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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. 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 corbelloing technique (Palyvou 2009) and constructed adobe structures presenting strength in today’s terms of 3-5 N/mm², much higher than the strength (ca. 3 N/mm²) of modern bricks of low quality. The corbelled vault tholos at Fourni, Crete, belongs to EM II, ca. 2900-2300 BC, 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 ali 1996, 354-357). Smallier 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.

The structural analysis of the ‘Atreus Treasure’, with the Finite Element Method/FEM, calculated maximum compression and tensile stresses of approximately 0.74 N/mm² and 0.17 N/mm² (Askouni et ali 2008), implying linear elastic behaviour with no damage expected. Similar results were derived from

1 About the empirical and intuitive ability of Mycenaean ‘Engineers’: Cremasco/Laffineur 1999; Hope Simpson/Hagel 2006, 24.
2 For Akrotiri: see Palyvou et ali 2001. N = Newton, is the unit of Force in the SI system; N = kg.m/sec², 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).
3 Dickinson 2003, 49: dated by Sakellarakis. “The whole structure of the tholos of grave I, 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).
4 Mylonas 1983, 168: Cyclopes’/Genni’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”.

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.

In Messenian Pylos, influenced by the highly Minoanised Kythera, some ashlars 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 stonion blocks of the LH IIA tholos tomb at Peristera. 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 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

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1 Cremasco/Laffineur 1999; Treuil et alii 1996, 354-357: the tomb is dated MH-LH. This implies an average date of 1550 BC.
2 Papademetriou 2001; Maran 2012; Hope Simpson/Hagel 2006, 226: “The Mycenaean’s skill in engineering was initially learnt from the Minoans”.
3 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\textsuperscript{31}. 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\textsuperscript{3}, 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”\textsuperscript{32}.

**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\textsuperscript{33}. 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 \textit{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 Arganies – 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 Mycenaens 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

\textsuperscript{31}Giannakos 2015, 758: about the meaning of the participation of the gods and the Mycenaens’ technological level.


\textsuperscript{32}So-called \textit{Gasterocheiros-Λαστρόχειρες} (literally ‘bellyhands’): Str. 8.6.11/373; Apollod. 2.2.1; also: B. \textit{Od.} 11.75-79, Paus. 2.25.8.

\textsuperscript{33}Tzahila 2008, 10-11. Muhly 1997, 28, 32: “Silver at Laurion was being exploited by the mid-third millenium 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.

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new methods of battle. Products of cutting-edge technology usually offer pre-
dominance 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 demolitions 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-IIIB 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 IIIB 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 II A-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 (Peta’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 III A2/early LHIIIB, 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: Adriani-Sismani 2007, 164,
The palace at Pylos was remodeled during LH IIIA2 or LHIIIIB1. 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/_WRAPPER1 and Taruša/Troῖς), 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 Tarwiz/Troῖς 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 Büyükale. 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’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 (1) (that is ṝawaz), having 100 chariots with him, fought against a Hittite army in southwestern Anatolia and performed repeated raids against Lukka and Alašiya/Cyprus.

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11 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).
12 For “repeated”: Güterbock 1997a, 200.
A Letter of a king of Ḡḥḥiyawā to a Hittite king, mentions that under Tudḫaliya II’s reign, “(a-)Ka-ga-mu-na-aš”, the King of Ḡḥḥiyawā, owned the islands, after a dynastic marriage, with a princess of Aššuwa. The author endorses that, in Linear B, Agamemnon should be transliterated as either “ Ka-ga-ma-aš = a-ka-me-mo-no, (using the syllable ⊕ =ka) or most probably: “ Ki-ma-aš = a-ka-ga-me-mo-no, (using the syllable ⊕ =za, pronounced as *kja, or *gja”) that very much resembles a-ka-ga-mu-na of the Hittite tablet from Tudḫaliya II’s era (also Giannikos 2013, 429). We recall that Agamemnon (πολλάσιν νήσοις καὶ Ἀργεῖ παντὶ ἀνάσσας) (Hom. II. 2.108) “that so he might be lord of many isles and of all Argos”) returned to Mycenae bringing with him Kassandra, princess of Troy (member of Aššuwa), who had born to him two sons Teledamus and Pelops (Paus. 2.16.6-7: describes the graves of Kassandra and of the two children).


