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Aegean Type Swords and Finds in Anatolia, Technology of Metals and Structures, Written Sources and the Dating of Trojan War

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Abstract

In Hattuša and the Land of Hatti, bronze swords of Aegean type and other Mycenaean artifacts were found. Silver as a rare and precious metal is -probably-connected with Hattuša and Hatti in Iliad. The technological level and know-how in Mycenaean Greece were extremely high both in construction works and production of metallic objects: bronze, silver and iron. The archaeological evidence found in Hattuša, Egypt, Greece and Cyprus and the Ancient Greek Literature are combined in an effort to register the exchange of technology among the countries around the Aegean Sea at the LBA. A linguistic dating of the epics is attempted and a proposition of the possible transcription of the name Ἀγαμέμνων in Linear B is formulated. The archaeological evidence is compared to the descriptions in Homeric epics. Conclusions are derived for the exchanges among Mycenaean, Cretans, Hittites and Egyptians, with the Aegean Sea being a connecting area. Since technological level and its products are irrefutable agents of the prosperity level of each era, they are used to estimate the probability of a naval expedition over Aegean Sea during LBA. Finally a hypothesis for a probable dating of Trojan War is attempted.

Keywords

Epics, Hattuša, sword, Mycenaean, Ἀγαμέμνων, Attarissiyas, Egypt, silver technology.

Introduction

Homer, in Iliad and partly in Odyssey, described a naval military expedition of a coalition of Mycenaean Greeks with 1000 ships, across the Aegean sea, against Troy and its allies at the northwestern coast of Asia Minor. A long discussion about Trojan War, whether and when it took place, is ongoing since the antiquity. There are two possible dates for the Trojan War as derived by the destruction layers in Troy VII c. 1300 BC and VIIa c. 1180 BC. However, another minor destruction could be verified in Troy VI/g c. 1400 BC where an extended 'house-cleaning' was reported by Blegen. We have proposed that this house-cleaning points to a change of dynasty in Troy supported by the Mycenaean Greeks (Trojan War?). We examine evidence from Hatti, Cyprus and Egypt and relate it to the prosperity and destruction periods of Mycenaean palatial centers. The linguistic dating of the Homeric epics at an era earlier than 1400 BC also points to that direction.

15th-14th century BC Anatolia: Evidence related to Mycenaean Activities¹

Various objects of Mycenaean influence were found in Hatti:

- A Type B bronze sword at Hattuša dated at the period of Tudḫaliya II,² commemorating his victory over Aššuwā, mentioned also in his Annals, as well as Wilusiya/Ῥίλιος and Taruisa/Τροία.
- A silver bowl referring to the conquest of Tarwiza by a king Tudḫaliya (II).
- One bronze sword at Izmir and one at Kastamonu, of Mycenaean type, dated c. the same era,
- A Mycenaean bronze spearhead at Niğde of advanced technology of 14th-13th century BC,
- A ceramic bowl with a depiction of an Aegean(?) warrior bearing a boar's tusk helmet at Hattuša dated at 1400 BC,
- Fragments of wall paintings of Mycenaean technique in Büyükkale,
- Imported Mycenaean pottery LHIII A2³ in Maşat Höyük, in a LHIII B context and
- A few Mycenaean shreds in Hattuša and Kusakli (Thaler 2008, 293, 307-310) demonstrating the importance of hearth building like in the Mycenaean Palaces, as described in a Hittite ritual text dated at Tudḫaliya IV era, reconstructed from older sources.

