

CUTTING-EDGE TECHNOLOGY AND KNOW-HOW OF  
MINOANS/MYCENAEANS DURING LBA AND  
POSSIBLE IMPLICATIONS FOR THE DATING OF THE TROJAN WAR

Konstantinos Giannakos

*In the present paper, the material evidence, in LBA, both for the technological level of Minoan/Mycenaean Greece, mainland-islands-Crete, and the image emerging from the archaeological finds of the wider area of Asia Minor, Land of Hatti, Cyprus, and Egypt, are combined in order to draw conclusions regarding international relations and exchanges. This period of on the one hand prosperity with conspicuous consumption and military expansion, on the other hand as well of decline and degradation of power are considered in relation with the ability of performing overseas raids of Mycenaean Greeks. The finds of the destructions' layers in Troy VI/VIIa are examined in order to verify whether one of these layers is compatible to the Trojan War, while an earlier dating is proposed. The results are compared with the narrative of ancient literature in order to trace compatibilities or inconsistencies to the archaeological finds.*

**Introduction**

Technology and its 'products', when unearthed by archaeologists, are irrefutable witnesses to the technological level of each era and place. Especially the cutting-edge technology and, more in general, an advanced know-how are, in my opinion, of decisive importance, since "Great Powers" use them in order to increase wealth and military superiority. The evaluation of archaeological finds, cutting-edge technology, and advanced know-how of each era could result in conclusions regarding the nature of international trade and relationships, and can also be brought in connection with evidence from ancient literature. Constructions of huge-scale works and also the production of precious and rare metals, such as silver and iron, during LBA, were realised by 'cutting-edge technology' and advanced know-how. The investigation of relationships, wars, alliances, and exchanges, as recorded in archaeological finds and literature, for peaceful and warlike activities, as well as the cross-traffic/infusion of technological know-how helps us in reaching conclusions regarding the history of the distinct eras.

### Cutting-edge technological constructions in Minoan/Mycenaean Greece

Minyan, Minoan, and Mycenaean Greeks used advanced cutting-edge technology and ‘engineering’ know-how, from the beginning of the early MH (begins *ca.* 2200/2100 BC), or even earlier. Almost every settlement, since neolithic times, used 2-meter thick fortification walls from the mid-third millennium already, in Lerna, *ca.* 2500 BC, Syros, *ca.* 2200 BC, Aegina, *ca.* 2100 BC (Palyvou 2005a; Tassios 2008). By the LM IA the ashlar wall technology was popular in all houses in Akrotiri and Crete (Palyvou 1999). The bearing capacity of a stone wall increases with the width. This is a technical know-how gained from experience, or trial-and-error method<sup>1</sup>. Developing – one thousand years after the mid-third millennium – 3 m thick walls at Tiryns and of 5 m or 7 m in Mycenae even later seems to have been normal procedure (Tassios 2008; Palyvou 2005). This procedure of gradual development of a wall’s bearing capacity, by increasing its thickness, belongs to the regular know-how for ‘engineers’: they had to construct the external masonry sides slightly further apart and increase the ‘filling’ inside, in order to enable these to carry heavier loads. However, an intuitive engineer’s spirit is needed, to design and construct a structure fit to bridge large or wide openings like the three-dimensional corbelled vault used for tholos tombs. In this case a high level of technological knowledge and skill is demanded. Mycenaean ‘engineers’ successfully used the coursed ashlar in the construction of large bee-hive *tholos* tombs with corbelling technique (Palyvou 2009) and constructed adobe structures presenting strength in today’s terms of 3-5 N/mm<sup>2</sup>, much higher than the strength (*ca.* 3 N/mm<sup>2</sup>) of modern bricks of low quality<sup>2</sup>. The corbelled vault *tholos* at Fourni, Crete, belongs to EM II, *ca.* 2900-2300 BC<sup>3</sup>, the know-how expanded at Messenia where the first *tholos* tombs belong to late MH and at Kakovatos, to MH or early LH I (Treuil *et alii* 1996, 354-357). Smaller tholoi in Georgiko and Koryfasio are referred to (Tassios 2008). The *tholos* tombs at Mycenae have been constructed even before 1520 BC, for the kings and their close relatives<sup>4</sup>.

The structural analysis of the ‘Atreus Treasure’, with the Finite Element Method/FEM, calculated maximum compression and tensile stresses of approximately 0,74 N/mm<sup>2</sup> and 0,17 N/mm<sup>2</sup> (Askouni *et alii* 2008), implying linear elastic behaviour with no damage expected. Similar results were derived from

---

<sup>1</sup> About the empirical and intuitive ability of Mycenaean ‘Engineers’: Cremasco/Laffineur 1999; Hope Simpson/Hagel 2006, 24.

<sup>2</sup> For Akrotiri: see Palyvou *et alii* 2001. N = Newton, is the unit of Force in the SI system; N = kg.m/sec<sup>2</sup>, that is one Newton equals to the product of one kilogram of mass multiplied by the acceleration unit (one meter of length per second – unit of time – in the square).

<sup>3</sup> Dickinson 2003, 49: dated by Sakellarakis. “The whole structure of the tholos of grave Γ, till its top (key-stones), had been constructed with stone (protruding) rings, and it is dated in EM III; the tholos grave B is dated in MM IA, as terminus ante quem; the tholos grave E is dated in EM IIA” (Sakellarakis/Sakellarakis 1997, 181-182, 169, 187).

<sup>4</sup> Mylonas 1983, 168: Cyclopes’/Gennii’s, Upper Fournace’s, Aegisthos’s *tholoi*.

the structural analysis (with the FEM) of the *tholos* tomb of Thorikos, Attica, which are “emphasizing some of the intuitive choices made by the Mycenaean architects in those remarkable monuments”<sup>5</sup>.

For the dating of the ‘Atreus Treasure’, finds of LH IIIA1-LH IIIA2 are mentioned at the grave’s *dromos*, sherds of *bothros* deposit of the grave of LH IIIA1, testimony that it had been reused (Cavanagh/Mee 1999). This provides us with a *terminus ante quem*, since the grave’s reuse is dated on the LH IIIA1-LH IIIA2. The Minoan architecture was propagated beyond Crete (Shaw 2009; Palyvou 2005b, 185-188): at Akrotiri in Thera, Phylakopi in Melos (LM I or LC I), Trianda in Rhodes (LM IA), Pylos in Messenia, Menelaion in Sparta (LH II-LH III), Mycenae and Tiryns, where the first Throne Room is dated at MH-LH I at the latest, since the Great *Megaron* with the first fortification walls were constructed in LH IIIA during the early 14th century<sup>6</sup>.

In Messenian Pylos, influenced by the highly Minoanised Kythera, some ashlar walls, found by Blegen, were identified by Klaus Killian as belonging to a Minoan or Minoan influenced ‘Cretan’ structure, dated to LH II/early LH IIIA1. Of particular interest is a double-axe ‘mason’s-mark’, on the face of one block as well as the double axe signs engraved on the *stomion* blocks of the LH IIA *tholos* tomb at Peristeria. A gypsum frieze with triglyphs and half-rosettes in Tiryns, the running spirals at the facade of the ‘Treasury of Atreus’, and the Tiryns gypsum triglyph and half-rosette resemble elements from Knossos (Shaw 2009).

Mycenaeans/Minyans had also constructed flood control and land-reclamation works, at many sites in mainland Greece, with, most typically, the ‘drainage’ of Kopais lake (Tassios 2006a; 2006b; 2008; Knauss 2002; Palyvou 2009), where Spyropoulos<sup>7</sup> unearthed sherds of MH period, from the Mycenaean dams still existing today. Furthermore, Mycenaean flood protection works, with the deviation of the Alpheios river, existed at Olympia (Tassios 2008; Knauss 2002). For sewage and sanitary installations, systems of water traps, and odor traps in palaces and town houses were unearthed in Akrotiri, comparable to the ones used in modern houses, as used from the 19th century AD onwards (Palyvou 1997). A possible artificial port at Pylos of the LH III period, with radiocarbon-dating of 1350 BC, is also discussed among the hydraulic works of Mycenaeans (Hope-Simpson/Hagel 2006, 211).

The evidence ensuing from the aforementioned material may be combined with evidence from ancient literature. The walls of Troy are said to have been built by the gods Apollo and Poseidon, in cooperation with a mortal man, the king of

---

<sup>5</sup> Cremasco/Laffineur 1999; Treuil *et alii* 1996, 354-357: the tomb is dated MH-LH. This implies an average date of 1550 BC.

<sup>6</sup> Papademetriou 2001; Maran 2012; Hope Simpson/Hagel 2006, 226: “The Mycenaeans’ skill in engineering was initially learnt from the Minoans”.

<sup>7</sup> Iakovides 1997; Tassios 2008, 12: “This advanced technology and the first phase of the works were developed since the middle of the 2nd millennium BC”, 14-15: photo’s of dams.

Aegina, Aiakos, who had close relations with the Cretans who colonised Troy<sup>7a</sup>. The walls of Tiryns are said to have been constructed by the Cyclopes for Akrisios. Cyclopes, the smith-deities, were part of the pre-Olympian trinity ‘Titans, Cyclopes, Hekatonheires’, in prehistoric Greece<sup>8</sup>, also being bringers of technology in mythological accounts. However, it might well be conceived that Cyclopes represent a labour-force brought in to build the walls, following Strabo: “Cyclopes who came by invitation from Lycia and gained their living from their handicraft”<sup>9</sup>.

### Technology in metal production

The presence of silver in eastern EM I Crete is surprising (Muhly 2008). There is evidence for an intensive exploitation, working, and production of silver and lead from the Laurion area mines from Late Neolithic, Early Bronze Age, Middle Bronze Age, through to Late Bronze Age<sup>10</sup>. A cupellation workshop from the late-4th millennium BC (Proto-Helladic I/PH I), was excavated and hundreds of litharge (a mineral form of lead oxide) fragments were recovered (litharge of silver comes as a by-product of separating silver from lead), with evidence of the process of silver separation from argentiferous lead (Kakavogianni *et alii* 2006, 78-79). Specified quantities of metal were used as a medium of exchange in pre-coinage societies (Michailidou 2005; 2008).

Iron seal rings have been found at Dendra and Pylos containing nickel ranging from 2-11 per cent, derived from meteorites or from nickel-bearing ores, as in Larymna, Euboea, and Skyros (Varoufakis 1999). Iron seal rings at the Archaeological Museum of Athens are dated between the 15th and the 13th century BC. Iron – according to tablets from Akkad – had a six times higher value than silver (Varoufakis 2005). It should be emphasised that iron – as an extremely precious metal – had already been used in Crete since the first half of 17th century BC, as the finds from a human sacrifice at Anemospilia – near Archanes – confirm, where the priest wore a silver ring that was iron-plated. Furthermore, iron has also been encountered in later royal burials in Minoan Crete (Sakellarakis/Sakellarakis 1991).

The finds of weapons and panoplies in the graves of Mycenaean in Crete led the archaeologists to call them ‘warriors’ graves’. The people lying in these graves may represent a local community that extended its authority by adopting

---

<sup>7a</sup> Giannakos 2015, 758: about the meaning of the participation of the gods and the Mycenaean’s technological level.

<sup>8</sup> ‘Intellect, Technology and Natural Forces’, the ‘equilateral triangle’ of the ‘manifested deity’: cf Tassios 2001; 2005; 2008.

<sup>9</sup> So-called *Gasterocheires-Γαστερόχειρες* (literally ‘bellyhands’): Str. 8.6.11/373; Apollod. 2.2.1; also: B. *Od.* 11.75-79, Paus. 2.25.8.

<sup>10</sup> Tzahili 2008, 10-11. Muhly 1997, 28, 32: “Silver at Laurion was being exploited by the mid-third millennium BC”, citing P. Spitaels in note 7. Stos-Gale/Gale/Houghton 1995, 130: “for the Mycenaean/Minoan world, the main source for lead, silver and copper was Laurion”. Stos-Gale (1982) supports that Laurion seems to be the predominant source of the finds in Shaft Graves at Mycenae.

new methods of battle. Products of cutting-edge technology usually offer predominance and superiority of weaponry to their ‘owners’ in battles. Minoans and Mycenaeans produced and used tremendous weaponry both in war and in hunting. They did not trade their weapons, and only seldomly used their swords as gifts: the presence found far away from their provenance can hardly –if at all – be explained by trade (Sandars 1963).

### **Periods of prosperity and decline in palatial centers**

Great projects of *tholos* tomb constructions and other technological works were undertaken in times of prosperity. In order to build the Treasury of Atreus, houses were demolished, thousands of tons of rock and rubble were excavated and removed, blocks of limestone and conglomerate were quarried and carted in, fine stones were shipped from other parts of Greece and skilled craftsmen worked for many months to finish it, requiring tens of thousands of man-days in expenditure of effort (Cavanagh 2008, 337; Voutsaki 2012, 104). The grave goods of MH III-LH I periods provide assemblages of material culture indicating levels of prosperity, social complexity, artistic influence, and wealthy societal groups (Shelton 2012), showing an emerging elite in Mycenae, possibly the result of Mycenaean military prowess in this period (Colburn 2007; French 2012; Voutsaki 2005; Wiener 2007, 10-11).