The Alaksandu treaty mentions that Labarna had conquered Arzawa and Wilusa. Afterwards, Arzawa began war and Wilusa/ρόλος “defected from Ḩatti”. 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 Ḩatti from afar, [and] they regularly sent them messengers”. The Treaty does not mention Aḥḥiyawā, probably because the Hittites did not consider Aḥḥiyawā as a serious power at the time; ca. 1285 BC (Kelder 2010, 27, note 74; Bryce 1989; Freu/Mazoïer 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 Aḥḥiyawā, 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-Dabā. 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 origin1. The use of crushed Murex shells found within the plaster paste of Thera

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² 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-Dabā‘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 Ahhotep’s dagger were decorated with Aegean symbols, suggested by the Minoan form of the griffin’s.

Gifts from T/Danaja – on the 42nd year of Thutmose III – are listed: “.chief] of Tanaya: Silver: a jug of Kefiiu workmanship along with vessels of iron”15, 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 found16.

The famous list of Amenhotep III at Kom-el-Hetan mentions Kefiiu, T/Danaja and the very well known Aegean places: Amnisos, Knossos, Kydonia, Mycenae, Thebes, Ilion17 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). Akenaten performed two wars against the Hittites in Syria before

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15 Bietak 1995; Warren 1995: “Ahhotep’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”. Murnford 2001: “an Aegean-derived niello dagger from Queen Ahhotep’s tomb”.


17 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.

18 Karatsou/Andreadi-Klazaki/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 ‘kftw’ or ‘tny’. Latezn (2004, 131): Waleja-Elis. Kelder (2010, 38, note 111) refers to Goedicke: Aulis. Cline/Stanish 2011: the transliteration Ilion should probably be disregarded and it is either Eileia in Crete or Aulis. Kozloff 2012, 211: possibly Troy. For a possible transcription of the Egyptian wrj/wi-ry in Linear B wi-ro = ἶλος/Ἰρος was read in a tablet from Knossos (Ventris/Chadwick 1956, 427, Kn As1516). One ἶλος was Ilion’s founder, and another ἴλος was Teukers’ king and Dardanos’s son: the “place of” (Ruijgh 1967), e.g. wiro: wi-ro-jo of wi-ro-(s)io-jο; 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 Mycenaeans” (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. II. 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\(^{15}\).

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 Aḫḫiyawā.

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

In tablet Kbo 3.57, king Ḥantili boasts that he fortified the cities and Hattuša. Some researchers support that it was Ḥantili 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 Ḥantili II, *ca*.1450 BC, since at that era Kaška people attacked and sacked Hattuša and Nerik, the latter remaining under their sovereignty till Ḥattušili III, two centuries later\(^{20}\),

2.- the first bee-hive *tholoi*, dated to the mid/late-third millennium BC, appeared before the formation of the kingdom of Ḥatti (*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, bunglesome fitting of the stone-blocks (Giannakos 2015),

\(^{15}\) 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”.

\(^{20}\) Bryce 2009, 298; 2005, 113, 420 note 75, Schulter also; Freu/Mazoyer/Klock-Fontamille 2010, 163-164, Onofrio Carruba also; Collins 2007, 42.

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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 Kιαφά-Thíti, 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 Powers21, 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 Aḫḫišša) 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/Ástrom 1972, 769-781; Dikaios 1971, 501-515; Doxey 1987), the era of Attariššiya: Enkomi was destroyed in ca. 1425 BC, rebuilt 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/Ástrom22 believed23), which must had

21 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.
22 Åstrom/Ástrom 1972, 771-772; see also Doxey 1987, 306, 316.
23 Today “the temporary control of the island (by the Mycenaeans)” 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 northeastern 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 coastline\textsuperscript{24}. 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\textsuperscript{25} 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 aforesaid 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. II. 11.18-23). The Atreids considered as guest-gifts\textsuperscript{26} 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/Ατρείς” in Hittite\textsuperscript{27}. 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/Ατρείς”.

\textsuperscript{24} 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 Alašiya 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 (Merrillees 2011; see also Knapp 2013, 438, commenting that Merrillees’s scope always is only to support that Alašiya of the Egyptian tablets is not Cyprus. Merrillees is the only one who disagrees with this identification).

\textsuperscript{25} 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.