Several texts were also found in Hittite archives:

- Indictment of Madduwatta, notes that under Tudḫaliya's II reign, Attarissiya, brother of the king of Aḫḫiyawa, performed raids against Lukka and Alasiya/Cyprus, in accordance to epics narrating Atreids' raids against Cyprus. Attarissiya, could be transliterated as 'Ἀτρείδης' (Giannakos 2011a, 2011b).
- A Letter of a king of Aḫḫiyawa (Beckman *et al.*, 2011, 134-139) to a Hittite king, refers that under Tudḫaliya's II reign, the King of Aḫḫiyawa '(a-)Ka-ga-mu-na-aš' owned the islands, after a dynastic marriage. Janko⁴ proposed that, if '(a-)Ka-ga-mu-na-aš' is to be equated with a Greek name, it is rather Ἀγαμέμνων. Iliad narrates that Ἀγαμέμνων was King in many islands and in Argos (Iliad, 2-108).
- The Alaksandu treaty, refers that Labarna had conquered Arzawa and Wilusa. Afterwards, Arzawa began war and Wilusa/Ῥίλιος defected from Hatti, but remained at peace. Later on Tudḫaliya (II) campaigned against Arzawa but did not enter Wilusa since they were

¹ Details in Giannakos, 2011a, b, 2012, 7-44.

² Absolute dates of Hittite Kings in **Figure 1** and of Egyptian Pharaohs in **Figure 2**.

³ Cline 2007, 197, ~1375-1340 BC. **Figure 3** for dating of the periods in Mycenaean Greece.

⁴ According to Wiener 2007, 16-17, n.104, 113. Starke: 'Kadmos'.

at peace. It does not mention *Ahhiyawa*, probably because by c. 1280 BC, Hittites did not consider *Ahhiyawa* as serious power.

- An Oracle Report (Tudhaliya's II era): 'Concerning the enemy ruler of Ahhiya..... Result: favorable'. This unnamed enemy ruler of Ahhiya is -almost certainly- Attarissiya attested in the Indictment. It clearly refers to a leader, or ruler of some kind, of Ahhiya who performed warlike activities in Anatolia, Lycia and Cyprus.⁵

Material Evidence from 16th-14th century BC Egypt and Cyprus

The relations of Egypt with Aegean are recorded in the archaeological evidence which has been summarized in literature (Giannakos 2011a, 2011b, 2012): from the Hyksos period and Ahmose to the reigns of Thutmose I, Thutmose III, Hatshepsut, Amenhotep III, Akhenaten and Tutankhamun, c. 1600-1330 BC.

In the famous list of Amenhotep III at Kom-el-Hetan, Keftiu, T/Danaja and the very well known Aegean places: Amnisos, Knossos, Kydonia, Mycenae, Thebes, Ilion etc are mentioned. Amenhotep's III close relations and his particular sympathy to Achaean rulers is evident from remnants of his Palace at Malkata and his faience plaques at Mycenae (Philips 2007). Akhenaten performed two wars against Hittites in Syria before his sixth and at his fifteenth regnal years. This could offer an additional argument for a hypothesis of a possible alliance with Mycenaeans (Coleman and Manassa 2007, 198-199; Leahy 2001, 258; Schulman 1988, 54, 57).

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*' (Redford 2003, 96, n.226), indicating possibly advanced technology in Crete and T/Danaja. An iron ring at Archanes is dated at 17th century BC. *It appears that the reading 'iron' is now widely preferred, ... iron in this early stage was an extremely rare commodity, being difficult to work* (Kelder 2010, 36,105; Lucas 1948, 274; Ogden 2000, 167) and consequently of cutting-edge technology. There are also references for iron gifts to the Pharaoh in Amarna tablets (Lucas 1948, 268-275; Moran 1992, EA22, EA25; Ogden 2000, 166-168). In Tutankhamun's tomb, several iron objects were found.⁶

The king of Cyprus wrote to Pharaoh Akhenaten (Moran 1992, 111, EA38): '*Indeed men of Lukki, year by year, seize villages in my own country*'. Are these Lukki (and Danuna) forerunners (Giannakos, 2011a, 2012, 65) of the Sea Peoples? In the early 18th Dynasty heavily armed northern mercenaries appear in Egyptian documents and the incursion of pirates, *Dennen*, *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 (Coleman and Manassa, 2007, 203; Redford 1992, 242, 2006, 196; Shaw 2003, 322).