A series of destructions of the main palatial centres took place in the period from 1400-1050/1030 BC (Middleton 2010; Giannakos 2012, 221-222; Sherratt 2001, 234: “a cardboard collapse of the mainland’s palaces, in LH IIIA2-IIIIB Greece”). Destruction processes of early Mycenaean Greece in LH IIIA1 may be caused by military conflict and were followed by the foundation of the palaces and the emergence of a stricter hierarchical order, as depicted in burial customs (Niemeier 2005). Through LH IIIA to LH IIIIB less effort and fewer resources were put into tomb construction, while prestigious items were entirely lacking in chamber tombs. Everywhere on the the mainland, palaces were built and rebuilt during this period and several widespread destructions that have been localised were usually followed by rebuilding on a massive scale (Cavanagh 2008; Kelder 2010, 99; Shelton 2012). In more details (Middleton 2010):

During LH IIA-III A1 at Mycenae, the Ramp House was reconstructed indicating some kind of prior disturbance; at Pylos, there was a destruction at the Palace; Knossos suffered a series of destructions; in Lakonia, Mansion 2 was abandoned. In LH IIIA2 at Mycenae the Pillar Basement, the Palace, and many Houses were destroyed (Petsa’s House, the Second Cyclopean Terrace House, the House of Wine Merchant, and the House of Lead [Atreus Ridge]), perhaps by an earthquake(?) [Middleton 2010: according to Mountjoy]. The House of Kadmos at Thebes was also possibly destroyed in late LH IIIA2/early LHIII B, while other parts of Kadmeia were in use later, and buildings at Tiryns were remodeled at this time (also: Dakouri-Hild 2012, 698-702). Parts of buildings of Iolkos dated to the 15th century BC, one of them identified as the Palace, had been destroyed by a powerful fire in LH IIIA (also: Adrimi-Sismani 2007, 164,

168, 175). The palace at Pylos was remodeled during LH IIIA2 or LHIIIB1. The catastrophes of which we have the evidence all over Mycenaean Greece from LH IIIA2 onwards could imply that approximately by 1350 BC the Mycenaean palaces were experiencing a period of prosperity, growth of population, but at the same time destructions in palatial centres without evidence of rich offerings in tombs, suggest a gradual degradation of power (Middleton 2010; Voutsaki 2001; 2005) and a step by step impoverishment of Greece.

### **15th-14th centuries BC: finds in Ḫatti and the Mycenaean World**

A Mycenaean Type B bronze sword was unearthed at Ḫattuša, dated to the period of Tudḫaliya II, commemorating his victory over Aššuwa (including Wilušiya/Ῥίλιος and Taruiša/Τροία), mentioned in his Annals. This sword most probably belonged to the booty taken from a Mycenaean soldier. Besides this sword, various objects of Mycenaean influence and several texts, implying activities deep in Asia Minor and Alašiya/Cyprus, by members of the Mycenaean royal families, were also found (Giannakos 2012, 17-42):

- A silver bowl referring to the conquest of Tarwiza/Τροία by a king Tudḫaliya (II).
- A bronze sword at Izmir and one at Kastamonu, of Mycenaean type, dated to *ca.* the same era,
- A Mycenaean bronze spearhead at Niğde attesting of advanced technology of the 14th-13th centuries BC,
- A ceramic bowl with a depiction of an Aegean(?) warrior bearing a boar's tusk helmet at Ḫattuša dated to about 1400 BC,
- Fragments of wall paintings of Mycenaean technique in Büyükkale. The published colour photograph, of the fragments, lead to the linkage of the Ḫattuša's iconography with (Mycenaean) paintings from Bronze Age Mycenae, Tel-el-Dab<sup>c</sup>a, Qatna, and Tel Kabri (Brysaert 2008, 101-102, 108, 155).
- Imported Mycenaean pottery LH IIIA2 in Maşat Höyük, in a LH IIIB context and
- A few Mycenaean sherds in Ḫattuša and Kuşaklı demonstrating the importance of hearth building, as also attested in Mycenaean palaces, as described in Tudḫaliya IV's Hittite ritual text, reconstructed from older sources.

The Indictment of Madduwatta, involving notes that under Tudḫaliya II's reign, Attarissiya, a lesser ruler in Aḫḫiyawa whom Hittites did not regard as King<sup>11</sup> (that is ἄναξ), having 100 chariots with him, fought against a Hittite army in southwestern Anatolia and performed repeated<sup>12</sup> raids against Lukka and Alašiya/Cyprus.

---

<sup>11</sup> Güterbock 1997b, 207. Beckman/Bryce/Cline 2011, 97-98: "he might not have been viewed as King....a Mycenaean of high status". Bryce 2005, 129-130: "rather he was not an officially recognized king of the Land of Aḫḫiyawa". Gurney 1990, 21: "possibly an Achaean Greek chieftain". Tudḫaliya (II) in this paper is always I/II, following Bryce (2005).

<sup>12</sup> For "repeated": Güterbock 1997a, 200.

A Letter of a king of Ahḫiyawa to a Hittite king, mentions that under Tudḫaliya II's reign, "(a-)Ka-ga-mu-na-aš", the King of Ahḫiyawa, owned the islands, after a dynastic marriage, with a princess of Aššuwā. The author endorses that, in Linear B, Agamemnon should be transliterated as either 𐀀𐀓𐀗𐀛 = a-ka-me-mo-no, (using the syllable 𐀓=ka) or most probably: 𐀀𐀗𐀛𐀓𐀗 = a-\*gja-me-mo-no, (using the syllable 𐀗=za, pronounced as \*kja, or \*gja<sup>13</sup>) that very much resembles a-ka-ga-mu-na of the Hittite tablet from Tudḫaliya II's era (also Giannakos 2013, 429). We recall that Agamemnon (*πολλῆσιν νῆσοισι καὶ Ἄργεϊ παντὶ ἀνάσσειν* (Hom. *Il.* 2.108) "that so he might be lord of many isles and of all Argos") returned to Mycenae bringing with him Cassandra, princess of Troy (member of Aššuwā), who had born to him two sons Teledamus and Pelops (Paus. 2.16.6-7: describes the graves of Cassandra and of the two children).

An Oracle Report (Tudḫaliya II's era), "Concerning the enemy ruler of Ahḫiya", who –almost certainly – is Attarissiya attested in the Indictment.

The Alaksandu treaty mentions that Labarna had conquered Arzawa and Wilusa. Afterwards, Arzawa began war and Wilusa/Ῥίλιος "defected from Ḫatti". Later on Tudḫaliya (II) campaigned against Arzawa but "he did not enter Wilusa", since "(Wilusa's) people were indeed at peace with the Kings of Ḫatti from afar, [and] they regularly sent [them messengers]". The Treaty does not mention Ahḫiyawa, probably because the Hittites did not consider Ahḫiyawa as a serious power at the time, *ca.* 1285 BC (Kelder 2010, 27, note 74; Bryce 1989; Freu/Mazoyer 2011, 90-102).

Furthermore, Muršili II conquered Millawanda/Miletos in *ca.* 1316 BC, and the Achaean ruler did not react – a fact depicting a serious weakening of Ahḫiyawa, after *ca.* 1320 BC (Beckman/Bryce/Cline 2011, 272; Kelder 2010, 27, note 74).

### 15th-14th centuries BC: Finds in Egypt and the Mycenaean World

Recorded relationships between Egypt and the Aegean appear from the 20th century BC until Tutankhamun, *ca.* 2000-1330 BC. Minoan finds imply that Cretan artists/artisans were working at Avaris/Tell-el-Dab<sup>ca</sup>. Impressive coloured wall paintings with acrobats in palm-groves, bull-leapers framed by half-rosettes, maze patterns, and griffins appear during Ahmose's reign – late 2nd Intermediate Period/early New Kingdom [??] – similar to those as in the Cretan Minoan Palaces, possibly implying that one of his wives was of Cretan origin<sup>14</sup>. The use of crushed Murex shells found within the plaster paste of Thera

<sup>13</sup> For the syllable 𐀗=za: Ventris/Chadwick 1956, 44. Ruijgh 1967, 244-245 (§ 209), 210. Bernabé/Luján 2008, 220. Morpurgo-Davies 1988, 79-80. For the transliteration of the stem "μῶν" as *mo-no* in Linear B see: Promponas 1990, 18. Ventris/Chadwick 1956, 46. Duhoux 2008, 360. Ruijgh 1967, 24-25.

<sup>14</sup> Bietak (1995) proposed a political marriage as an explanation of Minoan royal emblems at Avaris, like the huge emblematic griffin, similar to the Knossos Throne Room's griffin (Bietak/Marinatos/Palyvou 2007, 86). Cf. Redford 2006, 192; Cline 2004, 239; Strange 1980, 51; Shaw 2000.

and Tell el-Dab<sup>c</sup>a, the techniques of plaster preparation and of painting, as well as the technique of impressed grid lines for the creation of repetitive patterns are not Egyptian, but Minoan (Bietak/Marinatos/Palyvou 2007, 68). Ahmose's axe and Aahotep's dagger were decorated with Aegean symbols, suggested by the Minoan form of the griffin<sup>15</sup>.

Gifts from T/Danaja – on the 42nd year of Thutmose III – are listed: “..chief] of Tanaya: Silver: a jug of Keftiu workmanship along with vessels of iron”<sup>16</sup>, indicating advanced iron-technology in Mycenaean Crete (consequently T/Danaja) at that era. Iron in this early stage was an extremely rare commodity, difficult to process (Kelder 2010, 36, 105; Lucas 1948; Ogden 2000) and consequently its use constituted cutting-edge technology. There are also references to iron-gifts to the Pharaoh in Amarna tablets (Lucas 1948; Moran 1992, *EA* 22, 25; Ogden 2000). After the rebuttal of the old theory about the Hittite monopoly of iron during the 2nd millennium BC (Sandars 2001; Muhly 2006), it could be inferred that iron was initially introduced and spread as luxurious metal, a position the metal retained and afterwards as a possible consequence of the real shortage of tin and even copper. In Tutankhamun's tomb, several iron objects were found<sup>17</sup>.

The famous list of Amenhotep III at Kom-el-Hetan mentions Keftiu, T/Danaja and the very well known Aegean places: Amnisos, Knossos, Kydonia, Mycenae, Thebes, Ilion<sup>18</sup> etc. Amenhotep's close relations with Achaean rulers are evident from remnants of his palace at Malkata and his faience plaques at Mycenae (Phillips 2007). Akhenaten performed two wars against the Hittites in Syria before

---

<sup>15</sup> Bietak 1995; Warren 1995: “Aahotep's dagger and Ahmose's axe are decorated with Aegean symbolic information while the axe motifs combine Egyptian conquest of the Hyksos through the medium of an Aegeanizing motif, the Minoan form of griffin”. Mumford 2001: “an Aegean-derived niello dagger from Queen Ahhotep's tomb”.

<sup>16</sup> Redford (2003, 96, note 226) translates ‘iron’ and refers to the rarity of such a manufacture. Breasted (2001a, 217, note c): ‘Biz’, translating ‘iron’. Strange (1980, 96, note b): “iron” quoting Harris and Graefe, who doubt whether ‘biz’ could be iron, although it evidently must be some metal. Cline (2009, 110, 114) and Panagiotopoulos (2009): “iron (or copper (?))”. Kelder (2010, 36, note 105), referring to written communication with M. Raven: “it appears that the reading ‘iron’ for ‘bia’ is now widely preferred”. “da-na-jo=Danajo = Δανάϊος = Δαναός, was read in Knossos tablets Db1324, V1631”: Ventris/Chadwick 1956, 417. It echoes very close to T/Danaja of Egyptian hieroglyphics.

<sup>17</sup> Coleman/Manassa 2007, 77, 240, note 148: the iron-dagger found in the tomb was not made from meteoric iron; Lucas 1948; Muhly 2006; Ogden 2000.

<sup>18</sup> Karetsou/Andreadaki-Vlazaki/Papadakis 2000, 246; Strange (1980, 22, note 9) with citations from older publications; Cline (2004; 2009, 115) and Macqueen (2001, 162-163, note 30) believe that this transliteration is by no means certain and that presumably, for the Egyptians, ‘wrj’ was part of either ‘kftiw’ or ‘tny’. Latacz (2004, 131): Waleja-Elis. Kelder (2010, 38, note 111) refers to Goedicke: Aulis. Cline/Stannish 2011: the transliteration Ilion should probably be disregarded and it is either Eleia in Crete or Aulis. Kozloff 2012, 211: possibly Troy. For a possible transcription of the Egyptian wrj/wi-ry in Linear B wi-ro = Ὡροσ/Ἰροσ was read in a tablet from Knossos (Ventris/Chadwick 1956, 427, KN As1516). One Ὡροσ was Ilion's founder, and another Ὡροσ was Teukers' king and Dardanos's son: the “place of” (Ruijgh 1967), e.g. wiro: wi-ri-jo of wi-ro-(s)i-jo; cf. Wilusiya.



his sixth and during his fifteenth years of reign, as a *talatat* revealed, allowing Schulman to consider this: “a fact that allows speculations for a possible ‘alliance’ with Mycenaean” (Schulman 1988; Coleman/Manassa 2007, 198-199), probably Mycenaean mercenaries.

Heavily armed northern mercenaries appear in Egyptian documents and the incursions of pirates, Denen, Lukka, and Sherden, had become so serious *by the reign of Amenhotep III*, that the Egyptians constructed coastal forts and patrolled the mouths of Nile (Redford 1992, 242; 2006, 196; Shaw 2000, 322; Coleman/Manassa 2007, 203; Breasted 2001b, 338). This event during Amenhotep III’s era reminds both Atreids, Agamemnon and Menelaus, as described by Homer and Strabo, who had also separately visited and/or raided Cyprus, Levant and Egypt – Odysseus also raided Egypt – (Hom. *Il.* 4.120-137, 225-230, 350-355; *Od.* 4.81-91; Str. 1.2.32/C 40), *and not jointly in groups, as the later Sea Peoples*<sup>19</sup>.

