to Kozorezov in nowadays Ukraine in the north and Samsun in Turkey, in the south, all by means of the finds of a few isolated metal objects. In the same article, he is confusing the town of Sozopol on the Black Sea coast with the village Tsjerkovo, which is in reality located near the town of Karnobat, 80 km inland (Buchholz 1983, Abb. 10)! Some see the zone from the western to the northern Pontic region as a "Myceno-Balkanian koine" (Hüttel 1981, 87) and the

find of faience beads in south Russia should also be a part of this “koine” (Bouzek 1985, 58). Deliberately, it seems, the possibility is not discussed that weapons and objects like double-axes could be traded from tribe to tribe or copied by local smiths. Other material like ceramics should accompany real trade, so the fact that only metal objects of prestige were found makes it even more likely that a direct trade route to these areas and in this period was not in existence. Almost all Bronze Age metal finds in Thrace came to light along the rivers and definitely not along the Black Sea coast.

The Bulgarian ox-hide ingots

The origins of the copper ox-hide ingot can be attributed to Minoan Crete, as a standard for the transport of raw copper by the Minoan palace economy (Bernard Knapp 1993; 340; Catling 1975, 215; Muhly 1985, 254). This shape was probably inspired by eastern models and chosen for the ease of portage. Large amounts of ox-hide copper ingots were found in the Bronze Age shipwrecks at Cape Gelidonya and Ulu Burun (Bass 1967, 53-83; Bass 1986, 269), and ox-hide ingots were probably transported by Minoan, Mycenaean, Cypriote, and Syrian traders. The nationality of the Cape Gelidonya and Ulu Burun ship wrecks, however, is more than 35 years after their excavation still a hotly debated subject (Bass 1991, 77-8).

Authors have mentioned the discovery of three so-called ox-hide copper ingots in Bulgaria (Bouzek 1985, 58; Buchholz 1992, 162; Harding 1984, 52; Hiller, 1991, 215), found near the village of Tsjerkovo, in the harbour of Sozopol (ancient Apollonia Pontica), and near Cape Kaliakra on the northern Bulgarian Black Sea coast. Recently, other ox-hide ingots were found in Bulgaria near Chernozem, Yabalkovo, and Kirilovo (Fig. 2), all near the Tundzja and Maritza rivers (Lesh-takov, forthcoming), while during a discussion at the Thracia Pontica 8 symposium in Sozopol in 2003 it turned out that two unpublished ingots from Razgrad are kept at the Varna museum. From all these recently discovered ingots, only the place of discovery is known while no further information is available at this moment.

Another recent find is formed by the 11 round ingots which were found during a SCUBA dive training on the sea-bottom near Maslen Nos, south of Sozopol (Peev 2006, 47-51). These ingots, however, were found outside any archaeological context and only slightly resemble the round ingots from the Late Bronze Age Cape Gelidonya and Uluburun wrecks. There is no proof at all that these round ingots are from the Late Bronze Age.

The so-called ingot found near Cape Kaliakra (Toncheva 1973, 17-24) is only a small piece of metal with a weight of 1,5 kg and containing 50% of copper, 32% of gold, and 18% of silver. It is probably purely a coincidence that it has the form of an ingot. It is simply a metal object which is not dated at all and can belong to any period. Another ox-hide ingot is supposed to be found in the harbour of Sozopol in 1977. A photograph of this object was published in the *International Journal of Nautical Archaeology*, but no details about the circumstances under



Fig. 2. Map of found ingots (after Leshtakov, forthcoming).



Fig. 3. Ox-hide ingot from Tsjerkovo (after *Istorija na Balgarija*, tom 1, 120).

which this ingot was found were given in this publication (Dimitrov 1978, 73). A photograph of the same object, however, was published earlier that year by I. Karayotov (Karayotov 1978, 14), being the picture of an ingot found near the village of Tsjerkovo in 1977. There is enough information in the article of Karayotov to confirm that his find is the original one (Fig. 3). The Tsjerkovo ingot was discovered, as a loose find without any context, near the village of Tsjerkovo at the borders of the river Roussokastrenska. This village is near the city of Karnobat, about 80 km inland from the Black Sea coast. On the ingot a + sign was found. This ingot can be identified by comparison as a Buchholz 2C type of which several were found in the Cape Gelidonya wreck (Bass 1967, Fig. 57, 7-12), and this type was probably produced between 13th and 12th century BC. As the + sign was used in Linear A, B, and all later Mediterranean linear scripts, it cannot be used to date or to detect the source of this ingot.