Cyprus suffered a number of destructions around 1400 BC (Doxey 1987, 306), the era of Attarissiya: *Enkomi* was destroyed in c. 1425 BC rebuilt and destroyed again in 1375 BC. *Kourion* was destroyed by fire. *Phlamoudi*, *Nitovitika* and *Nikolidhes* were abandoned in a roughly contemporaneous era. Whatever the cause of the Cypriot destructions, they occurred at a point which immediately preceded a notable influx of Mycenaean influence, possibly even temporary control of the island, roughly around the date of Knossos' destruction on c. 1375.

Tanaja is referred in Egyptian inscriptions up to the end of the reign of Tutankhamun.⁷ After this period there is no written reference to Tanaja in Egyptian inscriptions until the *Sea Peoples*. Homer narrates that heroes *Avaai* had visited Egypt -isolated and not in hordes as the later Sea Peoples- either as friends or as raiders (Beckman *et al.*, 2011, 99, 97; Giannakos 2011a, b; Giannakos 2012, 67-68). This image is fitted rather to the era of Amenhotep's III and not Ramesses' II, III era.

Rare Metal Silver: Hittites in Homeric epics?

The Ships' Catalogue, includes in Trojan allies '*Halizones, from Alybe, where is the birth-place of silver*', most probably the inside Halys river bent region (Giannakos 2011b). All the three main linguistic/racial groups of the Land of Hatti were present as allies of Troy in Iliad: Palaians/Paphlagonians, Luwians /Lycians, and Nesumili/Nesites/Hatti probably as *Ἀργύρου γενέθλη*. Hattuša and Hatti were sometimes written with the Sumerogram for silver. The major objective of the trade since the Assyrian Colony period c. 2200 BC, was to obtain silver and gold from the Anatolian Plateau: 9 silver mines were inside Halys river bent. Three kings: Ramesses II, a King of Arzawa(?) and Šuppiluliuma I connect Hatti with silver. However in Greece, there has been intensive exploitation, working and production of silver from Laurion and Cyclades mines since Late Neolithic. Consequently, *Ἀργύρου γενέθλη* of Iliad does not represent the Mycenaean experience with silver exploitation, but was probably transmitted, as oral tradition for Anatolian Plateau, to the western Asia Minor.

Dating the epics linguistically

Iliad's final version is a blend of two narratives one sympathetic to the Trojans and focused on Hector as tragic hero and another to the Greeks. The story of Troy was first immortalized in hexameters some time between 1450-1050 BC.⁸ An Asianic, specifically Hittite, ideal of unity among the groups representing four groups of fealty leaves its trace in a Greek literacy topos in the post-1200

⁵ Beckman *et al.*, 2011, 4, 5, 71, 97, 98, 219, 225. Bryce 2005, 129-130: *not officially recognized king of Ahhiya*. Gurney 1990, 21, 38: *an Achaean Greek chieftain*. Güterbock, 1983 200, 207: *a lesser ruler not regarded as king*. Niemeier 1999, 149: *a Mycenaean aristocrat*.

⁶ Coleman and Manassa (2007, 77, 240, n.148), refer that it was an early example of iron-working and it was not made from meteoric iron (Lucas 1948, 272; Muhly 2006, 22-25; Ogden 2000, 168).

⁷ Kelder 2010, 46,85; Philips 2007, 489-490: *the graves at Mycenae, contain Egyptian artefacts not later than ~1318/1295 BC, with a few exceptions*. Wachsmann 1987, 125: *the contacts seems to cease with the reign of Tutankhamun*.

⁸ Bachvarova 2008, 103, n.424. *For Trojan War's earlier dating*: Morris 1989, 521; Vermeule 1986, 85, 206, 279, 297. More details for the linguistic dating of the epics in Giannakos 2012, 114-119.

ramparts, ditches, gates with elaborate system of protection and postern gates for assaults.