After Tutankhamun’s reign, T/Danaja are not mentioned any more by the Egyptian archives (Kelder 2010, 46, 85; Wachsmann 1987, 125; Cline 2009, 37-41, 113-116). This also implies that T/Danaja was seriously weakened after *ca.* 1351/1331 BC, as the Hittite archives depict about Aḫḫiyawa.

### **Was there a “flow of technological know-how”?**

In tablet Kbo 3.57, king Ḫantili boasts that he fortified the cities and Ḫattuša. Some researchers support that it was Ḫantili I, 1590-1560 BC, and speak about a flow of technology from east to west (Maner 2012; Seeher 2006) since the postern gates in the ‘Poternenmauer’ in Boğazköy date to the 16th century BC and the corbelled vaults occur only in the Argolid in LH IIIB. Apparently there is a misunderstanding, considering (besides the aforementioned datings):

- 1.- the Hittite king of the tablet is Ḫantili II, *ca.*1450 BC, since at that era Kaška people attacked and sacked Ḫattuša and Nerik, the latter remaining under their sovereignty till Ḫattušili III, two centuries later<sup>20</sup>,
- 2.- the first bee-hive *tholoi*, dated to the mid/late-third millennium BC, appeared before the formation of the kingdom of Ḫatti (*ca.*1650 BC),
- 3.- in civil engineering the three-dimensional bee-hive *tholos* ‘bearing huge earth weight’, with perfect fitting of the stone-blocks (a sheet of paper does not intrude in the stone-blocks’ joints) bridging much larger span (14,5m), is much more complicated to be designed, constructed, and remain for millennia, than the two-dimensional arc of the postern gates or the ‘tunnels’ inside the walls (span 2m), bearing only their own ‘dead-load’, with the rough, bungle-some fitting of the stone-blocks (Giannakos 2015),

---

<sup>19</sup> Giannakos 2012, 68. Redford, 1992, 246, 244, note 19: “While Amenophis III and Ramesses II encountered the individual groups, the breakup of the Mycenaean age” – apparently just before and after 1200 BC – “forced communities to come together on a temporary basis”.

<sup>20</sup> Bryce 2009, 298; 2005, 113, 420 note 75, Schuler also; Freu/Mazoyer/Klock-Fontanille 2010, 163-164, Onofrio Carruba also; Collins 2007, 42.

- 4.- the two-dimensional arcs, inside the body of the walls of Tiryns with the creation of empty space inside the mass of the walls, appear for the first time as ‘engineer’s conception’, in Phylakopi on Melos, at the Late Neolithic or EBA (Tsountas 1928, 15, 30-34; Hope Simpson/Hagel 2006, 111; for dating of the fortification wall and its “cells”: Whitelaw, 2005, 49-51),
- 5.- in Kiapha-Thiti, Attica, the fortifications, dated LH I-II (which begins *ca.* 1620/1580 BC), “contain features like ‘sally ports’ and a ramp” (Hope Simpson/Hagel 2006, 27), and
- 6.- Phylakopi, Ayia Irini in Kea, and Crete had LB I fortifications or structures, which could have been relevant for the development of Mycenaean fortifications (Hope Simpson/Hagel 2006, 26-27).

The material evidence for Minoan/Mycenaean Greeks in the neighbouring two other Great Powers<sup>21</sup>, Hatti and Egypt, plausibly depicts an opposite ‘flow of technology’, from west to east. At this point, it should be emphasised that for the Mycenaean frescoes from Hattuša “the direction of technological transfer seems to go from west to east and the limited publicity given to these fragments is the likely reason why these paintings were never considered in relation to Aegean paintings and technological transfer discussions” (Brysaert 2008, 155, 102, 156-165).

### **15th to 14th century BC transition: material evidence from Cyprus**

The evidence from Hittite archives describes ‘repeated’ raids of Attariššiya (the ruler of Aḫḫiya) against Cyprus from Lycia. Leaving the opinion that (Güterbock 1997a) “the text does not speak of conquest, and raids cannot be expected to leave tangible traces” aside, the evidence from Cyprus should be taken into consideration. The island suffered a number of destructions around 1400 BC (Åstrom/Åstrom 1972, 769-781; Dikaios 1971, 501-515; Doxey 1987), the era of Attariššiya: Enkomi was destroyed in *ca.* 1425 BC, rebuild and destroyed again in 1375 BC, Kourion was destroyed by fire. Phlamoudi, Nitovikla, and Nikolidhes were abandoned in a roughly contemporaneous era. Whatever the cause of the Cypriote destructions, they occurred at a point in time immediately preceding a notable Mycenaean influx (also Knapp 2008, 255-256), possibly even involving temporary control of the island (as Åstrom/Åstrom<sup>22</sup> believed<sup>23</sup>), which must had

---

<sup>21</sup> Kelder (2010, 44) describes in an excellent analysis why Mycenaean Polities in Greece presented the characteristics of an ‘empire’, analysis cited and accepted by Beckman/Bryce/Cline 2011, 6. Bryce (forthcoming) also: “There was obviously a high degree of interconnectedness between the Mycenaean centres, and quite possibly from time to time one of them exercised some form of hegemonic role, for military or commercial purposes, as a kind of *primus inter pares*”. See also Kelder 2013.

<sup>22</sup> Åstrom/Åstrom 1972, 771-772; see also Doxey 1987, 306, 316.

<sup>23</sup> Today “the temporary control of the island (by the Mycenaean)” is not accepted, since theories about heterarchy and hierarchy have been developed (Knapp 2013, 442-444; Peltenburg, 1996; 2012).

occurred roughly around the date of Knossos' destruction in *ca.* 1375 (Popham 1970, 85). Moreover, during this and the precedent era a network of fortresses was constructed in the northwestern (opposite to Lycian coast) and the north-eastern part of Cyprus, along the Mesaoria plain, as defensive constructions against "internal and external enemies" (Peltenburg 1996, 31-35; Knapp 2013, 433-434, 460). Furthermore, one of either Alassa-Paleotaverna or Kalavassos-Ayios Dhimitrios, both situated in mountainous areas, must have become the political and administrative centre of Alašiya/Cyprus during the 14th-13th centuries BC, replacing Enkomi, on the coastland<sup>24</sup>. These archaeological data could be compatible with raids around 1400 BC, destructions, and protection by withdrawal to the mountainous areas of the island. Approximately fifty years later, the king of Cyprus wrote to Pharaoh Akhenaten (Moran 1992, 111, *EA* 38): "Men of Lukki, year by year, seize<sup>25</sup> villages in my own country", implying that the raids were still going on and probably some regions of Cyprus were no more under king's dominance. The aforementioned evidence reminds us of the case of the Atreids in Homer and ancient literature: Kinyres, the King of Pafos at Cyprus, gave – as a hospitality gift – to Agamemnon a thorax (Hom. *Il.* 11.18-23). The Atreids considered as guest-gifts/ξένια even the commodities acquired "by violence and looting" from Cyprus and its seashores (Str. 1.2.32/40). Menelaus was wandering for eight years, coming to Cyprus, Levant and Egypt, where he gathered riches (Hom. *Od.* 4.81-91), not exclusively by peaceful means. Consequently, Greek literature also echoes raids at Cyprus, Egypt by the Atreids. We proposed that "Attariššiya" is the transcription of the name "Atreides/Ἀτρείδης" in Hittite<sup>26</sup>. This implies a working hypothesis: the redating of the Trojan War to the era of Attariššiya, approximately 1400 BC. Supporting evidence can be taken from the fact that the story of Troy had already been sung in hexameters, some time after 1450 [till 1050 BC] (Latacz 2004, 267-274; Giannakos 2012, 114-119; Ruijgh 2011, 283-287; Nagy 2010, 131-146; Kirk 1962, 105-125). In the next two paragraphs, we try to approach "Attariššiya" and "Atreid/Ἀτρείδης".

---

<sup>24</sup> Knapp 2008, 152, the whole discussion, and in 249-258, migration and the Aegean 'Colonisation' of Cyprus. This opinion of Goren/Finkelstein/Na'aman 2004, based on petrographic analyses in laboratory of Alašiyian clay tablets found in Amarna, is not completely accepted today, even if their laboratory work has not been rebutted by any other experimental scientific work in lab, with the exception of narrative arguments of philological context (Merillees 2011; see also Knapp 2013, 438, commenting that Merillees's scope always is only to support that Alašiya of the Egyptian tablets is not Cyprus. Merillees is the only one who disagrees with this identification).

<sup>25</sup> Cambridge Dictionaries: seize = to take something quickly and keep or hold it; to take using sudden force. Oxford: capture, take, overrun, occupy; take over, subjugate, subject, colonize.

<sup>26</sup> Giannakos 2012, 32; 2013; 2015, 754. It had already been proposed by Barnett and by Brandenstein (cf. Page 1988, 30-31).

Liddell/Scott *Greek-English Lexicon*<sup>27</sup> cross-references the word Ἀτρέυς to the word Ἀτρεΐς with accusative Ἀτρέα instead of Ἀτρεέα. In Linear B tablets<sup>28</sup> two words, for a region, have been read: a-ti-ri-ja and a-te-re-wi-ja. Ruijgh (1967, 175 §148, and note 393; 182 §154) supports that both were derived from a pre-Hellenic stem<sup>29</sup> included in the word Ἀτρέυς<sup>30</sup> (the region of Ἀτρέυς (?)); he transliterates the word a-ti-ri-ja as Ἀτρίᾱ and the word a-te-re-wi-ja as Ἀτρηφιᾱ. The Mycenaean language present ending in *-εῦς* in the nominative of singular of the stems in *-ηF* since the ending in *-o-jo/-o-ja*, for masculins/feminins, is the genitive of singular (and *i-jo* for a patronymic adjective<sup>31</sup>), that is ending in *-ῆφος* (Ruijgh, 1967, 37 §15, 73 §49, 87 §67). The transliteration for the god Ἄρης, also a pre-Hellenic stem like the stem of Ἀτρέυς, is *a-re* in Linear B (KN Fp 14,2 tablet), instead of a-te-re in Ἀτρέυς. Ruijgh (1967, 87-88 §67) supports that certain loan-words, from pre-Hellenic speaking people, present some special problems. Thus, in the case of Ares the epic inflection is based in three different stems: Ἄρη- (e.g. accusative Ἄρην), Ἄρε(σ)- (e.g. vocative Ἄρες) and Ἄρη(φ)- (e.g. genitive Ἄρηος<sup>32</sup>). The stem Ἄρεσ-/Ἄρησ can be found in the datif Ἄρει, with the vocal verbalization of an aspirate vowel *i*. The aspirates were pronounced with a precedent *σ* or *h*<sup>33</sup>: (σ)*i*/Ἄρε(σ)ι or (h)*i*/Ἄρε(h)ι. Furthermore, it is found in: a-re-i-jo = Ἀρείος/ Ἀρέ(σ)ί(j)ος; it should be reminded that the ending *i-jo* is the ending of (patronymic) genitive (of Ares = του Ἄρεως). In a similar way we approach the pre-Hellenic stem a-te-re of Ἀτρέυς, very similar to a-re, which in Linear B is attested with two stems, one with digamma in a-te-re-wi-ja and one without digamma in a-ti-ri-ja. The stem with digamma vocally is attributed with an aspirant vowel *i* (as in a-re), that is with a sound precedent by *σ* or *h*. Consequently a-te-re-wi-jo could also represent the genitive of singular of the pre-Hellenic stem Ἀτρε/ηF: Ἀτρέωσ/Ἀτρέ-ίος (e.g. Ἀγαμέμνων Ἀτρέωσ or Μενέλαος Ἀτρέωσ) with a sound *σ* before the ending of (patronymic)

<sup>27</sup> Liddell/Scott, 1997, 431. See also TLG: Pl. *Cra.* 395, sec.b, l. 1.2, 7-10; *EM* 165 l. 29-38.

<sup>28</sup> The words have been read in the tablets of Pylos PY Aa 779, Cn 40,14, Ma 335,1 and in the almost ruined PY Vn 493 as [...a-te?]-re-wi-ja (Ruijgh 1967, 304 §265).

<sup>29</sup> This implies that the stem is dated from the era before the arrival of the Greek tribes in mainland Greece. It is a very old stem, before the genesis of the epics.

<sup>30</sup> Also, Ventris & Chadwick, 1956, 178, lemma 45: “a-te-re-wi-ja: place-name; derivative of Ἀτρέυς?”.

<sup>31</sup> “About patronymics in *i-jo*, see Hooker 1994, 123 §145. Also Ruijgh 1967, 206-207 §177; 265 §229: a-re-i-jo (KN L 641,1; PY An 656,6), Ἀρείος = Ἀρείος, it is a theonym or anthroponym derived from Ἄρης; it is much less possible that it is a patronymic adjective (citing the adversary opinion of N. van Brock, *RPh* 34 (1960), 223 [p. 144 §229, note 224], for a patronymic adjective). Garcia Ramon 2011, 229: a patronymic adjective is formed by adding the suffix *-i-jo/-ios*, to the father’s name, which is a clear indication of high rank, like e.g. e-te-wok-re-we-i-jo = son of Etewoklewes (Etewoklewe<sup>1</sup>-ios)”. Melena 2014: Ares-jas. Duhoux 2008.

<sup>32</sup> Compatible to the more recent Ἄρεωσ: the stem in classical Greek is Ἄρεσ: Ἀρέ(σ)ί(j)ος → Ἄρε(σ)ος → Ἄρεωσ. Ruijgh 1967, 54-57; Melena 2014, 96.