Recently, it has become clear that lead isotope analyses, aided by trace element analyses of gold and silver, is so far about the only tool we have to provenance the ore source of copper and so to trace the movement of copper around the Mediterranean region (Stos-Gale *et. al.* 1997, 84). As different mining regions

have different isotopic characteristics, several samples of copper ox-hide ingots from Cyprus, Turkey, Sardinia, and Bulgaria were examined. According to Stos-Gale *et al.*, the range of isotopic ratios of the Tsjerkovo ingot (208pb-206pb 2.07404— .84111, 206pb-204pb 18.528) fits well within the borders of the Old Cypriote “field” (Stos-Gale, *et al.* 1997, table 6 and fig. 11) and they concluded that the Tsjerkovo ingot should be from Cyprus. In another publication from 1998, however, Stos-Gale *et al.* published the lead isotopic characteristics from several Bulgarian copper deposits a.o. those in the region west of Burgas (Varli Briag, Rosen, and Zidarovo) and in the Strandzja Mountains (Malko Tarnovo, Bardtselo, and Gramatikovo) (Stos-Gale *et al.* 1998, 217-26). Especially those of the site of Zidarovo, west of Burgas and near Karnobat, are very similar to those of the Tsjerkovo ingot (Stos-Gale *et al.* 1998, table 1). This fact is confirmed by the results of B.G. Amov in Sofia (Amov 2000, table 1).

A.F. Harding already put the question whether the Bulgarian ingots could indicate the transport of Balkan ores to the East Mediterranean (Harding 1984, 52).

The south-eastern corner of Bulgaria is extremely mineralised and mining certainly took place already in prehistoric times while the Strandzja mountains in eastern Thrace (running north-south along the south-western Black Sea coast ranging from just south of the Bulgarian town of Burgas to far into Turkish Thrace) are the richest copper area in the southern Balkan and probably even in the whole of Europe (Georgiev 1987, 26; Stos-Gale *et al.* 1998, 219). From the village of Rosen in the northern part of the Strandzja mountains to the town Malko Tarnovo near the Bulgarian-Turkish border, there are at least 250 mines in six areas worked from ancient times till recently (Davies 1979, 225; Georgiev 1987, 26-39). The problem is to date most of these mining activities as no proper archaeological research was ever conducted in this area, besides a short visit of the American archaeologist O. Davies in the 1930's (Davies 1936, 92-3) and some personal observations of the author of this article. Davies found proof that most areas were already exploited in Roman times; however, there is some indirect evidence for an earlier date of these mining activities. Near the village of Karabajir three veins were worked, one of them having been mined for a kilometer by vertical shafts to a connecting tunnel which followed the vein. Ore was removed by fire-setting. Bronze and Iron Age sherds of local Thracian ceramics were found on the tips where the ore was pounded¹². One sample of malachite found here contained 90% copper, 8,24% iron, and 0,24% lead. The same situation can be found near the village of Rosenbajir and at several other places in the Strandzja Mountains like that at the foot of the hill near the village of Siloto (Karayotov 1994, 136). As the area from the Strandzja mountains in later times was inhabited by the Thracian tribe of the Astae with their capital Bize (at least till they became a part of the Odrysian kingdom in the 5th century BC, Spiridonov 1983, maps 15-7), it is most likely that they also were the people who worked

¹² Gaul 1942, 404 and personal observations by the author.

these mines at least in the Early Iron Age. The areas of the Strandzja and more to the west the Sakar mountains were already densely populated in the Early Iron Age, as is shown by the many dolmens found here (Fol *et al.* 1982, 173-390). There is no reason to believe that the same area was not inhabited on the same scale during the Early, Middle, and Late Bronze Age. The four Thracian fortresses in the Medni Rids mountains (part of the Strandzja mountains) Bak'r'shko kale, Lobodova kale, Malkoto kale (which is the only one of these sites which was excavated and more or less published (Fol *et al.* 1982, 131; Domaradski/Karayotov 1991, 119-32), and B'ishankovo kale, were inhabited from the 11th century BC onwards. These fortresses could be connected to the Thracian mining activities in this area. It is possible that these fortresses became from the 6th century BC onwards a part of the defences of the chora of Apollonia Pontica¹³.

There is evidence for a trade route along the river Maritsa (ancient Hebros) and its tributaries the Tundzja (ancient Tonzus), Topolnitza (ancient Bargas?), Louda, Yana, and Striama (ancient Syrmus) (de Boer 2002, 452). Although there are several overland trade-routes from Troy/Anatolia to eastern Thrace (Leshtakov 1995, 248-55), the most promising is the river/land route from the delta of the Hemus/Maritsa river in the Aegean sea and upstream to central Thrace or the Strandzja mountains along the Maritsa. The Maritsa is the second largest river in Thrace, after the Danube, and the largest of all north Aegean rivers with by far the greatest volume of water. It rises in Central Thrace, its length is 190 miles, and it breaks its way through the coast ridges, running parallel to the coast, into the Aegean. The Maritsa was certainly navigable in Antiquity (Strabo, *Geography* 8.48) and both Phillippopolis and Hadrianopolis minted coins with images of ships (Tsontchev 1962, 848-52). Even in the 19th century AD, wheat was still transported to the Aegean by small boats (Tsonchev 1957, 32-3), and in the 1920's, although with considerably less depth, flat-bottomed boats of some size could still sail between Adrianopel and the coast (Casson 1968, 23). The recently excavated site of Pistiros near Pazardjik in Central Thrace was probably a Greek emporion or Thracian trading post with a river-harbour along this route in Antiquity (Bouzek 1996, 221-2; Tssetskhladze 2000, 233-46). A very early example of shipping on the Maritsa/Tundzja rivers could possibly be the aforesaid model of a flat-bottomed boat, found in the Chalcolithic Karanovo VI layer at the site of Drama in upper Thrace (Frey 1991, 198). The nearest point of a tributary of the Maritsa river to the copper mines in the northern Strandzja is near Karnobat over relatively flat country. This is exactly the place where one of the Bulgarian ingots, i.e. the one at Tsjerkovo, was found. At the island of Samothrace, which is situated directly facing the delta of the Maritsa river and the Thracian coast, a Minoan settlement was excavated (Matsas 1991, 159; Matsas 1995, 237; Silver 2000, 15). Cyprus is regarded as the main source of copper in the ancient

¹³ Oral information from Prof. M. Oppermann in combination with personal observations of the author.