The bearing capacity of a stone wall increases with the width and this is a technical knowledge gained with the experience, or trial-and-error procedure,¹⁶ e.g. from 2m thick wall to 5m thick. The earliest cyclopean fortification walls at Mycenae were erected as early as LHIIIA (Dickinson 2002, 160; Kelder 2010, 95), but the true Cyclopean style exists in the Third Palace Period of Crete, archaeological evidence in contrast to the aspect: such elaborate fitting of well-dressed blocks seems to be present in Hittite examples only (Figures 4, 5, 6).¹⁷

At this point we should underline that the first tholoi appeared in Crete c. 2100-2000 BC, era when the Hittite empire had not yet been formed and in Messenia c. 1600 BC, when Hittite empire counted 60 years of life, since the Hattuša's Great Temple was in use (Seeher 2006, 14) later enough on 14th-13th century.

The Minoan architecture knew a diffusion (Palyvou 2009, 117-120, 2005, 187; Shaw 2009, 65, 70) from LMI to LHIII: to the Aegean islands and Menelaion, Mycenae and Tiryns where the first Throne Room is dated at MH-LHI the latest, the Great Megaron with the first fortification walls in LHIIIA during 14th century (Maran 2012, 724-725). Overall the Minoan influence on the architecture of Mainland Greece is clear in: access systems (e.g. Lion Gate at Mycenae similar to Phaistos Propylon), orthostates with single-block pier bases - giving to the buildings stability and strength- replaced by plastered rubble masonry, the pier-and-door partition, tapering columns, pictorial design, imitated in frieze-like forms playing a symbolic role, axially in courts and lobbies, having roots in the MH and Early LH periods and the Grand Staircase in Mycenae which may have been built even by Minoans of Crete (Palyvou 2009, 117-124).

Conspicuous consumption due to prosperity is evident in the period of the great projects in construction of the tholos tombs and the other technical works. When the Treasury of Atreus was built, 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 MHIII-LHI periods provide assemblages of material culture indicating levels of prosperity, social complexity, artistic influence and wealthy societal groups (Shelton 2012, 141), showing an *emerging elite* in Mycenae (Colburn 2007, 208-209; French 2012, 672), possibly the likely result of Mycenaean military prowess in this period.

This period of prosperity with the construction of huge structures depicting the conspicuous consumption and the

development of original know-how is more compatible to an expansionist period.

Destructions in Palaces

A series of destructions of the main palatial centers took place in the period from 1400 – 1050/1030 BC (Middleton 2010, 14-17). The destruction of early Mycenaean Greece in LHIIIA1, reflect conflicts and are followed by the foundation of the palaces and the emergence of a stricter hierarchical order, depicted in burial customs (Niemeier 2005, 16). Through LHIIIA to LHIIIB less effort and fewer resources are put into tomb construction, with the prestige items entirely lacking in chamber tombs. Everywhere in mainland palaces were built and rebuilt during this period and several widespread but localized destructions were usually followed by rebuilding on a massive scale (Cavanagh 2008, 335; Kelder 2010, 99; Shelton 2012, 145). A date before 1240 BC (Wiener 2007, 18) should be more appropriate for a massive naval expedition.

The extended catastrophes evidenced all over Mycenaean Greece from LHIIIA1¹⁸ and onwards could imply that approximately by 1350 BC the Mycenaean palaces were facing a prosperity period, growth of population but at the same time the destructions in Palatial centers are observed together with a lack of rich offerings in tombs and a gradual degradation of power.

Summary and Conclusions

The naval expedition of 1000 ships against Troy described in ancient literature, demands peaceful conditions of everyday prosperity in homeland, since in case of turbulence and turmoil there is no room for weakening 'home' by transferring -in a massive scale- the military forces abroad. The prosperity period in Greece - as the tholos tombs depict- is between 1600 and 1400 BC since afterwards the destructions in Palaces begin with increasing intense. This era was the heyday of Mycenaean prosperity, technical achievements and wealth. Their technological level and know-how were extremely high and of cutting-edge both in construction works and production of metallic objects: bronze, silver and iron even since 16th century BC or even earlier. After c. 1350 BC Egyptians and Hittites considered Mycenaean much less prominent.