<sup>33</sup> See Promponas, 1990, 39-42. Duhoux 2008, 355-356; Ruijgh 1967, 54-57; Melema 2014, 96.

genitive *i-jo*. The transliteration of Ἐτεοκλής/Ἐτεροκλέφης/e-te-wo-kle-we, in Hittite, is Tawagalawa, with a turn of all the ε, and ο of the Greek word, in *a* in the Hittite word. We could imply that a possible transliteration of a-te-re-wi-jo/a-te-re-(σ)î-jo in Hittite could possibly be a-ta-ra-wi-yo/a/a-ta-ra-(σ)i-jo/a; the pronunciation of the Greek digamma Ϝ –in that era– could be transliterated in Hittite by the double šš of the a-tta-ri-šši-ya, which is close to the patronymic genitive “Ἄτ(ε)ρε”-(σ)î-(j)oç/a-te-re-(s)i-jo = son of Atreus (Aresjas, “of Ares”, note 31).

### **Technology of Silver and Hittites in the Trojan War?**

We know that in Ḫatti nine silver mines existed inside the river Halys’ bend<sup>34</sup>. Up to 18,000 tablets are dealing with silver and tin trade in Anatolia, between Neša/Kaneš and Assur, during the period of the Old-Assyrian Colonies in Anatolia. Mining of silver ores in the Black Sea region is also mentioned (Yener 1986, 469-470; 2000, 46, 54). Ḫattuša and Ḫatti are sometimes written simply with the Sumerogram for silver<sup>35</sup>. Pharaoh Ramesses II connects Ḫatti with silver only<sup>36</sup>. The king of Arzawa requests only ‘silver’ from Ḫattusili III (Hoffner 2009, 352-354). Šuppiluliuma I sends Pharaoh only silver objects (Beckman 1999, 279), as greeting gifts. The first ‘equation’ that appears is apparently that Ḫatti was connected semantically with Silver – ἄργυρος, as official diplomatic documents, of Ḫatti, Egypt as well as of Arzawa, also depict.

Hittites called themselves people of the Land of Ḫatti<sup>37</sup>, identified by the region, where they lived. The Hittite texts were written in Akkadian and in Nešitic<sup>38</sup>, the language of Neša/Kaneš, the official language, spoken by the ruling class. There are also remnants of the language of Ḫatti-Ḫattian, in few surviving texts of religious/cultic character (Bryce 2005, 12; Melchert 2003). The three main languages in the Hittite kingdom were Nešitic, Luwian, and Palaic. Five more languages were identified in the archives. Palaic was spoken to the north, Luwian to the west and southwest and Nešitic with Ḫattian in central and eastern Anatolia, by groups of people with corresponding names. Ḫatti was a multilingual and multiracial land (Bryce 2005, 11, 16-20, 52-55, 387-389; Watkins 1986;

<sup>34</sup> Yakar 1976, 116, 121; contra De Jesus 1978, 100-101. Str. 12.3.19/549: silver mines.

<sup>35</sup> Watkins 1986, 13, 53; Bryce 2006, 139.

<sup>36</sup> Breasted 2001a, 135, 138, note g: “This may point to the more plentiful use of silver in Asia Minor where it was produced”.

<sup>37</sup> Bryce 2005, 18-19, 396 note 45. The term ‘Hittite’ occurs in Bible (hittî, hittîm) for a small population group in North Syria and it was adopted by scholars due to its phonetic resemblance to the ‘Land of Ḫatti’ in texts of the LBA.

<sup>38</sup> Melchert 2003b, 15: “the name Hittite for this Language is by now too well established to be changed in favor of the more correct Nešite”; Hawkins 2003; Watkins 2008; Bryce 2005, 17, 387: “from the large number of texts written in this language it is clear that it became the official language of the kingdom”, reflecting “not a fossilized chancellery language but a living, spoken language”.

Melchert 2003b). Across the west and southwest seashore of Asia Minor the languages of Minoans and Mycenaean were also spoken, as the material evidence points out<sup>39</sup>.

Homer uses different names for the Mycenaean Greeks: ‘Achaioi’, ‘Danaoi’, ‘Argives’ etc., though they were speaking a common Greek language, in different local dialects. Homeric epics may provide clues to determine the designations of ‘Hittites’. The Homeric ‘Catalogue of Ships’ may, as allegedly the most ancient part of *Iliad*, possibly recur to the era of the Trojan War. Homer describes the Trojan allies, using in three cases the term “τηλόθεν/from-very-far” (Hom. *Il.* 2.848-857/862-863/886-887). We note: a very distant Land/“τηλόθεν” from Troy, “Αλύβη-(H)Alybe” of Halyzones “the birthplace of silver” is present, Phrygians<sup>40</sup> are present, two of the three main Hittite kingdom’s linguistic groups, Paphlagonians/Pala and Lycians (speaking a kind of Luwian) are there, and a group consisting of Carians. Ancient authors had already mentioned “the inside River Halys’ bend<sup>41</sup> Halyzones”, connecting them with Halybes<sup>42</sup>. There is, however, no trace of the third main language (the Nešite/Nešitic). But there is a second ‘equation’: Halybe and Halyzones are connected semantically as the birthplace of Silver. It might therefore be supposed that the two first terms of the two aforementioned ‘equations’, to silver and to the “birthplace” of silver, can be equated: Halybe (the *birthplace of silver* as it was maintained in the core of the ancient literature and tradition) and Ḫatti and its capital Ḫattuša (which are written with the Sumerogram of silver, in Hittite texts, and also connected exclusively to silver, in Egyptian, Arzawan and Hittite official diplomatic texts) should be identified. At this point we should underline that Strabo (Str. 12.3.25/C 553), from Amaseia of Pontus – near the Hittite Tapigga – two thousand years before the decipherment of the Hittite archives, keeps the memory that – during the era of Trojan War – the people living in the territory of Kappadokia around Neša/Kaneš (Hittite’s cradle) were bilingual, speaking

---

<sup>39</sup> For Minoan/Mycenaean Greek dialect: Niemeier (1998, 31) mentions the finds of Korfmann at Troy VI, with numerous objects of Mycenaean origin; Mee (1998, 138-141) for Mycenaean objects at Iasos, Miletus, Ephesus, Kolophon, Klazomenai, etc.; Vermeule 1986; Watkins (1986) at late Troy VI; Wiener (2007) for LH IIIA2-IIIB finds.

<sup>40</sup> Bryce 2005, 354-355: “Phrygians appeared after the fall of Hittite kingdom, or slightly later than Trojan War, possibly connected to Mushki of the Hittite texts”.

<sup>41</sup> Άλυς-(X)άλυς, or possibly (X)άλυ(φ)ς. Str.; Hsch. s.v. Χάλυβοι, Χαλυβδική. Hesychius of Alexandria, 500-600 years later than Strabo of Amaseia (near the Hittite Tapigga), explains differently: τῆς Σκυθίας, ὅπου σίδηρος γίνεται, respectively σιδήρου μέταλλα: in both cases referring to ‘from Scythia’, not the Halys River. Contrarily, Strabo (Str. 12.3.24/552; 12.3.19-23/549-551) refers to the region inland of the Halys river estuary near Farnakia (Χαλδαίοι Χάλυβες), where the kingdom of Ḫatti was. Hesychius (Hsch. 2998-2998) also writes: “Halyzones Paphlagonian Nation” and “άλίζωνος ἰσθμός, παρὰ τὸ ἄλι διεζῶσθαι”. According to *TLG Etymologicum Genuinum*, let. a, ent. 538, l.5: “ἄλις (nominative for ἄλι) οὖν τὸ συστραφέν και συνεστραμμένον ὕδαρ”/ the water with turns/bends (Halys river bend?).

<sup>42</sup> Huxley 1960, 34-35; Page 1988, 163; both proposed: Αλύβη and Αλιζώνες could refer to Hittites. Χάλυβες = ‘Steel-people’.

Paphlagonian and one more language; apparently the Nešite/Nešitic. In that case, the linguistic/racial group living in the Hittite main territory inside River Halys' bend and outside (Kappadokia), the other two main linguistic/racial groups of Hatti (Luwians/Lycians and Paphlagonians/Pala) and the vassal kingdoms of the Hittite Great King (minor linguistic/racial groups like the Carians), are described by Homer as allies of Troy.

### **Material evidence for destructions in Troy VI, VIIa**

If the ancient literature keeps a memory of a core of real events around the expedition and the sack of Troy, then the material evidence of the archaeological site of the city is of crucial importance. How many destruction levels were unearthed, in Troy VI and perhaps VIIa? Carl Blegen unearthed three layers of destruction:

- (a) One destruction layer in Troy VIh, during LH IIIA2/B, *ca.* 1300 BC, supposedly caused by an earthquake<sup>43</sup> - or by the impact of a meteorite, *ca.* 1318 BC? (see Cooper in this *Talanta*). Contrarily, Dörpfeld (Tolman/Scoggin 2013, 85) attributed the demolition of the upper wall of the city, the ruin of the gates, and the destruction of the walls of the inner buildings, to hostile hands.
- (b) One destruction layer at Troy VIIa, during mid LH IIIB, *ca.* 1260/1270 BC, supposedly caused by fire (Blegen 1963, 160-163). More recent estimations date this destruction level at 1190/1180<sup>44</sup> or at the end of LH IIIC/early phase of early Geometric period, thus, that “it does not come into consideration as the Homeric Troy” (Korfmann 1986, 25-26, referring to an observation by Podzuweit).
- (c) One layer depicting a “vigorous housecleaning”, dated at the transition between Troy VI f/g, around 1400 BC<sup>45</sup>. Blegen excavated the Pillar House and Houses VIF, VIG, with rich Minoan and Mycenaean sherds<sup>46</sup>: “The twenty-three vases in Deposit A on the floor, ‘scattered in the course of some vigorous housecleaning’ dated LM IB-LH II. All or most of these pots were manufactured within a generation or two around 1400 BC”. Mountjoy believes that this “assemblage of Mycenaean pottery is unusual...this is not a floor

---

<sup>43</sup> Blegen 1963, 142-144, 160. Also Mountjoy's table distributed at the Conference “Nostoi”, Istanbul, 2011. Her lecture, *The East Aegean-West Anatolian Interface in the Late Bronze Age: some Aspects arising from the Pottery*, was delivered at NOSTOI. *Indigenous Culture, Migration & Integration in the Aegean Islands & W. Anatolia - LBA & EIA*, Istanbul, March 31-April 3, 2011. Mountjoes lecture was published as Mountjoy 2015, 37-80. Cline 1997: in the transition LH IIIA2/B, dated *ca.* 1340/1320 BC; Latacz 2004, 11: 1300 BC.

<sup>44</sup> Mountjoy's table at the ‘Nostoi’ Conference, 2011: see previous note; Mountjoy (1999, 298) dated at *ca.* 1210-1200 BC.

<sup>45</sup> Blegen's opinion, as Vermeule (1986, 88) cites. For VI f/g dating to 1400 BC: Blegen 1963, 174; Latacz 2004, 11; Mountjoy 1999.

<sup>46</sup> Blegen's opinion, as Vermeule (1986, 88) cites; Blegen 1963, 137: the basement of the House was filled up with soil and broken pottery.

deposit in conventional terms where whole pots are caught in situ as a result of a sudden event” (e.g. sack of a city), “but a deposit which has been widely scattered as a result of cleaning and leveling” (Mountjoy 1997, 278). If it were not the name of Troy and the *Iliad*, Hisarlık would doubtless have been pronounced a Mycenaean trading colony (Korfmann 1986); the housecleaning may have been done after the burning and destruction of the Houses VIG and VIF perhaps by invaders (Cline 1996, 148); LH II-III A1 looks to be at no distant date from the troubles that overwhelmed Knossos, LH II-III A1 looks to be – and brought to an end – the great productive and inventive age of early Greece (Vermeule 1983).

The destruction (b) is out of question since the polities of Mycenaean Palaces were extremely exhausted and/or ruined approximately after *ca.* 1240 BC. What about the first destruction level in *ca.* 1300 BC?

### **The Battle of Kadesh and the Trojan Allies**

The Battle of Kadesh<sup>47</sup>, between Muwatalli II and Pharaoh Ramses II, took place during the fifth regnal year of Ramses II dated to 1299 (Redford 2006, 114, 157)/1285 (Gardiner 1964, 443-455; Wiener, forthcoming)/1274 BC (Kitchen 1982, 54, 238-239; Shaw 2000, 484-485), and was a showdown between the armies of the two Kings (Bryce 2005, 221-245).

Muwatalli had been preparing his kingdom for this battle. First of all he put in order affairs on the west coast of Anatolia, signing the Treaty with Alakšandu of Wiluša. Furthermore, he shifted the Royal Seat of the kingdom from Ḫattuša to Tarḫuntašša, closer to the frontier with Egypt, near Kadesh. He possibly left Ḫattuša under the jurisdiction of his brother, who later ascended the throne under the regnal name of Hattušili III<sup>48</sup>.

After the signing of the Alakšandu Treaty, he had the opportunity to bring, and brought with him, as allies in the battle of Kadesh, the people from almost all the Lands of Asia Minor with their chiefs<sup>49</sup>: Dardany, Naharin, Arzawa, Keshkesh, Maša/Mysia, Pedesš/Pedusus(?), Karkisha/Caria, Lukka/Lycians, Kelekesh/Kizzuwatna, and others.

Aeneas, ἄναξ according to Homer, was a Dardanian king and chief in the Trojan War and ally of Trojans, called son of Dardanos by mouth of the god Poseidon

---

<sup>47</sup> Description of the battle in: Bryce 2005, 234-241; Kitchen 1982, 53-64; Breasted 2001a, 125-174; Lichtheim 2006, 57-72. Shaushgamuwa Treaty: Bryce 2005, 239-241; Beckman/Bryce/Cline 2011, 50-68; Freu/Mazoyer 2011, 139-145.