\textsuperscript{26} 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* cross-references the word Ατρέως to the word Ατρέως with accusative Ατρέα instead of Ατρέας. In Linear B tablets 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 included in the word Ατρέως (the region of Ατρέως (?)); he transliterates the word a-ti-ri-ja as Ατρέι and the word a-te-re-wi-ja as Ατρηφί. The Mycenaean language present ending in –elw in the nominative of singular of the stems in –η in the ending in –ơ-jo/*-o-ja, for masculins/femminis, is the genitive of singular (and i-jo for a patronymic adjective*), that is ending in –ηρος (Ruijgh, 1967, 37 §15, 73 §49, 87 §67). The transliteration for the god Αρης also a pre-Hellenic stem like the stem of Ατρέως, is a-re in Linear B (KN Fp 14.2 tablet), instead of a-te-re in Ατρέως. 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: Αρης (e.g. accusative Αρην), Αρης(ς) (e.g. vocative Αρης and Αρης(τ)) (e.g. genitive Αρηςς). The stem Αρης-/Αρη can be found in the datif Αρης, with the vocal verbalization of an aspirate vowel i. The aspirates were pronounced with a precedent σ or h*: (σ)i/Αρης(σ) or (h)i/ Αρης(h). Furthermore, it is found in: a-re-i-jo = Αρηος/ Αρης(ς)(i)ος; it should be reminded that the ending i-jo is the ending of (patronymic) genitive (of Ares = του Αρηος).

In a similar way we approach the pre-Hellenic stem a-te-re of Ατρέως, 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 Ατρεη: Ατρεως/Ατρέ-ιος (e.g. Αγαμέμνων Ατρέως or Μνεάκος Ατρέως) with a sound σ before the ending of (patronymic) genitive (of Ares = του Αρηος).

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28 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).
29 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.
30 Also, Ventris & Chadwick, 1956, 178, lemma 45: “a-te-re-wi-ja: place-name; derivative of Ατρέως ?”.
31 “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). Αρηος = Αρηος, it is a theonym or anthroponym derived from Αρης; 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-ös, to the father’s name, which is a clear indication of high rank, like e.g. c-te-wke-re-we-i-jo = son of Etevoklewes (Etevoklewes-i-ös). Melena 2014: Ares-jas. Duhoux 2008.
32 “Compatible to the more recent Αρηος; the stem in classical Greek is Αρηος: Αρης(ς)(i)ος→ Αρης(ς)ος→ Αρηος. Ruijgh 1967, 54-57; Melena 2014, 96.
genitive i-jo. The transliteration of Ἐτεοκλῆς/Ἐτεϝοκλέϝες/e-te-wo-kle-we, in Hittite, is Tawagalawa, with a turn of all the e, and o 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)l-jo in Hittite could possibly be a-ta-ra-wi-yo/a/a-ta-ra-(σ)l-jo/a; the pronunciation of the Greek digamma f—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 “Ἄτιςρε”-(σ)l(-j)oc/a-te-re-(σ)l-jo = son of Atreus (Aresjas, “of Ares”, note 31).

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

We know that in Ḥatti nine silver mines existed inside the river Halys’ bend44. 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). Ḥattuša and Hatti are sometimes written simply with the Sumerogram for silver35. Pharaoh Ramesses II connects Ḥatti with silver only46. The king of Arzawa requests only ‘silver’ from Ḥattusili III (Hoffner 2009, 352-354). Šuppilliiuma I sends Pharaoh only silver objects (Beckman 1999, 279), as greeting gifts. The first ‘equation’ that appears is apparently that Ḥatti was connected semantically with Silver – ἀργυρός, as official diplomatic documents, of Ḥatti, Egypt as well as of Arzawa, also depict. Hittites called themselves people of the Land of Ḥatti17, identified by the region, where they lived. The Hittite texts were written in Akkadian and in Nešītica8, the language of Neša/Kaneš, the official language, spoken by the ruling class. There are also remnants of the language of Ḥatti-Ḫattian, in few surviving texts of religious/cultic character (Bryce 2005, 12; Melchert 2003). The three main languages in the Hittite kingdom were Nešītic, Luwian, and Palaic. Five more languages were identified in the archives. Palaic was spoken to the north, Luwian to the west and southwest and Nešītic with Ḥattian in central and eastern Anatolia, by groups of people with corresponding names. Ḥatti was a multilingual and multiracial land (Bryce 2005, 11, 16-20, 52-55, 387-389; Watkins 1986;

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36 Breasted 2001a, 135, 138, note g: “This may point to the more plentiful use of silver in Asia Minor where it was produced”.
45 Bryce 2005, 18-19, 396 note 45. The term ‘Hittite’ occurs in Bible (hitti, hittim) for a small population group in North Syria and it was adopted by scholars due to its phonetic resemblance to the ‘Land of Ḥatti’ in texts of the LBA.
46 Melchert 2003b, 15: “the name Hittite for this Language is by now too well established to be changed in favor of the more correct Nešīte”; 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”.