Fig. 4. Map of the metal road.

Mediterranean, but its copper was now and then not available because of conflicts or other political circumstances. During Middle Minoan II, the Syro-Minoan trade relations declined as a result of Hammurabi's conquest of Mari in 1758 BC and the Minoans were deprived of their essential metal resources. Samothrace is situated in between the rich mining areas of upper and eastern Thrace and the nearby island of Thasos, which also has rich mining areas, so it could have acted as a new stepping stone for the Minoan metal trade in the 18/17th century BC. At a prehistoric site near the village of Drama in eastern Thrace, a "Tonspulle" with 5 linear signs was found (Lichardus *et al.* 2000, 159). According to the excavators, the signs were Minoan Linear A, but the archaeological context in which it

was found makes this unlikely. Possible Late Helladic IIIA2-B1, C, Troy VIIa-b, and Attic painted Protogeometric sherds were found at the same level (Lichardus *et al.* 2000, 155) and, as Linear A was not used after the 14th century BC and Linear B not after 1200 BC, both scripts can not be used on the object found at Drama. The first two signs on the object from Drama can be found in Cypro-Minoan and Cypro-Syllabic¹⁴. Cypro-Minoan was not used after 1180 BC, while Cypro-Syllabic was used between the 11th and the 2nd century BC, so it is likely that we are dealing here with an early kind of Cypro-Syllabic script.

Archaeological and epigraphic evidence in the geographic area of the mouth of the Hemus river and the copper rich Strandzja mountains give the impression of a “metal road” (Fig. 4) from the Middle and Late Bronze Age onwards between the Strandzja mountains and other mining areas in Eastern Thrace and the Aegean through the Maritsa river and its tributaries, over a period of 800 years (de Boer 2002, 452).

Further reasons for the absence of Mycenaeans in the Black Sea area

There are also two other reasons which make a Mycenaean presence in the Black Sea unlikely:

(a) The period of a possible Mycenaean expansion (we should not forget that there is in fact no direct evidence from texts for Mycenaeans as traders, this contrary to Cypriote traders who are mentioned on Al Amarna tablets: French 1982, 23) was too short (approximately between 1450 and 1200 BC) to reach the Propontis, let alone to reach and enter the Black Sea. Especially if one compares this to the time between the 7th and the 3rd century BC during which the Archaic, Classical, and Hellenistic Greeks needed to develop their colonies and trading system in the Aegean and the Black Sea – even not taking in account the completely different political situation in which their system was developed.

(b) There is a difference between the economical situation in the Middle and the Late Bronze Age. In the MBA there existed trade which was independent from the palace economies but closely connected to the upper layers of the social elites. For the Late Bronze Age, however, the written evidence from the Near East, Anatolia, and the Aegean world gives many indications for a palace-directed economy in which trade and the (re)distribution of (imported) goods was firmly in the hands of a bureaucratic group within the palaces. In the Linear B texts from Mycenae and Crete there are no words for an independent trader, nor for a standard medium of exchange (Kolb 2004, 581). During the Late Bronze Age (*ca.* 1500 to 1200 BC), the character of trade was also different from the period of the Iron Age and later. In the archives which were found during the excavation of a former 14th century BC Egyptian capital at El-Amarna and which included parts of the correspondence of the Egyptian pharaohs with other kings in the Near East and Anatolia, mutual gifts play an important role. As mentioned by R. Kolb, there

¹⁴ See for a grid of Cypro-Minoan and Cypro-Syllabic signs, Woudhuizen 1992, 100.

is nothing in the Late Bronze Age of what we call trade, that is, the desire for making an individual or group profit (Kolb 2004, 579).

The exchange of gifts was not only practised by the kings of Egypt, Anatolia, and the Near East, but also among the social elites that surrounded them. The purpose was the need of each group for raw materials, metal objects, animals, and slaves. The exchange of goods had also political and social importance (Kolb 2004, 579). In our sources those who traded in order to execute this exchange of goods are called merchants and envoys at the same time (Moran 1994, 39). K. Polányi considers this gift exchange as an essential characteristic of archaic economies (Polányi *et al.* 1957; Polányi 1963). The difference between Mycenaean trade and Archaic Greek trade is the fact that Mycenaean trade was palace controlled and exchanged mostly with other palace controlled economies. Their trade was not fitted for the tribal societies in the Black Sea region during the Late Bronze Age. Regarding the Balkans and the Black Sea area in the Late Bronze Age it deserves note that it was, like the Aegean, a tribal world composed of agrarian societies that tended to be self-sufficient. Considering eastern Thrace, it is much more likely that contacts between Troy and the Balkan region ran either along the already mentioned “metal road” or along the Thracian Chersonnesos directly opposite Hissarlık.