<sup>48</sup> Bryce 2005, 232; Singer (2011, 631-633) doubts about Ḫattušili’s jurisdiction in Ḫattuša.

<sup>49</sup> Lichtheim 2006, 62-71: the Poem of the battle, 60-62: the Bulletin. Breasted 2001a, 135-157: the Lands Kheta/(Ḫtš), Naharin/(N-h-ry-n), Arvad/(Y-r3-tw), Pedes/(Py-d3-s3), Darden/(D3-r-d-ny), Mesa/(M3-s3), Kelekesh/([K]3 r 3-[k]y-š 3), Carchemish/(K-[r3]-k-my-š3), Kode/(Ḳdy), Kadesh/(Ḳdš), Ekereth/Ugarit (3-k 3-r3-t), Meseneth/(Mw-š3 – n-t), Keskes/ (Kš-kš), Lukka/(Rw-k3). Sherden/(Š3-r3-dy-n3) are referred as captives of Pharaoh Ramses, who fought at the side of Egyptian army; Bryce 2005, 235.



(Hom. *Il.* 2.819-20; 20.301-304). Dardanians<sup>50</sup>, Mysians<sup>51</sup>, Lycians<sup>52</sup>, Carians<sup>53</sup>, Cilicians<sup>54</sup>, and the people of Pedasos<sup>55</sup>, described by Ramses II as allies of Muwatalli II in the battle of Kadesh, are mentioned as allies of Troy in the *Iliad*. Moreover, Arzawa (the region around Ephesus), and Kaska (in the Pontic region) were also present. If the story of the Trojan War and the sack of Troy had taken place *ca.* 1300 BC, then it would have been impossible for Trojans/Dardanians and all their allies to participate in this battle, in a period from one to fifteen and twenty-six years later and victorious Ahḫiyawa would not have been omitted in the Alakšandu treaty. Consequently, the destruction (a) of Troy is also out of question.

### **Ancient literature for Troy: severely destructed or change of royal dynasty?**

In the *Iliad*, Hektor is referred to by name no less than 450 times, Priam 142, Aeneas 82, Paris 55, Helen 39 and the rest of the Trojans in an average of 11 times each<sup>56</sup>. This shows, at least quantitatively, that the Dardanian Aeneas is the most prominent hero among the Trojans, after Hektor and Priam. Homer has Achilles remark that Aeneas had the ‘hope’ to become “master of Priam’s sovereignty amid the horse-taming Trojans” (Hom. *Il.* 20.179-181); perhaps this is a clue of an internal conflict in Troy. The sea-god Poseidon then decides to save Aeneas’ life and Hera, the goddess spouse of Zeus, agrees and prophesies that Aeneas and his sons’ sons would be kings among the Trojans, after the fall of Troy (Hom. *Il.* 20.178-183, 300-312). There is a story that Aeneas “overthrew Priam” and “betrayed the city to the Achaeans”<sup>57</sup>. Probably a ‘memory’ was maintained that Aeneas was ‘protected’ by the Greeks and became king ‘by the gratitude of

---

<sup>50</sup> Bryce (2005, 235, 454, note 45) agrees that Dardany are the Dardanians of the Troad, citing Götze (1975), 454, note 46: only Mellaart disagrees; Freu/Mazoyer (2011, 140) agree; Gurney 1990, 47: Drdny of Egyptian archives are the Dardanians of Wiluša; Gardiner 1964, 262, note 2, 270: The Dardany of the ‘Poem’ are doubtless Homer’s Dardanians. Breasted 2001a, 136, note c: Derdens are perhaps the Dardanians.

<sup>51</sup> Hom. *Il.* 2.858: “And of the Mysians the captains were Chromis and Ennomus the augur;” translation by Murray 1924-25.

<sup>52</sup> Hom. *Il.* 2.876: “And Sarpedon and peerless Glaucus were captains of the Lycians”, translation *supra*.

<sup>53</sup> Hom. *Il.* 2.867: “And Nastes again led the Carians, uncouth of speech”, translation *supra*.

<sup>54</sup> Hom. *Il.* 6.414-417: “My father (of Andromache) verily goodly Achilles slew, for utterly laid he waste the well-peopled city of the Cilicians, even Thebe of lofty gates. He slew Eëtion, ... (who) was lord over the men of Cilicia”, translation *supra*. In Cilicia Eëtion, father of Andromache (Hektor’s wife), was king.

<sup>55</sup> Hom. *Il.* 6.33-35 “and the king of men, Agamemnon, slew Elatus that dwelt in steep Pedasus by the banks of fair-flowing Satnioeis” Hom. *Il.* 20.92: “(Achilles) laid Lyrnessus waste and Pedasus withal”, translation *supra*.

<sup>56</sup> TLG-searching-machine. <<https://www.stephanus.tlg.uci.edu/>>

<sup>57</sup> Hellanic. *FGrH* 4 F: 31; D.H. 1.47.1-6 and 1.48.3-4: “Aeneas betrayed the city to the Achaeans out of hatred for Alexander and that because of this service he was permitted by them to save his household”, “For Aeneas, being scorned by Alexander and excluded from his prerogatives, overthrew Priam; and having accomplished this, he became one of the

gods', after the sack of Troy, implying a far but not complete disaster for Troy. Ancient Aeolian literature keeps a conspicuous 'memory' of that event<sup>58</sup>: Troy was not entirely destroyed and was not left uninhabited. The city was not completely abandoned after its capture by the Achaeans, and there was even a surviving population that stayed in old Ilion and a dynasty that ruled over it. Traces of that dynasty are found in the narrative of Hellanicus of Lesbos' *Troika* (Hellanic. *FGrH* 4, F 31, as reported by Dionysius of Halicarnassus (D.H. 1.45.4-1.48.1) and Strabo (Str. 13.1.40/600 – though in the following paragraph Strabo reiterates the Homeric version of complete destruction):

- After Aeneas escaped the capture of Troy by retreating to the highlands of Mount Ida, he negotiated with the victorious Achaeans his relocation to the city of Aineia on the Thermaic Gulf.
- Eventually, Ascanius, Aeneas's son, returned to the old Ilion, where he joined forces with Skamandrius, Hector's son, in refounding it as the New Ilion. Ascanius and Scamandrius ruled New Ilion, till the migration of Aeolians, who expelled the descendants of Ascanius.

This image is closer to the situation of the 'vigorous housecleaning', in Troy VI/g and the working hypothesis of a Trojan War *ca.* 1400 BC. Furthermore, according to the Alakšandu Treaty: "Wiluša defected from Ḫatti", during or before Tudḫaliya II's reign; Wiluša's defect obliged Tudḫaliya II to intervene militarily in the region. This reminds us the Iliad: god Poseidon prophesies a kind of change in diplomatic external affairs of Troy, by the change of the royal dynasty (compatible most probably with a "defect" of Troy from Ḫatti, since the three main linguistic/racial groups of the kingdom of Ḫatti are referred to as allies of the overthrown dynasty of Priam). After a possible dynastic change in Troy, the new pro-Greek kings kept good relations with Ḫatti 'sending messengers' and thus Tudḫaliya (II) 'did not enter Wiluša'. It could be inferred that *ca.* 125 years later, the Dardanians still remained rulers of Troy and, with all their allies, followed Muwatalli II in the battle of Kadesh. This image is also compatible with the participation of Idomeneus, Ἰδμενεύς of Knossos during the Trojan War, who is included in the six Kings 'the elders, the excellent chieftains of the Pan-Achaeans' (Hom. *Il.* 2.404) mentioned 73 times in the *Iliad*, fifth in number of references with Nestor and Diomedes (Giannakos 2013). After *ca.* 1375 BC, Knossos was no more an administrative and political centre of Crete, but only

---

Achaeans", translation by Cary 1937, 155-157. Str. 13.1.53/608, quoting Sophocles: "at the capture of Troy a leopard's skin was put before the doors of Antenor as a sign that his house was to be left unpillaged" connecting Antenor with Aeneas: translation Jones 1929 [vol. 6: *Books XIII-XIV* (series: Loeb Classical Library, vol. 223)], 107.

<sup>58</sup> Nagy 2010, 198-199. Aeolians colonized and dwelled in Ilion and Sigeion. Aeolians of Mytilene and Ionian Athenians fought for the control over Hellespontus, while their versions strongly differ. Athenians won and the Aeolian version was swept away from the record.

remained a cultic centre. The administrative centre shifted to Kydonia in the west, not referred at all in the Iliad, so Idomeneus could not have been king of Knossos after 1375 BC (Giannakos 2012, 160-174; 2013).

The material evidence for the distribution of Mycenaean pottery over time including Troy VIIB at LH IIIC fluctuates (Mee 1978): 14% – LH IIA, 10% – LH IIB, 9% – LH IIIA1, 40% – LH IIIA2, 20% – LH IIIB, 7% – LH IIIC. We could imply that ‘something happened’ – approximately at LH IIIA1 – and just after that in LH IIIA2 the percentage was launched to 40% and maintained at 20% in LH IIIB. Trojans had been led in a ‘tightening’ of commercial or cultural relations and being influenced by Mycenaean standards, originals, and way of life, during Troy VI/VIIg, since LH IIB/LH IIIA1 until LH IIIB but not in LH IIIC.

The hypothesis of a ‘Trojan War’ around 1400 BC or “one to two generations before”, after which ‘Aeneas’, a new pro-Greek king, replaced Priam’s Royal family in Troy, coincides with the apogee of a larger period of prosperity in Mycenaean palatial centers, with high-level construction of massive large-scale intuitive engineering projects, depicting the conspicuous consumption and the development of original know-how and cutting-edge technology. This period is more compatible with military expansion, during which A-ka-ga-mu-na, perhaps the king of Ahhiyawa, owned the islands around Troy. The brother of the king of Ahhiyawa, a lesser ruler not the King (ἄναξ), was capable to perform raids deep in Asia Minor and against Cyprus and Denen performed also naval raids against the Egyptian seashores, obliging Pharaoh to patrol and fortify the Nile mouths. Furthermore, material evidence depicts that by 1350/1330 BC, the Ahhiyawan king was not personally operating in Asia Minor, but through local representatives and also D/Tanaja disappear from Egyptian documents (Giannakos 2012; Bryce forthcoming; 2005, 59; Kelder 2010; Wachsmann 1987). Consequently after 1350/1330 BC, Mycenaean could neither finance nor perform a “Trojan War”, as described in the epics.

### **The predecessor of Tudḫaliya I/II and Motylos**

Güterbock<sup>59</sup> makes mention of a note by the Byzantine author Stephanus Byzantius, saying that: “in Samylia, city of Caria (founded by Motylos), Motylos hosted Paris and Helen” (St.Byz. s.v. Σαμυλία; Hdn. *Hdn.Gr. (De pros. cath. 3.1, 289 line 42)* and suggested Motylos as an echoe of Muwatalli II.

There were two kings with the name Muwatalli: Muwatalli II, who signed the Alakšandu treaty, ca. 1285 BC, and Muwatalli I the predecessor of Tudḫaliya II, probably murdered by Ḫimuili and Kantuzzili, who placed Tudḫaliya II on the throne<sup>60</sup>.

---

<sup>59</sup> Güterbock 1986, citing Paul Kretschmer’s, “Alakšanduš, König von Viluša”, *Glotta* 13, 1924, 205-213; Freu/Mazoyer 2011, 94.

<sup>60</sup> Kantuzzili: Tudḫaliya II’s father. Bryce 2005, 114-115, 121-122, 421, note 85-86; 2009: Muwatalli I (-1425), Tudḫaliya I/II (1425-). Collins 2007, 42; Freu/Mazoyer/Klock-Fontanille 2010, 25, 175-185 give: Huzziya II, Muwatalli I (1470-1465), Tudḫaliya I (1465-1440), Tudḫaliya II (1425-1390).

The Hittite tablet KUB III20/CTH 275 mentions Muwatalli I and Ḫimuili. The name of Muwatalli I in the tablet, written in Akkadian, is Mutalli, very close to Motylos (Miller 2013, 127):

“(?) and if it is extend [...] and his oath [...] to Muttall[i....] and her[e...] with Mu[talli....]. Ḫumm[ili...] thus [...] in [...]”.

Does Stephanus Byzantius, professor of the imperial school of Constantinople, transfer to us a memory of Muwatalli I/Mutalli, the predecessor of Tudḫaliya II, as Motylos, who hosted Paris and Helen in their journey to Troy? If so, it would be compatible to our working hypothesis about dating the Trojan War to Tudḫaliya II's era, with War's beginning on Muwatalli I's reign. Duris of Samos<sup>61</sup> estimated that the sack of Troy took place approximately 1.000 years before the campaign of Alexander the Great at Asia Minor, dating the sack of Troy to *ca.* 1334 BC, close enough to 1400 BC.