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Melchert 2003b). Across the west and southwest seashore of Asia Minor the languages of Minoans and Mycenaeans were also spoken, as the material evidence points out. Homer uses different names for the Mycenaean Greeks: ‘Achaioi’, ‘Danaioi’, ‘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 Homerica ‘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 “τηλθοῦν from very far” (Hom. II. 2.848-857/862-863/886-887). We note: a very distant Land “τηλθοῦν” from Troy, “Δηλή(Η) Alybe” of Halyzones “the birthplace of silver” is present, Phrygians 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 Halyzs’ bend” Halyzones”, connecting them with Halybes. 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 Ῥᾳτ and its capital Ῥαττουša (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 Amasia 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/Kaneş (Hittite’s cradle) were bilingual, speaking

38 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

39 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”.

40 Ἀλας-(Χ)άλας or possibly (Χ)άλας(Ρ)ς. Str.; Hsch. s.v. Χάλας, Χάλας(Ρ)ς. Hesychius of Alexandria, 500-600 years later than Strabo of Amaseia (near the Hittite Tapigga), explains differently: τῆς Σκύθας, ὧν οἱ οἶκοι γίνονται, ὀπλῶν τὸ ὁμόλογο ἐκ Μυρμήκης Βοιωτίας, but Strabo (Str. 12.3.24/552; 12.3.19-23/549-551) refers to the region inland of the Halyzs river estuary near Farnakia (Χαλάς νῆσος Χάλας, ἤ τον κόμη Πάτρας), where the kingdom of Hatti was. Hesychius (Hsch. 2998-2998) also writes: “Halyzones Paphlagonian Nation” and Ἀλας(Ρ)ς (nominative of ἄλα) ὑδῶρ τοῦ ὅλου μαστοὺς, the water with turns/bends (Halyzs river bend?).

41 Huxley 1960, 34-35; Page 1988, 163; both proposed: Αλας(Ρ)ς and Αλας(Ρ)ς could refer to Hittites. Χάλας(Ρ)ς = ‘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\(^1\) 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\(^1\) 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 VII/f/g, around 1400 BC\(^*\). Blegen excavated the Pillar House and Houses VIF, VIG, with rich Minoan and Mycenaean sherds\(^*\): “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

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\(^*\) Mountjoy’s table at the ‘Nostoi’ Conference, 2011: see previous note; Mountjoy (1999, 298) dated at ca. 1210-1200 BC.


\(^*\) 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, Hisarlik 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-IIIA1 looks to be at no distant date from the troubles that overwhelmed Knossos, LH II-IIIA1 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 Kadesh⁴⁷, 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 Ḥattuša to Tarḫuntašša, closer to the frontier with Egypt, near Kadesh. He possibly left Ḥattuša under the jurisdiction of his brother, who later ascended the throne under the regnal name of Ḥattušili III⁴⁸.

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 chiefs⁴⁹: Dardany, Naharin, Arzawa, Keshkesh, Maša/Mysia, Pedēs/Pedasus(?), Karkisha/Caria, Lukka/Lycians, Kelekeš/Kizzuwatna, and others.

Aeneas, ἀνέκα 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.

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(Hom. II. 2.819-20; 20.301-304). Dardanians, Mysians, Lycians, Carians, Cilicians, and the people of Pedasos, 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 Aḥḥiyawa 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. 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. II. 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 prophesises that Aeneas and his sons’ would be kings among the Trojans, after the fall of Troy (Hom. II. 20.178-183, 300-312). There is a story that Aeneas “overthrew Priam” and “betrayed the city to the Achaeans”. Probably a ‘memory’ was maintained that Aeneas was ‘protected’ by the Greeks and became king by the gratitude of

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

9 Hom. II. 2.858: “And of the Mysians the captains were Chromis and Ennomus the augur;” translation by Murray 1924-25.

10 Hom. II. 2.876: “And Sarpedon and peerless Glauclus were captains of the Lycians”, translation supra.

11 Hom. II. 2.867; “And Nastes again led the Carians, uncouth of speech”, translation supra.

12 Hom. II. 6.414-417: “My father (of Andromache) verily goodly Achilles slew, for utterly laid he waste the well-peopled city of the Cilicians, even Thebae of lofty gates. He slew Eitón, … (who) was lord over the men of Cilicia”, translation supra. In Cilicia Eitón, father of Andromache (Hektor’s wife), was king.