The Archaic Greek city-based freebooters in the 7th century BC, however, had much better opportunities in this area and under completely different economical conditions (Sherratt, S. and A. 1993, 361-78).

Conclusion

As already discussed, some scholars still believe in trade between the Aegean and the Black Sea during the Late Bronze Age (Buchholz 1999, 89–90, 98; Camassa 1999, 32). But even some defenders of M. Korfmann’s theory of a 13th century BC trading network based on contacts between the Aegean and the Black sea region have to admit that it is not clear whether Aegean vessels passed along the Dardanelles and the Sea of Marmara into the Black Sea (Easton *et al.* 2002, 104). Mycenaean trade-routes, or more likely, the distribution of traded Mycenaean objects, is always connected with the presence of Mycenaean pottery. But until now not one single Mycenaean potsherd, Trojan grey ware or Cypriote pottery has been found on or near the shores of the entire Black Sea region. There is no better proof for the non-existence of Bronze Age sea trade between the Aegean and the Black Sea (Kolb 2004, 593). Not one single object excavated at or near Troy points to direct overseas contacts with the Black Sea region. So the possibility that Troy might have served as a hub for trade between the Aegean and the Black Sea is never proven. There is also no evidence that the swords, double-axes, and spear heads of Mycenaean type and so-called ox-hide copper ingots which have been found along the larger rivers were transported by ship through the Dardanelles and the Bosphorus. It is even possible that most of them were local products using Mycenaean motifs, especially in the case of the swords. Anyway, even in general, a little amount of Mycenaean objects or impact does not mean

Mycenaean trade but could also be an indication of cultural influence or be connected with the indirect exchange of goods (Hänsel 1970, 1982). As for the Caucasus region, objects could have reached their destination through the well-known trade routes connecting the Caucasus with Mesopotamia and the Levant (Klengel 1979, 1990).

Myths like Jason and the Argonauts cannot be used as a reflection of reality nor as historical evidence for any Mycenaean contacts in the Black Sea. According to the four categories of Mycenaean material, the Black Sea area is clearly category A (isolated finds, if any at all) which might show some form of trade contacts (Hope-Simpson 1989, 4). However, taking in account all the evidence from the southern and western Black Sea coast and Thrace, we can conclude that this is absolutely inadequate for Mycenaean presence in the Black Sea, although there is some evidence for a possible Late Bronze Age Mycenaean connection with Eastern Thrace and the Strandzja mountains through the large rivers. Almost all Bronze Age metal finds in Thrace were found along these rivers and not along the Black Sea coast and the same applies to the archaeological and epigraphical evidence in the geographic area of the mouth of the Maritsa river, eastern Thrace, and the copper rich Strandzja mountains. In the Late Bronze Age, the Black Sea must have been, as R. Kolb typifies it, a “mare clausum” for possible Mycenaean navigators.

BIBLIOGRAPHY

- Amov, B.G. 2000: Comment on Z.A. Stos-Gale a.o., Lead isotope data from the isothrace laboratory, Oxford: Archaeometry data base 5, ores from Bulgaria, *Archaeometry*, 40 (1), 1998, 217-2, *Archaeometry* 42, 237-241.
- Angelova C. *et al.* 1995: Prehistoric settlements in the harbour of Sozopol, in: Nikolova, L. (ed.), *Early Bronze Age settlement patterns in the Balkans*, Part 1, Sofia, 20-29.
- Alp, S. 1977: Maşat Höyük'te keşfedilen Hitit tabletlerin isigi altunda Yesilirmak bolgesinin cografyasi hakkında, *Belleten* 41, 637-647.
- Bass, G.F. 1967: *Cape Gelidonya: A Bronze Age shipwreck*, Philadelphia.
- Bass, G.F. 1986: A Bronze Age shipwreck at Ulu Burun (Kaş): 1984 campaign, *American Journal of Archaeology* 90, 269-296.
- Bass, G.F. 1991: Evidence of trade from Bronze Age shipwrecks, in: Gale, N.H. (ed.), *Bronze age trade in the Mediterranean*, Jonsered, 69-82.
- Bass, G.F. 1997: Beneath the wine dark sea: Nautical archaeology and the Phoenicians of the Odyssey, in: Coleman, J.E./C.A. Waltz (eds.), *Greeks and barbarians*, Bethesda, 71-101.
- Bilabel, F. 1920: *Die ionische Kolonisation*, Leipzig.
- Boer, J.G de 1991: A double figure-headed boat-type in the Eastern Mediterranean and Central Europe during the Late Bronze Age, *Thracia Pontica* 4, 43-50.
- Boer, J.G de 1994: Computer aided reconstructions of underwater sites, Sozopol 1990 a test-case, *Thracia Pontica* 5, Varna, 13-22.
- Boer, J.G de 2002: A bronze age 'metal -road' to Eastern Thrace?, *Ancient West & East*, Vol. 1, nr. 2, 443-454.
- Boer, J.G de/C. Angelova (forthcoming): *Ceramic material from the Early Bronze Age settlement in the harbour of Sozopol*, Amsterdam.
- Bonev, A. 1988: *Trakija I Egejskyat svjat prez vtorata polovina na Iie giljadoletie pr.n.e.*, Sofia.