After its destruction c. 1375 BC, Knossos functions only as cult center. One of the most prominent Achaean leaders -in Iliad-, Idomeneus is not at all possible to have reigned after c. 1375 BC -at the latest- and a great number of dismantled or ruined chariots are listed in Knossos's tablets around 1400 BC. Is it -possibly- pointing to internal conflicts just after the return from Troy?

Troy VI during f/g phases present an extended housecleaning (~1400 BC). Is it a possible houses' refurbishment after a change of Royal Dynasty supported by Mycenaean invaders, intruding in the city by the pro-

¹⁶ See Laffineur 2012, 716: *The experimental character of Mycenaean architecture at Thorikos*.

¹⁷ Thaler 2008, 298-299 comparing the Treasury of Atreus and the Great Temple's wall at Hattuša, and Maner (this volume) for the two-dimensional arc in Hattuša and Tiryns.

¹⁸ A summary of destructions is in Giannakos 2011a; a more detailed description is in Giannakos 2012, 203-207.

Greek side of Trojans, under Aeneas and Antenor, mainly after ‘*Wilusa's defect from Hatti*’ before or during the reign of Tudhaliya II? (Giannakos 2011a). If so, after the Troy's conquest during LHIIA2 (c. 1380-1310 BC) the great period of Mycenaean impact and expansion on the coast of Anatolia and Dodecanese was observed (Wiener 2007, 10,11).

The -relatively- ‘abundant’ evidence from Tudhaliya's II reign (~1425/1420-1400/1390 BC) of Mycenaean's technology martial objects and depictions and the textual evidence in Hittite archives of *Ahhiyawan* military activities in Asia Minor, Lukka and Cyprus, is compatible to ancient greek literature and Hittite and Egyptian sources. Extended destructions in Cyprus at c. 1400 BC have been recorded in archaeology, which immediately preceded a notable influx of Mycenaean influence or even temporary control of the island. Texts referring to Tudhaliya's era possibly refer *Ἀτρείδης* raiding to Cyprus and *Ἀγαμέμνων* king of islands, similarly to Iliad's and Egyptian archives' descriptions. All the three main linguistic/racial groups of the Hittite kingdom were present as allies of Troy in Iliad: Palaians/Paphlagones, Luwians /Lycians, and Nesumnil/Nesa/Hatti probably as ‘*Ἀργύρου γενέθλη*’. Evidence from Egyptian archives refers to *T/Danaja* from 42nd year of Thutmose III to almost Tutankhamun (~1462-1350 BC) as well as well known cities like Mycenae, Knossos, Phaistos, Iliion etc. After this period Mycenaean palaces enter in a turbulent period of turmoil quite unstable with gradually increasing magnitude of destructions, not compatible to a huge (of 1000 ships) military expedition to Troy.

Is it possible that Trojan War is more ancient than conventional dating accepted up to now and possibly dated between 1425 and 1370 BC? If Iliad's verses are dated at 16th-14th century (before Linear B tablets) with Meriones, Ajax etc. we could infer that the story of Troy was first composed sometime between 1450-1050 BC and Iliad's final version was a blend of two narratives one from the Trojan and one from the Greek side. Is it possible to maintain a core of real events from Tudhaliya's II period?