15 Hellanice. 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 for 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 Hellenicus 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’ 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 VIIga and the working hypothesis of a Trojan War ca. 1400 BC. Furthermore, according to the Alakšandu Treaty: “Wuluša defected from Ḫatti”, during or before Tudḫaliya II’s reign; Wuluša’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 Wuluša’. 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, ṽaγ of Knossos during the Trojan War, who is included in the six Kings ‘the elders, the excellent chieftains of the Pan-Achaeans’ (Hom. II. 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.

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.

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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 VIIIB at LH IIIC fluctuates (Mee 1978): 14% – LH IIA, 10% – LH IIIB, 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 VII/Vig, since LH IIIB/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 Aḥḫiyawa, owned the islands around Troy. The brother of the king of Aḥḫiyawa, a lesser ruler not the King (iṭuḥ), 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 Aḥḫiyawan 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, Mycenaens could neither finance nor perform a “Trojan War”, as described in the epics.

The predecessor of Tudḫaliya I/II and Motylos

Güterbock90 makes mention of a note by the Byzantine author Stephanus Byzantius, saying that: “in Samyilia, city of Caria (formed by Motylos), Motylos hosted Paris and Helen” (St.Byz. s.v. Σαμυλία; Hdn. Ἰδ. Ττ. (De pros. cath. 3.1, 289 line 42) and suggested Motylos as an echo of Muwatalli II.

There were two kings with the name Muwatalli: Muwatalli II, who signed the Alašandu treaty, ca. 1285 BC, and Muwatalli I the predecessor of Tudḫaliya II, probably murdered by Ḫimuili and Kantuzzili, who placed Tudḫaliya II on the throne91.

90 Güterbock 1986, citing Paul Kretschmer’s, “Alašanduš, König von Viliša”, Glotta 13, 1924, 205-213; Freu/Mazoyer 2011, 94.
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 Mutall[i...] and her[e...] withMu[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 Samos⁴⁶ 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, Mycenaens, 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

⁴⁶ Duris FHG 11:1-3. Douris was, according to Athenaeus, a student of Theophrastus, who had been a student of Plato and Aristotle. Aristotle 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**

**Apolllodorus**

**CTH**
see under KUB.

**Dionysius of Halicarnassus**

**EA**

**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

**FGH**

**Hesychius**

**Homer**

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

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

Beckman, G. 1999 (second edition): Hittite Diplomatic Texts (series: Writings from the ancient world, vol. 7), Atlanta, GA.
Bryce, T. forthcoming: Links and Relationships between Greece and Anatolia in the Late Bronze Age, in: Tefeteller, A. (ed.), Mycenaenans and Anatolians in the Late Bronze Age: The Ahhiyawa Question, Quebec, QC [the paper was kindly provided to the author by Professor Bryce].

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Cary 1937: [see above *Ad Text and Editions* Dionysius of Halicarnassus].


Clark, Curtis: Website: <http://www.mockfont.com/old/, fonts of Linear B'>.


Coleman, D.J./C. Manassa 2007: *Tutankhamun’s Armies: Battle and Conquest during Ancient Egypt’s Late 18th Dynasty*, Somerset, NJ.


Giannakos, K. 2012: Aegean Type Sword and Finds at Hattusa: Technology, Sources and dating of Trojan War, Saarbrücken.
Keldcr, J.M. 2010: The Kingdom of Mycenae: a Great Kingdom in the Late Bronze Age Aegean, Bethesda, MD [originally dissertation, Vrije Universiteit, Amsterdam].

Knauss, J. 2001: Späthelladische Wasserbauten: Erkundungen zu wasserwirtschaftlichen Infrastrukturen der mykenischen Welt; Zusammenfassung aller bisherigen Unter-


Papademetriou, A. 2001: *Tiryns – A Guide to its History and Archaeology*, Athens [translation by A. Doumas of Τίρυνθα: Ιστορικός και αρχαιολογικός οδηγός by the same author, same year of publication].


Pelsenburg, 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.


Tassios, T. 2005: Εργαλεία στην Αρχαία Ελληνική Θρησκεία, Αρχαιολογία & Τέχνες 94, 8-11.


Tolman, H.C./G.C. Scoggins 2013: Mycenaean Troy – Based on Dörpfeld’s Excavations in the Sixth of the Nine Buried Cities at Hisarlik, s.l.[original edition: Ithaca, NY, 1903]


Varoufakis, G.J. 1999: Ancient Greece and Standards – The history and control of the materials which left their mark on Greek civilisation, Aelos publications, Athens [translated into Greek by Aikaterini Apostolaki, edited by Cox and Solman].

Ventris, M.J. Chadwick, 1956: Documents in Mycenaean Greek, London.


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