- Bossert, H.T. 1937: *Alt-Kreta*, Berlin.
- Bouzek, J. 1985: *The Aegean, Anatolia and Europe, Cultural Interrelations in the Second Millennium BC*, Prague.
- Bouzek, J. 1996: Pistiros as a river harbour: Sea and river transport in Antiquity, in: Bouzek, J. et al. (eds.), *Pistiros, I*, Prague, 221-222.
- Bouzek, J. 1997: *Greece, Anatolia and Europe: Cultural interrelations during the Early Iron Age*, Jonsered.
- Bryce, T. 2003: Relations between Hatti and Ahhiyawa in the last decades of the Bronze age, in: Beckman, G. et al. (eds.), *Hittite studies in honor of Harry A. Hoffner Jr.*, Winona Lake, 59-72.
- Buchholz, H.G. 1959: Keftiubarren und Erzhandel im zweiten vorchristlichen Jahrtausend, *Praehistorische Zeitschrift* 37, 1-40.
- Buchholz, H.G. 1983: Doppeläxte und die Frage der Balkanbeziehungen des ägäischen Kulturkreises, in: Poulter, A.G. (ed.), *Ancient Bulgaria, Part 1*, Nottingham, 23-37.
- Buchholz, H.G. 1992: *Ägäische Bronzezeit*, Darmstadt.
- Buchholz, H.G. 1999: *Ugarit, Zypern und die Ägäis, Kulturbeziehungen im zweiten Jahrtausend v.Chr. Alter Orient und Altes Testament*, Münster.
- Cambridge Ancient History (CAH)*, vol. II, part 2, 1975.
- Camassa, G. 1999: La Frequentazione Micenea nell'Area Pontica, in: La Rosa, V. et al. (eds.), *Epi Ponton Plazomenoi. Simposio Italiano di Studi Egei dedicato a L. Bernabò Brea e G. Pugliese Carratelli*, Roma.
- Casson, S. 1968 (reprint from 1926): *Macedonia, Thrace and Illyria*, Groningen.
- Catling, H.W. 1975: Cyprus in the Late Bronze Age, *Cambridge Ancient History*, vol. II, part 2, 210-215.
- Chapman, J. et al. 2003: The Göl Baba pollen core: contribution to the Holocene vegetation history of Turkish Thrace, *Anatolian Archaeology* 9, 33-34.
- Cline, E.H. 1994: *Sailing the Wine-Dark Sea: International Trade and the Late Bronze Age Aegean*, Oxford.
- Cline, E.H. 1996: Assuwa and the Acheans: The "Mycenaean" sword at Hattusas and its possible implications, *Annual of the British School at Athens* 91, 137-152.
- Davies, O. 1936: Prehistoric Copper Mines near Burgas, *Man* 36, 92-93.
- Davies, O. 1979 (reprint from 1936): *Roman mines in Europe*, New York.
- Dimitrov, B. 1976: Stone anchors from Sozopol Bay, *The International Journal of Nautical Archaeology* 5 (1), 81-83.
- Dimitrov, B. 1977: Anchors from the ancient port of Sozopol, *The International Journal of Nautical Archaeology* 6 (2), 156-163.
- Dimitrov, B. 1978: Underwater research along the South Bulgarian Black Sea coast in 1976 and 1977, *The International Journal of Nautical Archaeology* 8 (1), 70-79.
- Domaradski, M.I. Karayotov 1991: L'habitat du premier age du fer de Malkoto Kale, *Thracia Pontica* 4, Sofia, 119-132.
- Doonan, O. 2004: *Sinop landscapes: Exploring connections in a Black Sea hinterland*, Philadelphia.
- Draganov, V. 1995: Submerged coastal settlements from the final Eneolithic and Early Bronze Age in the sea around Sozopol and Urdoviza Bay near Kiten, in: Bailey, D./I. Panayotov, *Prehistoric Bulgaria*, Oxford, 225-241.
- Drews, R. 1976: The earliest Greek settlements on the Black Sea, *Journal of Hellenic Studies* 96, 18-31.
- Easton, D.F. et al. 2002: Troy in recent perspective, *Anatolian Studies* 52, 75-109.
- Fol, A. et al. (eds.) 1982: *Trakiiski pametnichi, Megalittite v Trakija 3, tsjast 2 Trakija Pontika*, Sofia.
- Forrer, E.O. 1924: Die Griechen in den Boghazköi-Texten, *Orientalistische Literaturzeitung* 27, 1924, 113-128.
- Fossey, J.M. 1997: Mykenaiaans in the Black Sea: A note from Bulgaria, in: Fossey, J.M. (ed.),