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1670								
1650	Labarna -1650			Labarnas I 1680-1650		Huzziya I 1670-1650		
1630	Hattusili I 1650-1620			Labarnas II = Hattusilis I 1650-1620		Labarna 1650-1625		
1610	Mursili I 1620-1590			Mursilis I 1620-1590		Hattusili I 1625-1600		
1590						Mursili I 1600-1585		
1570	Hantili I 1590-1560			Hantilis I 1590-1560		Hantili I 1585-1570		
1550	Zidanta I	}	1560-1525	Zidantas I 1560-1550		Zidanta I 1570		
1530	Ammuna			Ammunas 1550-1530		Ammuna 1570-1550		
1510	Huzziya I			Huzziyas I 1530-1525		Huzziya II 1550		
1490	Telipinu 1525-1500			Telipinus 1525-1500		Telipinu 1550-1530		
1470	Alluwamna					Alluwamna 1530-1515		
1450	Tahurwaili	}	1500-1400	Tahurwailis (?)	}	1500-1420 ?		
1430	Hantili II			Alluwamnas				Hantili II 1515-1505
1410	Zidanta II			Hantilis II				Tahurwaili I 1505-1500
1390	Huzziya II			Zidantas II				Zidanza II 1500-1485
1370	Muwatalli I			Huzziyas II				Huzziya II 1485-1470
1350				Muwatallis I (?)		Muwatalli I 1470-1465		
1330	Muwatalli I		1425			Tuthaliya I 1465-1440		
1310	Tudhaliya I/II		1400	Tudhaliyas I (?) 1420-1400		Hattušili II 1440-1425		
1290	Arnuwanda I		1370	Hattusilis II (?) 1400-1390				
1270	Hattusili II		1350	Tudhaliyas II 1390-1370				
1250	Tudhaliya III		1400-1350	Arnuwandas I 1370-1355				
1230	Suppiluliuma I 1350-1322		1320	Tudhaliyas III 1355-1344				
1210	Arnuwanda II 1322-1321		1320	Suppiluliumas I 1344				
1190	Mursili II 1321-1295		1320	1322 Arnuwandas II 1322-1321				
1170	Muwatalli II 1295-1272		1320	Mursilis II 1321-1295				
	Teshub 1272-1267		1320	Muwatallis II 1295-1271				
	Hattusili III 1267-1237		1320	Tes-hub = Mursilis III 1271-1264				
	Tudhaliya IV 1237-1228		1320	Hattusilis III 1264-1239				
	1228-1227 Tudhaliya IV 1227-1209		1320	Tudhaliyas IV 1239-1209				
	Arnuwanda III 1209-1207		1320	Arnuwandas III 1209-1205?				
	Suppiluliuma II 1207-		1320	Suppiluliumas II 1205-?				
	Bryce, 2009			Gurney, 1990		Freu & Mazoyer 2007, 2011		

Figure 1: Chronologies of reigns of Great Kings in the 'Land of Hatti' (and comparison to the reigns of Egyptian Pharaohs in Figure 2), after: Bryce 2009, 798, (see also Bryce 2005, p. xv); Collins B-J, 2007, 38, (agrees to Bryce); Gurney 1990, 181; Freu and Mazoyer 2007/2011, 25-26, as cited in Giannakos 2012.