### Conclusions

Since the 16th century BC at least, Mycenaean Greeks possessed cutting-edge technology and advanced know-how in constructions of large-scale complicated projects, in the exploitation of metals like silver and iron, and also in the production of weapons that procured superiority in battles; furthermore, prosperity and military prowess is evident in the finds in tombs and graves, culminating in a period of prosperity around 1400 BC. After 1350 BC destructions in Palatial centres occur in combination with a lack of rich offerings in tombs and a gradual degradation of power. Furthermore, Mycenaeans, around 1400 BC, had the ability to conduct raids: by land in south-western Anatolia, with battles against a Hittite army, and Cyprus and possibly naval ones against the seashores of Egypt, so that Pharaoh was obliged to patrol and fortify the Nile mouths. As a working hypothesis, I proposed that the Trojan War should be dated to *ca.* 1400 BC, to the era of Attariššiya-Atreides and Akagamuna-Agamemnon, with War's beginning on Muwatalli I's reign. Based on the archaeological evidence we could infer that the Hittite main territory inside the River Halys' bend and all the linguistic/racial groups of the vassal kingdoms of the Hittite Great King are mentioned by Homer as allies of Troy. In the archaeological site of Troy, one of the three destruction layers, in Troy VI/VIIa, is compatible with the proposed dating. Two of the destruction layers (1300 and 1190/1180 BC) are out of question due to several reasons. The material evidence of the third layer, *ca.* 1400 BC, or within a generation or two before 1400 BC, does not comply with the sack of a city in conventional terms, where 'whole pots are caught *in situ* as a result of a sudden

---

<sup>61</sup> Duris *FHG* 11:1-3. Douris was, according to Athenaeus, a student of Theophrastus, who had been a student of Plato and Aristoteles. Aristoteles trusted to Theophrastus for a while his library and the management of the Peripatetic School.

event', but it could corroborate our investigations: internal conflicts, as echoed in ancient literature. Furthermore, the literary aspect of our research might well suggest that the bards began to sing of a type of overseas campaign against Troy, some-time after 1450-1050 BC, apparently ensuing the sack of Troy (*terminus post quem*).

#### TEXTS AND EDITIONS

##### **Aelius Herodianus**

A. Lentz (ed.) 1867: *Grammatici Graeci*, vol. 3.1, Leipzig (repr. Hildesheim, 1965), 3-547.

##### **Apollodorus**

Frazer, J.G. (ed.) 1921: *Apollodorus, The Library; with English Translation by —*, 2 vols. (series: Loeb Classical Library, vols. 121-122), Cambridge, MA/London.

##### **CTH**

see under *KUB*.

##### **Dionysius of Halicarnassus**

Cary, E. (ed.) 1937: *Dionysius of Halicarnassus, Roman Antiquities*, vol. 1: *Books I-II* (series: Loeb Classical Library, vol. 319), Cambridge, MA/London.

##### **EA**

Moran, W.L. (ed.) 1992: *The Amarna Letters*, Baltimore, MD; also see: <<http://www.tau.ac.il/humanities/semitic/amarna.html>>, a hub-page, offering an English translation of (most of) the tablets.

##### **FHG**

Müller, C. (ed.) 1841-1870: *Fragmenta Historicorum Graecorum*, 5 vols., Paris (Duris of Samos is incorporated in volume 2, 466-488); the preferred edition by now is in

##### **FGrH**

Jacoby, F. (ed.) 1926-1958: *Die Fragmente der griechischen Historiker*, 3 parts in 17 vols, Berlin/Leiden (Duris of Samos, 76, in vol. II A, 1136-1158, with a commentary in vol. II C, 115-131 or, alternatively, Pownall, F. 2009, Duris of Samos (76), in: Worthington, I. (ed.) 2006 →: *Brill's New Jacoby*, < <http://referenceworks.brillonline.com>>.

##### **Hesychius**

Latte, K./P.A. Hansen/I.C. Cunningham (eds.) 1953-2009: *Hesychii Alexandrini lexicon*, 4 vols., Copenhagen.

##### **Homer**

Murray, A.T. (ed.) 1924-1925: *Homer, The Iliad, with an English Translation by —*, 2 vols. (series: Loeb Classical Library, vols. 170-171), Cambridge, MA/London.

##### **KUB**

*Keilschrifturkunden aus Boghazköi*, in at present 60 volumes, most of them presented as well in Laroche, E. (ed.) 1971: *Catalogue des textes hittites* (CTH), Paris.

## Strabo

Jones, H.L. (ed.) 1917-1935: *The Geography of Strabo, with an English Translation by —*, in 8 vols. (series: Loeb Classical Library), Cambridge, MA/London.

## TLG

*Thesaurus Linguae Graecae* <<https://www.stephanus.tlg.uci.edu>>, A digital library of Greek Literature, University of California, Irvine, CA (Brunner, Th./M. Pantelia, eds.).

## BIBLIOGRAPHY

- Adrimi-Sismani, V. 2007: Mycenaean Northern Borders Revisited, in: Galaty, M.L./W.A. Parkinson (eds.), *Rethinking Mycenaean Palaces II*, Los Angeles, CA, 159-77.
- Askouni, P.K./H.A. Agelopoulou/M.G. Sfakianakis/D.E. Beskos 2008: Static and Dynamic Analysis of the Atreus Vaulted Tomb in Mycenae, in: Paipetis, S.A. (ed.), *Science and Technology in Homeric Epics* (series: History of mechanism and machine science, vol. 6). Dordrecht, 257-265.
- Åström, L./P. Åström. 1972: *The Swedish Cyprus Expedition*, vol. IV, part 1D, Lund.
- Beckman, G. 1999 (second edition): *Hittite Diplomatic Texts* (series: Writings from the ancient world, vol. 7), Atlanta, GA.
- Beckman, G./T. Bryce/E. Cline 2011: *The Ahhiyawa Texts* (series: Writings from the ancient world, vol. 28), Atlanta, GA/Leiden [2012].
- Bernabé, A./Luján, E.R. 2008. Mycenaean Technology, in: Duhoux, Y./A. Morpurgo-Davies, (eds.), *A Companion to Linear B - Mycenaean Greek Texts and their World*, Louvain-La-Neuve/Dudley, MA, vol.1, 201-233.
- Betancourt, P./V. Karageorghis/R. Laffineur/W-D. Niemeier (eds.) 1999: *MELETEMATA. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters his 65th Year*, 3 vols (series: Aegaeum, vol. 20), Liège/Austin, TX.
- Bietak, M./N. Marinatos/C. Palyvou, with a contr. by A. Brysbaert 2007: *The Taureador Scenes in Tell el-Dab'a (Avaris) and Knossos* (series: Denkschriften der Gesamtakademie, vol. 43; Untersuchungen der Zweigstelle Kairo des Österreichischen archäologischen Institutes, vol. 27), Wien.
- Bietak, M. 1995: Connections between Egypt and the Minoan World – New Results from Tell El Dab'a, in: Davies/Schofield 1995, 19-28.
- Blegen, C. 1963: *Troy and the Trojans* (series: Ancient peoples and places, vol. 32), London/New York.
- Breasted, J.H. 2001a: *Ancient Records of Egypt*, vol. 2: *The Eighteenth Dynasty, Translated and Edited by —*, Urbana, IL/Chicago, IL [reprint of the edition Chicago/London/Leipzig, 1906].
- Breasted, J.H.. 2001b: *A History of Egypt. Vol. II. Safety Harbor/FL 1909* [reprint of the 1909 edition].
- Bryce, T. 1989: Ahhiyawans and Mycenaeans – An Anatolian Viewpoint, *Oxford Journal of Archaeology* 8(3), 297-310.
- Bryce, T.R. 2005: *The Kingdom of the Hittites*, Oxford/New York (2nd edition).
- Bryce, T.R. 2006: *The Trojans and their Neighbours* (series: Ancient peoples), London/New York.
- Bryce, T., in consultation with H.D. Baker *et alii*, 2009: *The Routledge Handbook of the Peoples and Places of Ancient Western Asia: the Near East from the Early Bronze Age to the Fall of the Persian Empire*, London/New York.
- Bryce, T. forthcoming: Links and Relationships between Greece and Anatolia in the Late Bronze Age, in: Teffetteller, A. (ed.), *Mycenaeans and Anatolians in the Late Bronze Age: The Ahhiyawa Question*, Quebec, QC [the paper was kindly provided to the author by Professor Bryce].

- Brysaert, A. 2008: *The Power of Technology in the Bronze Age Eastern Mediterranean – The Case of the Painted Plaster* (series: Monographs in Mediterranean archaeology, vol. 12), London.
- Cary 1937: [see above *ad* TEXT AND EDITIONS Dionysius of Halicarnassus].
- Cavanagh, W. 2008: Burial Customs and Religion: Death and the Mycenaeans, in: Shelmerdine, C.W. (ed.), *The Cambridge Companion to The Aegean Bronze Age*, Cambridge/New York, 327-341.
- Cavanagh, W./C. Mee, 1999: Building the Treasury of Atreus, in: Betancourt *et alii*. 1999, vol. 1, 93-102.
- Clark, Curtis: Website: <<http://www.mockfont.com/old/>, fonts of Linear B’>.
- Cline, E.H. 1996: Aššuva and the Achaeans: The “Mycenaean” Sword at Hattušas and its possible implications, *Annual of the British School at Athens* 91, 137-151.
- Cline, E.H. 1997: Achilles in Anatolia: Myth, History and the Aššuva Rebellion, in: Young, G.D./M.W. Chavalas/R.E. Averbeck (eds), *Crossing Boundaries and Linking Horizons: Studies in Honor of Michael C. Astour on his 80th Birthday*, Bethesda, MD, 189-210.
- Cline, E.H. 2004: Amenhotep III, the Aegean and Anatolia, in: O’Connor, D./E.H. Cline (eds), *Amenhotep III: Perspectives on His Reign*, Ann Arbor, MI, 236-250 [reprint of the 1998 edition].
- Cline, E.H. 2009: *Sailing the Wine-Dark Sea - International Trade and the Late Bronze Age Aegean*, Oxford [reprint of the 1994 edition] (series: BAR international series, vol. 591).
- Cline, E.H. (ed.) 2012: *The Oxford Handbook of The Bronze Age Aegean* (series: Oxford Handbook series), Oxford.
- Cline, E.H./S. Stannish 2011: Sailing the Great Green Sea? Amenhotep III’s “Aegean List” from Kom el-Hetan, Once More, *Journal of Ancient Egyptian Interconnections* 3(2), 6-16.
- Colburn, S. 2007: The Symbolic Significance of Distance in the Homeric Epics and the Bronze Age Aegean, in: Morris/Laffineur 2007, 203-211.
- Coleman, D.J./C. Manassa 2007: *Tutankhamun’s Armies: Battle and Conquest during Ancient Egypt’s Late 18th Dynasty*, Somerset, NJ.
- Collins, B.J. 2007: *The Hittites and their World* [2008] (series: Archaeology and biblical studies, vol. 7), Atlanta, GA/Leiden.
- Cremasco, V./R. Laffineur 1999: The Engineering of Mycenaean Tholoi – The Circular Tomb at Thorikos Revisited, in: Betancourt *et alii*, 1999, vol. 1, 139-148.
- Dakouri-Hild, A. 2012: Thebes, in: Cline 2012, 690-711.
- Davies, W.V./L. Schofield (eds.) 1995: *Egypt, the Aegean and the Levant – Interconnections in the Second Millennium B.C.*, London.
- De Jesus, P. 1978: Metal Resources in Ancient Anatolia, *Anatolian Studies* 28, 97-102.
- Dickinson, O. 2003: *Αιγαίο - Εποχή του Χαλκού*, Athens [translation of: *The Aegean Bronze Age*, Cambridge, 1994].
- Dikaïos, P. 1971: *Enkomi, Excavations 1948-1958*, vol. 2, Mainz-am-Rhein.
- Doxey, D. 1987: Causes and Effects of the Fall of Knossos in 1375 BC, *Oxford Journal of Archaeology*, 6(3), 301-324.
- Duhoux, Y. 2008. Mycenaean Anthology, in: Duhoux, Y./A. Morpurgo-Davies, (eds.), *A Companion to Linear B - Mycenaean Greek Texts and their World*, vol.1 (series: Bibliothèque des Cahiers de l’Institut de linguistique de Louvain. Antiquité 127) Louvain-La-Neuve/Dudley, MA, 243-397.
- French, E. 2012: Mycenae, in: Cline 2012, 671-679.
- Freu, J./M. Mazoyer 2008: *Les Hittites et leur histoire*, vol. III: *L’Apogée du Nouvel Empire Hittite* – (series: collection KUBABA, série Antiquité, vol. XIV), Paris.
- Freu, J./M. Mazoyer/I. Klock-Fontanille 2007: *Les Hittites et leur histoire*, vol. I: *Des origines à la fin de l’Ancien Royaume Hittite* (series: collection KUBABA, série Antiquité, vol. VI), Paris.
- Garcia Ramon J.L. 2011: Mycenaean Onomastics, in: Duhoux Y./A. Morpurgo-Davies (eds.) 2011: *A Companion to Linear B. Mycenaean Greek Texts and Their World*, vol. 2 (series:

- Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120) Louvain-La Neuve/Dudley, MA, 213-251.
- Gardiner, A.H. 1961: *Egypt of the Pharaohs: an Introduction*, Oxford.
- Giannakos, K. 2012: *Aegean Type Sword and Finds at Hattusa: Technology, Sources and dating of Trojan War*, Saarbrücken.
- Giannakos, K. 2013: Aegean type Swords and Finds in Anatolia, Technology of Metals and Structures, Written Sources and the Dating of Trojan War, in: Bombardieri, L./A.D'Agostino/G. Guarducci/V. Orsi/S. Valentini (eds.), *SOMA 2012: Identity and Connectivity. Proceedings of the 16th Symposium on Mediterranean Archaeology, Florence, Italy, 1-3 March 2012*, vol. 1 (series: BAR International series 2581(1)), Oxford, 427-440.
- Giannakos, K. 2015: The Aegean type Sword found at Hattuša and the written Sources about the Exchange of Technology at the LBA, in: Stampolides, N./C. Maner/K. Kopanias (eds.), *Symposium NOSTOI*, Istanbul, 969-986.
- Goren, Y./I. Finkelstein/N. Na'aman. 2004: *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts*, Tel Aviv.
- Gurney, O.R. 1990: *The Hittites*, London [fourth revised edition].
- Güterbock, H.G. 1986: Troy in Hittite Texts? - Wilusa, Ahhiyawa, and Hittite History, in: Mellink 1986, 33-44.
- Güterbock, H.G. 1997a: The Hittites and the Aegean World: Part 1: The Ahhiyawa Problem Reconsidered, in: Hoffner Jr., H.A. (ed.), *Perspectives on Hittite Civilization: Selected Writings of Hans Gustav Güterbock* (series: Assyriological Studies, vol. 26), Chicago, IL, 199-204 [originally published in *American Journal of Archaeology* 87(2) 1983, 133-138].
- Güterbock, H.G. 1997b: Hittites and Akhaeans: A New Look, in: Hoffner Jr., H.A. (ed.), *Perspectives on Hittite Civilization: Selected Writings of Hans Gustav Güterbock* (series: Assyriological Studies, vol. 26), Chicago, IL, 205-210 [originally published in the *Proceedings of the American Philosophical Society* 128, 1984, 114-122].
- Hawkins, J.D. 2003: Scripts and Texts, in: Melchert 2003a, 128-169.
- Hoffner Jr, H.A. (ed. by G.M. Beckman) 2009: *Letters from the Hittite Kingdom* (series: Writings from the Ancient World, vol. 15), Atlanta, GA/Leiden.
- Hooker J.T. 1994: *Εισαγωγή στη Γραμμική Β*, in: Aravantinos, V. (ed.), *MIET*, Αθήνα, translation: H.E. Maravelas of *Linear B: An Introduction*, Bristol, 1980.
- Hope Simpson, R./D.K. Hagel. 2006: *Mycenaean Fortifications, Highways, Dams and Canals* (series: Studies in Mediterranean Archaeology, Monographs, vol. 133), Sävedale.
- Huxley, G.L. 1960: *Achaean and Hittites*, Oxford.
- Iakovides, S. 1997: Ο Γλάς και η Μυκηναϊκή Αποστράγγιση της Κωπαΐδος, in: *Αρχαία Ελληνική τεχνολογία: Πρακτικά 1ο Διεθνές Συνέδριο/Proceedings of the 1st International Conference on Ancient Greek Technology, Thessaloniki, 4-7 September 1997*, Θεσσαλονίκη (Thessaloniki), 35-41.
- Kakavogianni, O./K. Douni/F. Nezeri/M. Georgakopoulou/I. Mpasiakos 2006: Απόπειρα Τεχνολογικής Προσέγγισης της Παραγωγής Αργύρου και Μολύβδου κατά την Τελική Νεολιθική και Πρωτοελλαδική Ι Περίοδο στα Μεσόγεια, in: Καζαζή, Γ. [G. Kazazê] (ed.), *2ο Διεθνές Συνέδριο Αρχαίας Ελληνικής Τεχνολογίας: πρακτικά/2nd International Conference on Ancient Greek Technology, Athens, 17-21 October 2005*, Αθήνα (Athens), 77-83.
- Karetsou, A./M. Andreadaki-Vlaziaki/N. Papadakis (eds.) 2000: *Κρήτη – Αίγυπτος, Πολιτιστικοί Δεσμοί Τριών Χιλιετιών – Κατάλογος*, Heraklion.
- Kelder, J.M. 2010: *The Kingdom of Mycenae: a Great Kingdom in the Late Bronze Age Aegean*, Bethesda, MD [originally dissertation, Vrije Universiteit, Amsterdam].
- Kelder, J.M. 2013: Ahhiyawa and the World of the Great Kings: A Re-evaluation of Mycenaean Political Structures, in: Papadopoulos, A. (ed.), *Recent Research and Perspectives on the Late Bronze Age Eastern Mediterranean* (Talanta, Proceedings of the Dutch Archaeological and Historical Society 44, 2012), 41-52.
- Kirk G.S. 1962: *The Songs of Homer*, Cambridge, NY.



- Kitchen, K.A. 1982: *Pharaoh Triumphant: The life and Times of Ramesses II* (series: Monumenta Hannah Sheen dedicata, vol. 2), Warminster/ Mississauga, ON.
- Knauss, J. 2001: Späthelladische Wasserbauten: Erkundungen zu wasserwirtschaftlichen Infrastrukturen der mykenischen Welt; Zusammenfassung aller bisherigen Untersuchungsberichte [75 Jahre Oskar von Miller-Institut, 1926 – 2001] (series: Wasserbau und Wasserwirtschaft, vol. 90), München/Obernach.
- Knapp, B.A. 2008: *Prehistoric & Protohistoric Cyprus, Identity, Insularity, and Connectivity*, Oxford/New York.
- Knapp, B.A. 2013: *The Archaeology of Cyprus – From Earliest Prehistory through the Bronze Age*, Cambridge.
- Korfmann, M. 1986: Beşik Tepe: New Evidence for the Period of the Trojan Sixth and Seventh Settlements, in: Mellink 1986, 17-28.
- Kozloff, A.P. 2012: *Amenhotep III, Egypt's Radiant Pharaoh*, Cambridge/New York.
- Latacz, J. 2004: *Troy and Homer – Towards a Solution of an Old Mystery*, Oxford/New York [translation by Kevin Windle and Rosh Ireland of: *Troia und Homer, Der Weg zur Lösung eines alten Rätsels. Ungekürzte, überarbeitete Taschenbuchausgabe*, München, 2003].
- Liddell, H.D./Scott, R. 1997. *Μέγα Λεξικόν της Ελληνικής Γλώσσης*, I. Σιδέρης, Athens.
- Lichtheim, M. 2006: *Ancient Egyptian Literature*, vol. II: *The New Kingdom*, Berkeley, CA [2nd revised edition]
- Lucas, A. 1948: *Ancient Egyptian Materials and Industries*, London [third, revised edition; first edition 1926].
- Macqueen, J.G. 1986: *The Hittites and Their Contemporaries in Asia Minor* (series: Ancient peoples and places, vol. 83) [2nd revised and enlarged edition], London/New York.
- Maner, Ç. 2012: A Comparative Study of Hittite and Mycenaean Fortification Architecture, in: Stampolidis, N./A. Kanta/A. Giannikouri (eds.), *Athanasia. The Earthly, the Celestial and the Underworld in the Mediterranean from the Late Bronze and the Early Iron Age, International Archaeological Conference, Rhodes, 28-31 May, 2009*, Heraklion, 55-66.
- Maran, J. 2012: Tiryns, in: Cline 2012, 722-734.
- Mee, C. 1978: Aegean Trade and Settlement in Anatolia in the Second Millenium B.C., *Anatolian Studies* 28, 121-156.
- Mee, C. 1998: Anatolia and the Aegean in the Late Bronze Age, in: Cline, E.H./D. Harris-Cline (eds.), *The Aegean and the Orient in the Second Millennium, Proceedings of the 50th Anniversary Symposium, University of Cincinnati, 18-20 April 1997* (series: Aegaeum, vol. 18), Liège/Austin, TX, 137-148.
- Melchert, H.C. (ed.) 2003a: *The Luwians* (series: Handbook of Oriental Studies = Handbuch der Orientalistik. Section 1, The Near and Middle East, vol. 68), Leiden/Boston.
- Melchert, C.H. 2003b: Introduction - Chapter 1 and Prehistory - Chapter 2, in: Melchert 2003a, 1-26.
- Melema, J.L. 2014: Mycenaean Writing, in: Duhoux, Y./A. Morpurgo-Davies (eds.), *A Companion to Linear B - Mycenaean Texts and their World*, vol. I (series: Bibliothèque des Cahiers de l'Institut linguistique de Louvain. Antiquité 133) Louvain-La Neuve/Dudley, MA, 3-186.
- Mellink, M.J. (ed.) 1986: *Troy and the Trojan War, A Symposium held at Bryn Mawr College, October 1984*, Bryn Mawr, PA.
- Merrillees, R. 2011: Alashiya: A Scientific Quest for its Location, in: Betrancourt, Ph. P./S. Ferrence (eds.), *Metallurgy: Understanding How, Learning Why: Studies in Honor of James D. Muhly* (series: INSTAP Prehistory monographs), Philadelphia, 255-264.
- Michailidou, A. 2005: *Weight and Value in Pre-Coinage Societies: an Introduction* (series: ΜΕΛΕΤΗΜΑΤΑ: ΚΕΝΤΡΟΝ ΕΛΛΗΝΙΚΗΣ ΚΑΙ ΡΩΜΑΪΚΗΣ ΑΡΧΑΙΟΤΗΤΟΣ, ΕΘΝΙΚΟΝ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ/Research Centre for Greek and Roman Antiquity, National Hellenic Research Foundation, vol. 42), Athens.
- Michailidou, A. 2008: *Weight and Value in Pre-Coinage Societies, Volume II: Sidelights on Measurement from the Aegean and the Orient*, (series: ΜΕΛΕΤΗΜΑΤΑ: ΚΕΝΤΡΟΝ

- ΕΛΛΗΝΙΚΗΣ ΚΑΙ ΡΩΜΑΪΚΗΣ ΑΡΧΑΙΟΤΗΤΟΣ, ΕΘΝΙΚΟΝ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ/Research Centre for Greek and Roman Antiquity, National Hellenic Research Foundation, vol. 61), Athens.
- Middleton, G. 2010: The Collapse of Palatial Society, in: Middleton, G.D. (ed.), *The Collapse of Palatial Society in LBA Greece and the Postpalatial Period* (series: BAR international series, vol. 2110; revised edition of dissertation, University of Durham 2008), Oxford.
- Miller, J.L. 2013: *Royal Hittite Instructions and Related Administrative Texts* (series: Writings from the ancient world, vol. 31), Atlanta, GA.
- Moran, W.L. 1992: *The Amarna Letters*, Baltimore [see above ad TEXTS AND EDITIONS: EA].
- Morpurgo-Davies, A. 1988. Mycenaean and Greek Language, in: Morpurgo-Davies, A./Y. Duhoux (eds.), *Linear B – A 1984 Survey – Proceedings of the Mycenaean Colloquium of the VIIIth Congress of the International Federation of the Societies of Classical Studies (Dublin, 27 August – 1st September 1984)* (series: Bibliothèque des Cahiers de l'Institut linguistique de Louvain, 26), Louvain-La-Neuve, 75-125.
- Morris, S.P./R. Laffineur (eds.) 2007: *EPOS. Reconsidering Greek Epic and Aegean Bronze Age Archaeology. Proceedings of the 11th International Aegean Conference Los Angeles, UCLA - The J. Paul Getty Villa, 20-23 April 2006*, Liège/Austin, TX (series: Aegaeum, vol. 28).
- Mountjoy, P. 1997: Troia Phase VI f and Phase VI g: The Mycenaean Pottery, *Studia Troica* 7, 275-294.
- Mountjoy, P. 1999: Troia VII Reconsidered, *Studia Troica* 9, 295-346.
- Mountjoy, P.A. 2015: The East Aegean–West Anatolian Interface in the 12th Century BC, in: Stampolidis, N.Ch./Ç. Maner/K. Kopanias (eds.), *NOSTOI. Indigenous Culture, Migration & Integration in the Aegean Islands & W. Anatolia – Late Bronze Age & Early Iron Age*, İstanbul.
- Muhly, J.D. 1997: Metals and Metallurgy: Using Modern Technology to Study Ancient Technology, in: *Αρχαία Ελληνική τεχνολογία: Πρακτικά 1ο Διεθνές Συνέδριο/Proceedings of the 1st International Conference on Ancient Greek Technology, Thessaloniki, 4-7 September 1997*, Θεσσαλονίκη (Thessaloniki), Athens (Εταιρεία Μελέτης Αρχαίας Ελληνικής Τεχνολογίας), 27-37.
- Muhly, J.D. 2006: Texts and Technology. The Beginnings of Iron Metallurgy in the Eastern Mediterranean, in: Καζαζή, Γ. [G. Kazazê] (ed.), *2ο Διεθνές Συνέδριο Αρχαίας Ελληνικής Τεχνολογίας: πρακτικά/2nd International Conference on Ancient Greek Technology, Athens, 17-21 October 2005*, Athens, 19-31.
- Muhly, J.D. 2008: Ayia Photia and the Cycladic Element in Early Minoan Metallurgy, in: Tzachili, I. (ed.), *Aegean Metallurgy in the Bronze Age: Proceedings of an International symposium held at the University of Crete, Rethymnon, Greece, on November 19-21, 2004*, Rethymnon, 69-74.
- Mumford, G. 2001: Mediterranean Area, in: Redford, D.B. (ed.), *The Oxford Encyclopedia of Ancient Egypt*, vol. 2: *G-O*, Oxford/New York, 358-367.
- Mylonas, G.E. 1983: *Πολύχρυσοι Μυκίνοι*, Αθήνα (Athens) [also published as *Mycenae Rich in Gold*, same year, same publisher].
- Nagy, G. 2010: *Homer the Preclassic* (series: Sather classical lectures, vol. 67), Berkeley/Los Angeles, CA [e-book edition 2011].
- Niemeier, W-D. 1998: The Mycenaean in Western Anatolia and the Problem of the Origins of the Sea Peoples, in: Gitin, S./A. Mazar/E. Stern (eds.), *Mediterranean Peoples in Transition: Thirteenth to Early tenth Centuries BCE: in Honor of Professor Trude Dothan*, Jerusalem, 17-65.
- Niemeier, W-D. 2005: Minoans, Mycenaean, Hittites and Ionians in Western Asia Minor - New Excavations in Bronze Age Miletus-Milawanda, in: Villing, A. (ed.), *The Greeks in the East* (series: The British Museum research publication, no. 157), London, 1-36.
- Ogden, J. 2000: Metals, in: Nicholson, P.T./I. Shaw (eds.), *Ancient Egyptian Materials and Technology*, Cambridge, 148-76.