- Proceedings of the first international conference on the archaeology and history of the Black Sea*, Amsterdam, 29-31.
- French, D.H. 1982: Mycenaean in the Black Sea, *Thracia Pontica* 1, Sofia, 19-28.
- Frey, O.-H. 1991: Varna, ein Umschlagplatz für den Seehandel in der Kupferzeit?, in: Lichardus, J. (ed.), *Die Kupferzeit als historische Epoche*, Bonn, 195-201.
- Frost, H. 1982: Stone anchors as clues to Bronze Age trade-routes, *Thracia Pontica* 1, Sofia, 280-289.
- Frost, H. 1986: Stone anchors: Criteria for a corpus, *Thracia Pontica* 3, Sofia, 354-369.
- Frost, H. 1997: New thoughts on old anchors, *Thracia Pontica* 6 (1), Sozopol, 101-114.
- Genz, H. 2005: Eine mykenische Scherbe aus Boğazköy, *Archäologischer Anzeiger* 2004, 1, 77- 84.
- Georgiev, G. 1987: *Poleznite izkopdemi ot vremeto na Trakite*, Sofia.
- Gorman, V.B. 2001: *Miletos, the ornament of Ionia, A history of the city to 400 B.C.E.*, Ann Arbor.
- Graham, A.J. 1958: The date of the Greek penetration of the Black Sea, *Bulletin of the Institute of Classical studies* 5, 25-42.
- Gurney, O. 1981: *The Hittites*, Middlesex.
- Haldane, D. 1986: Recent discoveries about the dating and construction of wooden anchors, *Thracia Pontica* 3, Sofia, 416-427.
- Hänsel, B. 1970: Bronzene Griffzungenschwerter aus Bulgarien, *Prähistorische Zeitschrift* 45, 26-41.
- Hansen, O.A. 1994: Mycenaean sword from Boğazköy-Hattusa found, *Annual of the British School at Athens* 89, 1994, 213-215.
- Harding, A.G. 1984: *The Mycenaean in Europe*, London.
- Hawkes, C.F. 1936: The Double Axe in Prehistoric Europe, *Annual of the British School at Athens* 37, 141-159.
- Hertel, D. 1992: Fundstätten und Funde griechischer Vorzeit. Zum Problem der Historizität der Sage vom Trojanischen Krieg: Kämpfe in der Frühphase der Äolischen Kolonisation Nordwestkleinasiens als historisches Substrat der Transition, in: Hermann, J. (ed.), *Heinrich Schliemann. Grundlagen und Ergebnisse moderner Archäologie 100 Jahre nach Schliemanns Tod*, Tübingen, 177-181.
- Hiller, S. 1991: The Mycenaean in the Black Sea, *Aegaeum* 7, 207-221.
- Hope-Simpson, R. 1981: *Mycenaean Greece*, London.
- Hübner, W. 2000: Mythische Geographie, in: Hübner, W. (ed.), *Geographie und verwandte Wissenschaften*, Stuttgart, 19-32.
- Hüttel, H.G. 1981: Bronzezeitliche Trensen in Mittel- und Osteuropa, *Prähistorische Bronzefunde* XVI.2, 32.
- Kocev, D. et al. (eds.), 1979: *Istorija na Balgarija*, tom 1, Sofia.
- Kapitan, G. 1982: On stone-stocked Greek anchors as found in Thracia Pontica: suggested reconstruction of their wooden parts, *Thracia Pontica* 1, Sofia.
- Kapitan, G. 1986: Graeco-Thracian wood anchors, *Thracia Pontica* 3, Sofia, 381-394.
- Karayotov, I. 1978: Kritski medei slitek ot selo Tsjerkovo, Burgaski okreg, *Numismatika* 1, 13-17.
- Karayotov, I. 1990: The antique and medieval port at the mouth of the river Ropotamo, *Terra Antica Balcanica* 5, 64-65.
- Karayotov, I. 1992: Explorations archéologiques sous-marines dans la baie devant l'embouchure du Ropotamo (1985-1986), in: *Bulgaria Pontica Medei Aev*, vol. III, Sofia, 277-279.
- Karayotov, I. 1994: Les sites portuaires sur les rives des lagunes et le golfe de Burgas (VIe-IIIe s. av. J.C.), *Thracia Pontica* 5, 131-138.
- Kelder, J.M. 2006: Mycenaean in Western Anatolia, with appendix by F.C. Woudhuizen: Reflexes of western Anatolian toponyms in the Linear B texts, *Talanta, Proceedings of the Dutch Archaeological and Historical Society* 36-37, 49-87.