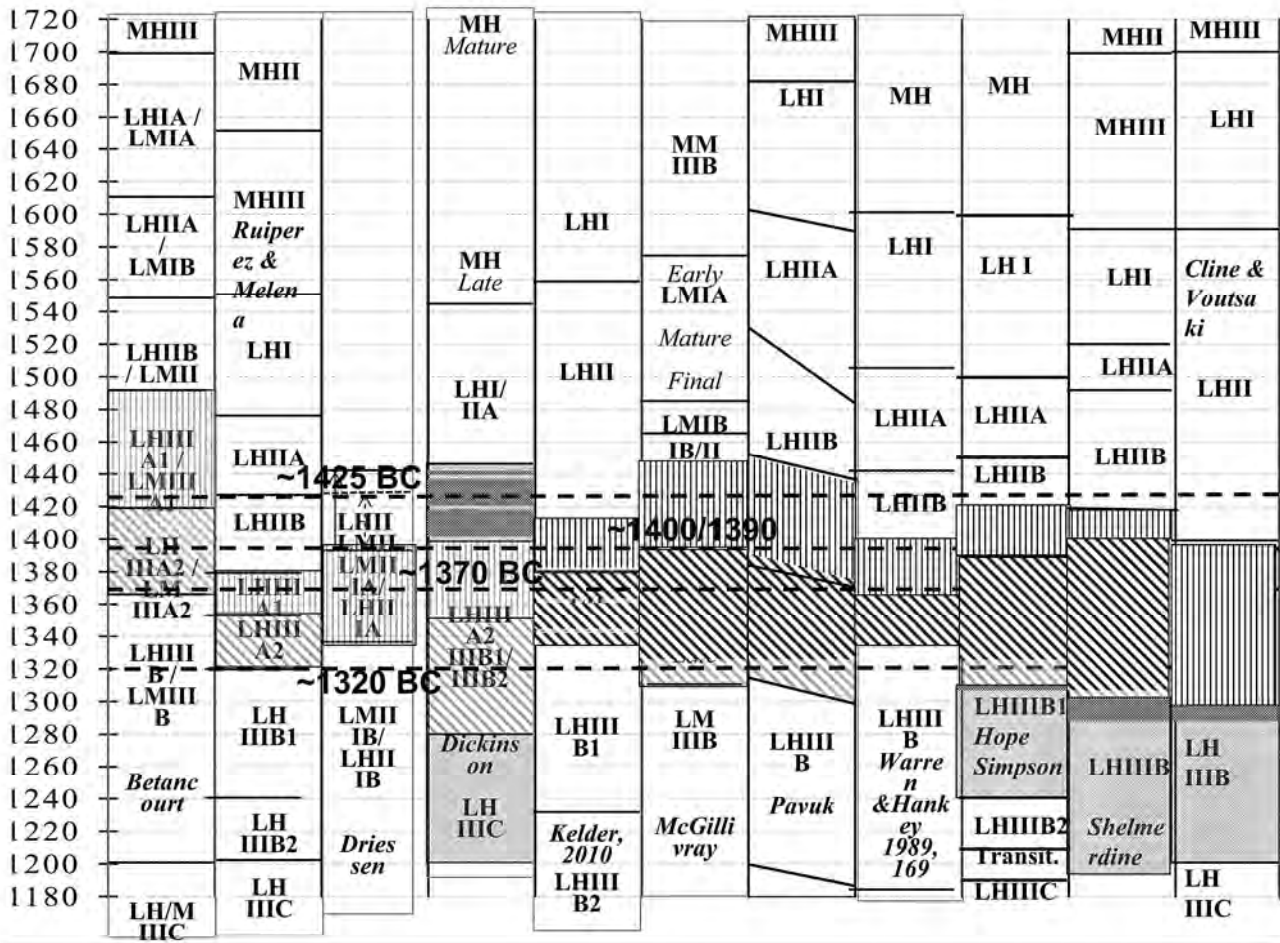


Figure 3: Chronologies of periods in Mycenaean Greece, after: Betancourt 1987, 48; Ruiperez and Melena 1996, 13; Driessen 2008, 69; Dickinson 2002, 19; Kelder 2010, 137-138; Warren and Hankey 1989, 169; McGillivray 2009, 154; Pavúk 2007, 475; Hope Simpson and Hagel 2006, 22; Shelmerdine 2008, 4; Cline (ed) 2012, table 1, p. xxx, (E. Cline and S. Voutsaki), as cited in Giannakos 2012.