- Page, D. 1988: *Η Ιλιάς και η Ιστορία*, Αθήνα (Athens) [translation by K. Panëgurë of: *History and the Homeric Iliad*, Berkeley/Los Angeles, CA 1963].
- Palyvou, C. 1997: Αποχαιρετικά Δίκτυα και Εγκαταστάσεις Υγιεινής της 2ης Χιλιετίας π.Χ. στο Αιγαίο, in: *Αρχαία Ελληνική τεχνολογία: Πρακτικά 1ο Διέθνες Συνέδριο/Proceedings of the 1st International Conference on Ancient Greek Technology, Thessaloniki, 4-7 September 1997*, Θεσσαλονίκη (Thessaloniki), 381-389.
- Palyvou, C. 1999: Thera Architecture through the Minoan looking Glass, in: Betancourt *et alii* 1999 vol. II, 609-618.
- Palyvou, C. 2005a: Οικοδομική Τεχνολογία των Προϊστορικών Χρόνων, *Αρχαιολογία & Τέχνες* 94, 12-18.
- Palyvou, C. 2005b: *Akrotiri Thera. An Architecture of Affluence 3500 Years Old* (series: Prehistory monographs, vol. 15), Philadelphia, PA.
- Palyvou, C. 2009: The Comparative Analysis of Spatial Organization as a Tool for Understanding Aegean Bronze Age Architecture: Minoan and Mycenaean, in: Palyvou, C./A. Kyriatsoulis (eds.), *Bronze Age Architectural Traditions in the Eastern Mediterranean, Diffusion and Diversity = Architektonische Traditionen im östlichen Mittelmeer während der Bronzezeit: Verbreitung und Vielfalt*, Weilheim (Oberbayern), 115-124.
- Palyvou, C./T.P. Tassios/K. Stournaras/K. Geralis 2001: Adobe Structures at Mycenae, in: Τάσιος, Θ. Π. (ed.), *Πρόσφατο Δημοσιευμένο Έργο 1996 – 2008*, Athens, 521-528.
- Panagiotopoulos, D. 2006: Reprint: Foreigners in Egypt in the Time of Hatshepsut and Thutmose III, in: Cline, E.H./D.B. O'Connor (eds.), *Thutmose III – A New Biography*, Ann Arbor, MI, 271-287.
- Papademetriou, A. 2001: *Tiryns – A Guide to its History and Archaeology*, Athens [translation by A. Dumas of Τίρυνς: Ιστορικός και αρχαιολογικός οδηγός by the same author, same year of publication].
- Peltenburg, E. 1996: From Isolation to State Formation in Cyprus, c. 3500-1500 BC, in: Karageorghis, V./D. Michaelides (eds.), *The Development of the Cypriot Economy*, Nicosia.
- Peltenburg, E. 2012: Text Meets Material in Late Bronze Age Cyprus, in: Georgiou, A. (ed.), *Cyprus an Island Culture - Society and Social Relations from the Bronze Age to the Venetian Period*, Oxford, 17-44.
- Phillips, J. 2007: The Amenhotep III 'Plaques' from Mycenae: Comparison, Contrast and a Question of Chronology, in: Bietak, M./E. Czerny (eds), *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC III*: Proceedings of the SCIEEM 2000 - 2nd EuroConference, Vienna, 28th of May - 1st of June 2003 (series: Denkschriften der Gesamtakademie, Bd. 37; Contributions to the chronology of the Eastern Mediterranean, vol. 9), Wien, 479-493.
- Popham, M.R. 1970: *The Destruction of the Palace at Knossos: Pottery of the Late Minoan IIIA Period* (series: Studies in Mediterranean archaeology, vol. 12), Göteborg.
- Promponas, J. 1990. *Σύντομος Εισαγωγή εις την Μυκηναϊκήν Φιλολογίαν*, Athens.
- Redford, D.B. 1992, *Egypt, Canaan, and Israel in Ancient Times*, Princeton, NJ.
- Redford, D.B. 2003: *The Wars in Syria and Palestine of Thutmose III*, (series: Culture and history of the ancient Near East, vol. 16) Leiden.
- Redford, D.B. 2006: *A History of Ancient Egypt: Egyptian Civilization in Context*, Dubuque, IA.
- Ruijgh, C.J. 2011: Mycenaean and Homeric Language, in: Duhoux Y./A. Morpurgo-Davies (eds.) 2011: *A Companion to Linear B. Mycenaean Greek Texts and Their World*, vol. 2 (series: Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité 120) Louvain-La Neuve/Dudley, MA, 253-298.
- Ruijgh, C.J.. 1967: *Études sur la Grammaire et le Vocabulaire du Grec Mycénien*, Amsterdam.
- Sakellarakis, G./E. Sakellarakis 1991: *Κρήτη - Αρχάνες - Ανασκαφή Αρχανών*, Athens (reprint 2002).
- Sakellarakis, G./E. Sakellarakis 1997: *Αρχάνες - Μια Νέα Ματιά στη Μινωική Κρήτη*, vol. 1, Athens.

- Sandars, N.K. 1963: Later Aegean Bronze Swords, *American Journal of Archaeology* 67(2), 117-153.
- Sandars, N.K. 2001: *Οι Λαοί της Θάλασσας – Πολεμιστές στην Αρχαία Μεσόγειο 1250 - 1150 π.Χ.*, Athens [translation by E. Asteriou of *The Sea Peoples: Warriors of the Ancient Mediterranean, 1250-1150 B.C.*, London/New York, 1976].
- Schulman, A.R. 1988: Hittites, Helmets and Amarna: Akhenaten's First Hittite War, in: Redford, D.B. (ed.), *The Akhenaten temple project*, vol. 2: *Rwd-mnw, Foreigners and Inscriptions*, vol. 2 (series: Aegypti texta propositaque, vol. 1), Toronto, ON, 53-79.
- Seeher, J. 2006: *Hattusha Guide: a Day in the Hittite Capital*, 3rd revised and enlarged edition (series: Ancient Anatolian towns, vol. 2), İstanbul.
- Shaw, I. 2000: Reprint. *The Oxford History of Ancient Egypt*, Oxford/New York.
- Shaw, J. 2009: The Character, Genesis and Influence of Minoan Palatial Architecture, in: Kyriatsoulis, A. (ed.), *Bronze Age Architectural Traditions in the Eastern Mediterranean: Diffusion and Diversity: Proceedings of the (2nd International) Symposium, 07-08.05.2008 in Munich/Gasteig München = Architektonische Traditionen im östlichen Mittelmeer während der Bronzezeit: Verbreitung und Vielfalt*, Weilheim, OB, 61-89.
- Shelton, K. 2012: Mainland Greece – LBA, in: Cline 2012, 139-148.
- Sherratt, S. 2001: Potemkin Palaces and Route-based Economics, in: Voutsaki, S./J. Killen, (eds.), *Economy and Politics in the Mycenaean Palace States*, Cambridge, 214-238.
- Singer, I. (2011), *The Calm Before the Storm: Selected Writings of Itamar Singer on the End of the Late Bronze Age in Anatolia and the Levant* (series: Writings from the Ancient World Supplement), Leiden.
- Stos-Gale, Z.A./N.H. Gale 1982: The Sources of Mycenaean Silver and Lead, *Journal of Field Archaeology* 9(4), 467-485.
- Stos-Gale, Z.A./N.H. Gale/J. Houghton 1995: The Origin of Egyptian Copper, Lead-Isotope Analysis of Metals from El-Amarna, in: Davies/Schofield 1995, 127-135.
- Strange, J. 1980: *Caphtor, Keftiu: A new Investigation* (series: Acta theologica danica, vol. 14), Leiden.
- Tassios, T.P. 2001: Counter Fertilization of Science and Technology in Ancient Greece, in: Τάσιος, Θ.Π., *Πρόσφατο Δημοσιευμένο Έργο 1996 – 2008*, Αθήνα (Athens), 529-532.
- Tassios, T. 2005: Τεχνολογία στην Αρχαία Ελληνική Θρησκεία, *Αρχαιολογία & Τέχνες* 94, 8-11.
- Tassios, T. 2006a: Mycenaean Technology, in: Τάσιος, Θ.Π., *Πρόσφατο Δημοσιευμένο Έργο 1996 – 2008*, Αθήνα (Athens), 575 – 603.
- Tassios, T. 2006b: Selected Topics of Water Technology in Ancient Greece, in: Θ. Π. Τάσιος, *Πρόσφατο Δημοσιευμένο Έργο 1996 – 2008*, Αθήνα (Athens), 604-629.
- Tassios, T. 2008: Mycenaean Technology, in: Paipetis, S.A. (ed.), *Science and Technology in Homeric Epics* (electronic reproduction 2009, Boulder, CO), Dordrecht.
- Tolman, H.C./G.C. Scoggin 2013: *Mycenaean Troy – Based on Dörpfeld's Excavations in the Sixth of the Nine Buried Cities at Hissarlik, s.l.* [original edition: Ithaca, NY, 1903]
- Treuil, R./P. Darcque/J.-Cl. Poursat/G. Touchais 1996: *Οι Πολιτισμοί του Αιγαίου κατά τη νεολιθική και την εποχή του χαλκού*, Athens, translation by O. Polychronopoulou and A. Philippa-Touchais of *Les civilisations égéennes du Néolithique et de l'Age du Bronze*, Paris, 1989.
- Tsountas, C. 1996: *Ιστορία τής Αρχαίας Ελληνικής Τέχνης*, Athens [reprint of the 1928 edition, Athens].
- Tzahili, I. 2008: Aegean Metallurgy in the Bronze Age: Recent Developments, in: Tzahili, I. (ed.), *Aegean Metallurgy in the Bronze Age: Proceedings of an International symposium held at the University of Crete, Rethymnon, Greece, on November 19-21, 2004*, Rethymnon, 7-33.
- Varoufakis, G.J. 1999: *Ancient Greece and Standards – The history and control of the materials which left their mark on Greek civilisation*, Aeolos publications, Athens [translated into Greek by Aikaterini Apostolaki, edited by Cox and Solman].

- Varoufakis, G.J. 2005: *History of Iron from Homer to Xenophon: the Iron Finds and the Ancient Greek Literature with the Eye of a Metallurgist*, Athens.
- Ventris, M./J. Chadwick, 1956: *Documents in Mycenaean Greek*, London.
- Vermeule, E.D.T. 1983: Response to Hans Güterbock: The Hittites and the Aegean World: Part 3, *American Journal of Archaeology*, 87(2), 141-143.
- Vermeule, E.D.T. 1986: Priam's Castle Blazing: A Thousand Years of Trojan Memories, in: Mellink 1986, 77-92.
- Voutsaki, S. 2001: Economic Control, Power and Prestige in the Mycenaean World: The Archaeological Evidence, in: Voutsaki, S./J. Killen (eds.), *Economy and Politics in the Mycenaean Palace States: Proceedings of a Conference held on 1-3 July 1999 in the Faculty of Classics, Cambridge* (series: Cambridge philological society, Supplementary Volume 27), Cambridge, 195-213.
- Voutsaki, S. 2005: Social and Cultural Change in the Middle Helladic Period: Presentation of a New Project, in: Dakouri-Hild, A./S. Sherratt (eds.), *Autochthon: Papers Presented to O. T. P. K. Dickinson on the Occasion of his Retirement: Institute of Classical Studies, University of London, 9 November 2005* (series: BAR international series, vol. 1432), Oxford, 134-143.
- Voutsaki, S. 2012: Mainland Greece - MBA, in: Cline 2012, 99-112.
- Wachsmann, S. 1987: *Aegeans in Theban Tombs*, Leuven.
- Warren, P. 1995: Minoan Crete and Pharaonic Egypt, in: Davies/Schofield 1995, 1-18
- Watkins, C. 1986: The Language of the Trojans, in: Mellink 1986, 45-62.
- Watkins, C. 2008: Hittite, in: Woodard, R.D. (ed.), *The Ancient Languages of Asia Minor*, Cambridge/New York, 6-30.
- Whitelaw, T. 2005: A Tale of Three Cities-Chronology and Minoanisation at Phylakopi in Melos, in: Dakouri-Hild, A./S. Sherratt (eds.), *Autochthon: Papers presented to O.T.P.K. Dickinson on the Occasion of his retirement: Institute of Classical Studies, University of London, 6 November 2005* (series: BAR International; Series, 1432), Oxford, 37-69.
- Wiener, M.H. 2007: Homer and History: Old Questions, New Evidence, in: Morris/Laffineur 2007, 3-34.
- Wiener, M.H. forthcoming: Oh, No – Not Another Chronology!, in: Golet, O./A. Oppenheim (eds.), *The Art and Culture of Ancient Egypt: Studies in Honor of Dorothea Arnold* (series: Bulletin of the Egyptological Seminar of New York (= BES), vol. 19), New York [the paper was kindly provided to the author by Dr. Wiener].
- Yakar, J. 1976: Hittite Involvement in Western Anatolia, *Anatolian Studies* 26, 117-128.
- Yener, A.K. 1986: The Archaeometry of Silver in Anatolia: The Bol-kardağ Mining District, *American Journal of Archaeology* 90(4), 469-472.
- Yener, A.K. 2000: *The Domestication of Metals: the Rise of Complex Metal Industries in Anatolia* (series: Culture and history of the ancient Near East, vol. 4), Leiden.

Konstantinos Giannakos  
 Civil Engineer, PhD, Fellow ASCE  
 108 Neoreion str., Piraeus, 18534  
 Greece  
 kongiann@otenet.gr  
<http://giannakoskonstantinos.com/wp>