- King, C. 2004 : *The Black Sea, A history*, Oxford.
- Klengel, H. 1979: *Handel und Händler im Alten Orient*, Leipzig.
- Kolb, F. 2004: Troy VI: A Trading Center and Commercial City?, *American Journal of Archaeology* 108, 577-614.
- Kondrashev, K. (forthcoming): Latest results of the underwater archaeological survey along the Taman coast, *Thracia Pontica* 7.
- Korfmann, M. 1995: Troia: A residential and trading city at the Dardanelles, *Aegeum* 12, 173-183.
- Korfmann, M. 1997: The Citadel and Lower City of Troia at Dardanelles. City of War and Peace in the Region where Seas and Continents Meet, in: Sey, Y. (ed.), *Housing and Settlement in Anatolia. A Historical Perspective (Habitat II Conference)*, Istanbul, 83-98.
- Korfmann, M. 1998: Troia, an Ancient Anatolian Palatial and Trading Center: Archaeological Evidence for the Period of Troy VI/VII, *Classical World* 91, 369-385.
- Korfmann, M. 2001: Troia als Drehscheibe des Handels im 2. und 3. vorchristlichen Jahrtausend, in: *Troia – Traum und Wirklichkeit*, Archäologisches Landesmuseum Baden-Württemberg, Stuttgart, 355-368.
- Kraft, J.C. et al. 2003: Harbour areas at ancient Troy: Sedimentology and geo-morphology complement to Homer's Iliad, *Geology* 31 (2), 163-166.
- Kuniholm, P.I. et al. 1998: An Early Bronze Age settlement at Sozopol, near Burgas, in: *In the steps of James Harvey Gaul*, Volume 1, Sofia, 399-409.
- Lazarov, M. 1974: Localité prégrécoques sur le littoral de la mer Noire au Sud du Balkan, *Thracia* 3, Sofia, 107-114.
- Leshtakov, K. 1994: The detachment of the Early Bronze Age ceramics along the Southern Bulgarian Black Sea coast, 1. Urdoviza EBA pottery, *Thracia Pontica* 5, Varna, 23-38.
- Leshtakov, K. 1995: Trade centres from Early Bronze age III and Middle Bronze Age in Upper Thrace, in: Nikolova, L. (ed.), *Early Bronze Age settlement patterns in the Balkans (ca. 3500-2000 BC, calibrated dates)*, part 2, Sofia, 239-287.
- Leshtakov, K. (forthcoming): Copper based ox-hide and bun-ingots found in the east Bulgarian Lands, *Thracia Pontica* 8, Sozopol.
- Lichardus, J. et al. 1989: *Bericht über die bulgarisch-deutschen Ausgrabungen in Drama (1983-1988)*, Mainz am Rhein.
- Lichardus, J. et al. 2000: *Forschungen in der Mikroregion Drama 1993-1999*, Bonn.
- Lordkipanidze, O.D. 1985: *Drevna Kolchida*, Sofia.
- Lordkipanidze, O. 2001: The Golden Fleece: myth, euhemeristic explanation and archaeology, *Oxford Journal of Archaeology*, 20 (1), 1-38.
- Matsas, D. 1991: Samothrace and the North Eastern Aegean: The Minoan connection, *Studia Troica* 1, Stuttgart, 159-179.
- Matsas, D. 1995: Minoan long-distance trade: A view from the Northern Aegean, *Aegaeum* 12, 235-247.
- Mc Caslin, D.E. 1980: *Stone Anchors in Antiquity: Coastal Settlements and Maritime Trade-Routes in the Eastern Mediterranean ca. 1600-1050 B.C.*, Göteborg.
- Mee, C. 1978: Aegean trade and settlements in Anatolia in the second millenium BC, *Anatolian Studies*, 28, 121-156.
- Mee, C. 1998: Anatolia and the Aegean in the Late Bronze Age, in: Cline, E.H/D. Harris (eds.), *The Aegean and the Orient in the second millenium*, *Aegaeum* 18, Liege, 137-148.
- Mellaart, J. 1968: Anatolian trade with Europe and Anatolian geography and culture provinces in the Late Bronze Age, *Anatolian Studies* 18, 187-202.
- Mellink, M.J. 1964: Archaeology in Anatolia, *American Journal of Archaeology* 68, 149-166.
- Mellink, M.J. 1985: Minoan and Mycenaean sites and finds in Anatolia, *American Journal of Archaeology* 89, 547-567.
- Mitrevski, D. 1995: On the hellenization process of the Iron Age culture in Macedonia or on the early contacts between Macedonia and the Aegean region, *Thracia* 11, Sofia, 191-194.
- Moran, W.L. 1994: *The Amarna-Letters*, Baltimore.