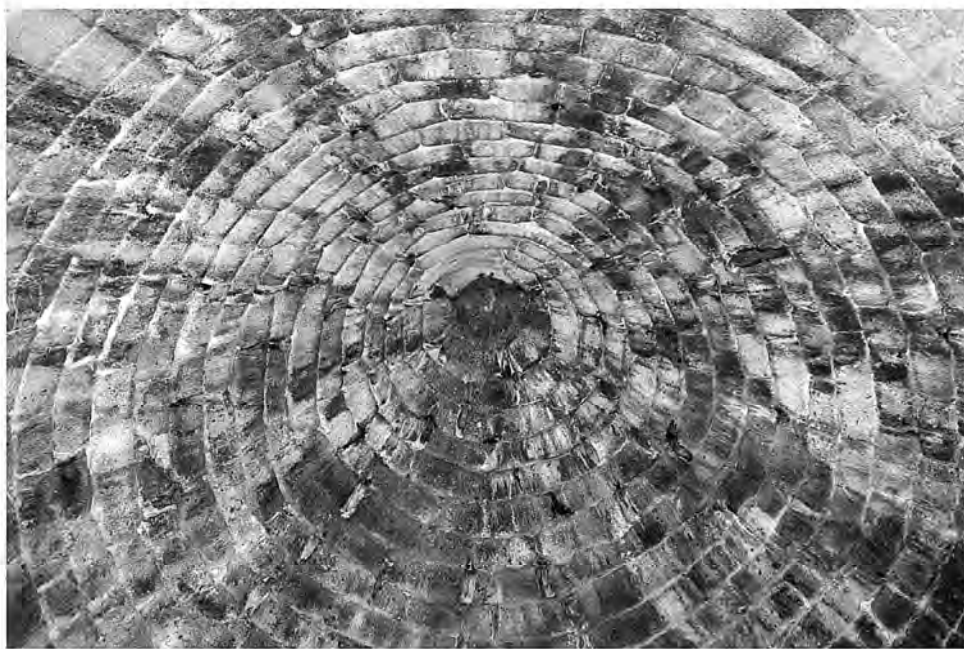


Figure 4: Photo of the three-dimensional Tholos of Atreus Treasury (keystone area) depicting the perfect fitting of stones.

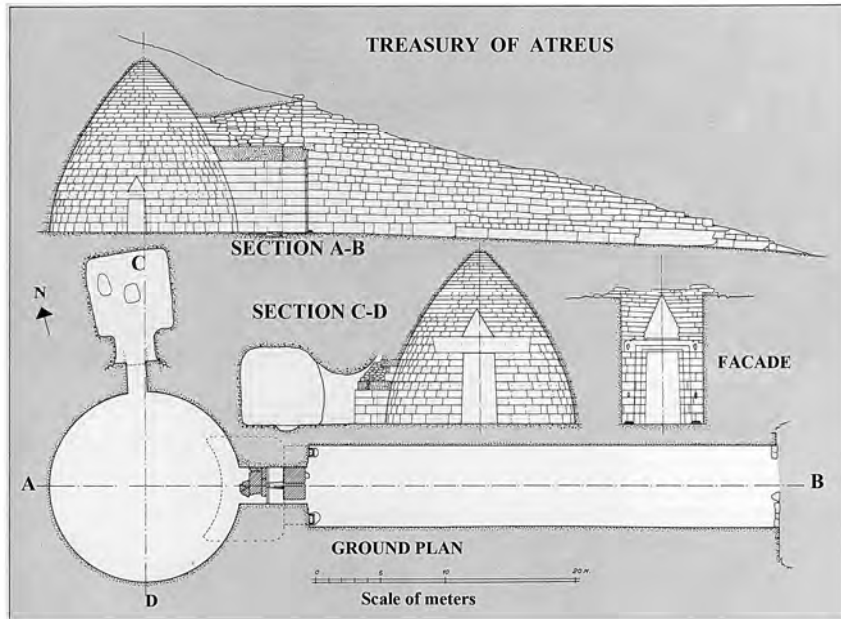


Figure 5: Plans of the three-dimensional Tholos of the Atreus Treasury depicting also the earth on top of the tholos, as exposed at Mycenae, as cited in Giannakos 2012. The plans adapted by the author, from Mylonas 1983, p.169, who cites that the plans are according to the work of A. Wace



Figure 6: Photo of the two-dimensional arc inside the walls at Hattuša with very rough stone fitting