- Muhly, J.D. 1985: The nature of trade in the LBA Eastern Mediterranean: The organization of the metals trade and the role of Cyprus, *Reports of the Department of Archaeology, Cyprus*, Part 1, 251-269.
- Niemeier, W.D. 1996: A linear A inscription from Miletus, *Kadmos* 35, 87-99.
- Niemeier, W.D. 1998: The Mycenaean in Western Anatolia and the Problem of the Origins of the Sea Peoples, in: Gitin W. *et al.* (eds.), *Mediterranean Peoples in Transition*, London, 17-65.
- Orlin, L.L. 1970: *Assyrian colonies in Cappadocia*, The Hague.
- Orachev, A./I.Oracheva 1988: Rekonstruktzii na kameni I olovni kotvi ot Sjablenskata muzej-na sbirka, *Arheologija* 1, 18-29.
- Özdoğan, M. 1991: Eastern Thrace before the beginning of Troy I – An archaeological dilemma, in: Lichardus, J. (ed.), *Die Kupferzeit als historische Epoche*, Bonn, 217-225.
- Özgünel, C. 1996: *Mykenische Keramik in Anatolien*, Bonn.
- Özgüz, T. 1978: *Maşat Hüyük*, Ankara.
- Panayotov, I. 1980: Bronze rapiers, swords and double axes from Bulgaria, *Thracia* 5, Sofia, 173-198.
- Papadopoulos, J. K. 1997: Phantom Euboians, *Journal of Mediterranean Archaeology* 10 (2), 191-219.
- Peev, P. 2006: Metalni sliteshti ot akvatopijata na Maslen Nos, *Izvestija na narodna muzei Varna* 40 (55), 47-52.
- Phelps, W. *et al.* 1999: The Point Iria Wreck: Interconnections in the Mediterranean ca. 1200 BC, *Proceedings of the International Conference, Island of Spetses*, Athens.
- Polányi, K. 1963: Ports of Trade in Early Societies, *Journal of Economic History* 23, 30-45.
- Polányi, K. *et al.* (eds.) 1957: *Trade and Market in Early Empires*, New York.
- Porogeanov, K. 1991: Le site submerge d'Ourdoviza, *Thracia Pontica* 4, Sofia, 109-112.
- Price, R. 1993: The West Pontic 'maritime interaction sphere': A long-term structure in Balkan prehistory?, *Oxford Journal of Archaeology* 12 (2), 175-196.
- Raban, A. 2000: Three-hole composite stone anchors from a medieval context at Caesara Maritima, Israel, *The International Journal of Nautical Archaeology* 29 (2), 260-272.
- Ribarov, G. 1991: The osteol material from the sunken settlement at Ourdoviza, *Thracia Pontica* 4, Sofia, 113-118.
- Ribarov, G. 1994: Archaeozoological material from the eneolithic and early bronze age settlement at Sozopol, *Thracia Pontica* 5, Varna, 51-56.
- Roebuck, C. 1986: *Ionian trade and colonization*, Chigago.
- Sherratt, S. and A. 1993: The growth of the Mediterranean economy in the early first millennium BC, *World Archeology* 24 (3), 361-378.
- Silver, M. 2006: *The Argonaut epos and Broze Age economic history* <http://www.geocities.com/Tokyo/Fuji/8160/Harticles/Msilver.htm>, 1-46.
- Smit, D.W. 1989: Mycenaean penetration into northern Greece, in: Best, J.G.P./N.M.W. de Vries (eds.), *Thracians and Mycenaean*, Leiden, 174-180.
- Sperling, J. 1991: The last phase of Troy VI and Mycenaean expansion, *Studia Troica* 1, Mainz am Rhein, 155-157.
- Spiridonov, T. 1983: *Istoritjeska geografija na Trakiiskite plemena do III v.pr.n.e.* 2, Sofia.
- Stos-Gale, Z.A. *et al.* 1997: Lead isotope characteristics of the Cyprus copper ore deposits applied to provenance studies of copper oxhide ingots, *Archaeometry* 39, 83-123.
- Stos-Gale, Z.A. *et al.* 1998: Lead isotope data from the isotrace laboratory, Oxford: Archaeometry data base 5, ores from Bulgaria, *Archaeometry* 40 (1), 217-226.
- Thissen, L. 1993: New insight in Balkan-Anatolian connections in the Late Chalcolithic: Old evidence from the Turkish Black Sea littoral, *Anatolian Studies* 43, 207-237.
- Todorov, I. 1981: *Balgarsite korabi*, Sofia.
- Todorova, H. 1992: Die westliche Schwarzmeerküste in der Urgeschichte, *Studia Praehistorica* 11-12, 5-9.
- Todorova, H. 1993: Naj-rannite targovski kontakti na Severozapadnoto Pritsjernomorie, *Dob-*

rudzja 10, 10-20.

- Todorova, H. 2004: Die tiefgreifende ökologische Krise des 4. Jahrtausends, in: Nikolov, V./K. Băčvarov (eds.), *Von Domicia bis Drama, Gedenkschrift für Jan Lichardus*, Sofia, 107-115.
- Toncheva, G. 1973: Novi dannii za tergovijata po tsjernomorskoto krajbrezjie prez 16-14 v. pr.n.e., *Vekove* 3, 17-24.
- Tsetschladze, G.R. 1997: Argonautica, Colchis and the Black Sea, myth, reality and modern scholarship, *Thracia Pontica* 6 (1), Sozopol, 337-342.
- Tsontchev, D. 1957: Plavatelnostta na r. Maritsa v drevnosta, *Muzei i pamentzi na kulturata* 4, 32-33.
- Tsontchev, D. 1962: La navigabilité de l'Hebros-Maritza dans l'Antiquité, *Latomus* 21, 848-852
- Wijngaarden, G.J. 1999: *Use and appreciation of Mycenaean pottery outside Greece*, Amsterdam.
- Woudhuizen, F.C. 1992: *The language of the Sea Peoples* (Publications of the Henri Frankfort Foundation 12), Amsterdam.
- Yıldırım, B./M.-H. Gates 2006: Archaeology in Turkey, 2004-2005, *American Journal of Archaeology* 111 (2), 275-356.

J.G. de Boer

Ancient History, Universiteit van Amsterdam

c/o Donderslaan 34-13

NL-9728 KP Groningen

The Netherlands

j.g.deboer@uva.nl