Finds of Mycenaean Technology in the Citadel of Troy and in Levantine Palaces and the Fall of Troy

KONSTANTINOS Sp. GIANNAKOS
Civil Engineer PhD, Fellow/Life-Member of the Americ. Society of Civil Eng. (ASCE)
Secr. Gen. of the Assoc. for the Research of Ancient-Greek and Byzantine Technology (ΕΔΑΒυΤ)
Member of: the Europ. Assoc. of Archaeologists and AEGEUS Society for Aegean Prehistory
108 Neoreion str., Piraeus 18534
GREECE

Abstract: - Cutting-Edge Technology had appeared in Greece around the 6th-5th millennium B.C. and continued to develop uninterruptedly until the Mycenaean era. Archaeological finds document the transfer of Greek Technology, during the 2nd millennium BC, from the Mycenaean Palace centers to the courts of the rulers in Troy, the Levant, Cyprus, Egypt and the Land-of-Ḫatti, and its adoption even in the inner (sacred) Halls of Palaces. Mycenaean influence is apparently connected to the era of great power and economic prosperity of the Palace centers in Greece, before 1350/1320(+)[1] B.C., and not with the era of economic decline and gradual collapse of the Palaces that followed. We infer that this corresponds to the era before-and-after the Fall of Troy.

Key-Words: - Troy, Fall, Mycenaean, Technology, Levant, Cyprus, Egypt, Land-of-Ḫatti, Neolithic, Smelting.

Received: July 15, 2023. Revised: December 21, 2023. Accepted: February 7, 2024. Published: April 2, 2024.

1 Prolegomena

Among the most popular poetic texts worldwide are the Homeric Epics, the Iliad and the Odyssey. It is characteristic that after a B.B.C. special they are ranked tenth and first respectively, in the list of the ten works of the international literature that have shaped the world; this list were sorted and ranked by authors, critics, and academics [1]. The Fall of Troy is conventionally dated to either 1300/1275 ([[2], 142]; [[3], 256, 290, n.15]; [[4], 1:18, 20]]), or *most likely* to 1260(+)/1240 B.C. ([[2], 150, 160-3]; [[5], 297]; [[6], 1:12]), while recently the latter was redated to 1190/1180 B.C ([[5], 301]; [[7], 16]; [[8], 31]).

Based on archaeological evidence, Giannakos ([9], [10], [11]) proposed c.1400±(25-50) B.C. as the chronology of the Fall of Troy (according to Blegen's '*within a generation or two around 1400*' ([[4], 1:301-2]; [[18], 88]), with a non-complete destruction of the city and a subsequent change of Dynasty, during the apogee of Mycenaean Technology and power instead of the post-1340/1315 B.C. period of decline and destructions in the Mycenaean Palaces.

This article examines the influence of Mycenaean Technology in Troy and at the Levant before and after 1400 B.C., since the States with cutting-edge Technology gain military superiority, acquire wealth and expand their sphere of influence either by *power-show* or by their '*way-of-life*' ("*Verseilles' effect*"); the defensive Technology of the fortifications of Troy VI, the results of sedimentary research in the Ileian plain, the finds of Aegean technique in the Levant and the evidence for the copper-smelting know-how since the Neolithic era are presented.

2 Dating the Fortifications of Troy

2.1. Construction phases of the Walls

The paragraphs 2.1.-2.2. are based exclusively on the work of Schlieman, Dörpfeld, Blegen and Korfman, who performed excavations at Troy and had the unrepeatable privilege to be unique in History, who unearthed undisturbed areas of Troy. Blegen [[4], 1:12-4] classified three subperiods of Troy VI, *Early-Middle-Late*, and eight subphases [[4], 1:18-20], *VIa-,…,-VIh*, since at 1963 [[2], 174] redated the end of Troy VI/VIh to 1300 B.C. (**Fig.1**). Troy VIIa was reclassified VIi, as 'Dörpfeld had already proposed on 1935 A.D.' [[2], 144]. 'Each of the subperiods, *Early-Middle-Late*, built its own fortifications' [[2], 116].

Dörpfeld [[12], 1:103, 124, 113] 'discovered the Walls' [[2], 30]], (**Figs.2-6**) and classified one fortification of 'Troy V' plus four (re-)construction

[1] *Meanings in a B.C. date*: plus '(+)' [1600(+)→'before 1600']; minus '(-)' [1600(-)→'after 1600']; plus/minus '(±)' [1400(±)→'c.1400']; bar '(-)' [(25-50)→'between 25-50']; slash '(/)' [1425/1400→'1425 or 1400'].

stages of Troy VI: 'First: Section 5 and Section 7; Second: Section 2, Section 3 and Gate VIS, "so that the castle-area expanded by a considerable extend;" Third: Section 4; Fourth: the addition of Towers VIh, VIi.' Blegen [[4], 1:81, 109, 116, 112] characterized 'essentially correct' this classification: 'the previous fortification of Early VI, which Dörpfeld had attributed to Troy V, has not been demolished all at once', *as expected after a devastating Fall and looting*, 'but piece-by-piece, during successive construction stages.'

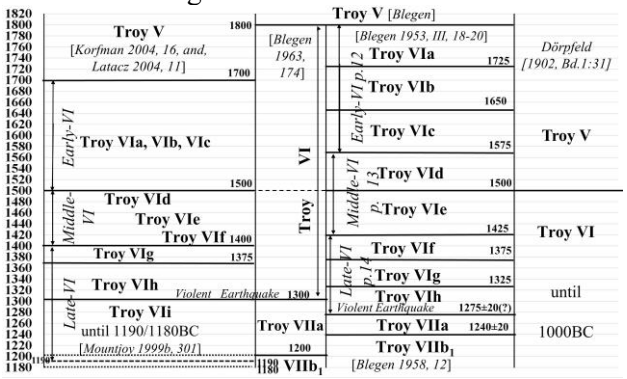

Figure 1. Absolute chronologies of sub-periods and sub-phases of Troy VI, according to: (right) Dörpfeld [[12], 1:31]; (middle-right) Blegen [[4], 1:12-4, 18-20] and [[6], 1:12]; (middle-left) Blegen [[2], 174]; (left) Korfman [[7], 16] and Latacz [[8], 11, figure], who dates the beginning of VIg (namely, of Late-VI) at 1400 B.C., according to Korfman [[305], 18]. Blegen had included Troy VIf in Late-VI. 1190/1180 B.C. is the end of Troy VI according to Mountjoy [[5], 301], as accepted by Korfman [[7], 15].

Architect professor Klinkott [[14], 33, 79-81], Korfman's collaborator, considered 'Dörpfeld's and Blegen's observations on the fortifications as a solid foundation for our research.' The five construction stages of the Walls of Troy VI are:

1) The older fortification, 1,00-1,30m thick [[12], 1:104, 124], is dated well-back at Early VI [[4], 1:111-2, 104, 81], as early as the seventeenth century [[14], 79]. Its remnants (**Figs.2-3**), behind the visible Walls at a variating distance ([[12], 1:103-4, figure 31]), are located:

beneath Houses: VIG, Pillar and VIA – closely behind Section 5 ([[4], 1:111-2, 190-1: 'early-VIe', 131, 219-20; 2:461-5 plans]; [[2], p.116]]).

at Sections: a part of Section 7 and, probably, the part of Section 6 which was founded on burnt debris of Troy V [[4], 1:106-7], and,

at Gate VIU and the, dated to Early VI ([[4], p.1:113]; [[14], 69,59, 79-81]), *Gate VIZ* (**Fig.9**).

From these remnants we infer the trace of this fortification (**Figs.3-6**: the blue triple dashed-line).

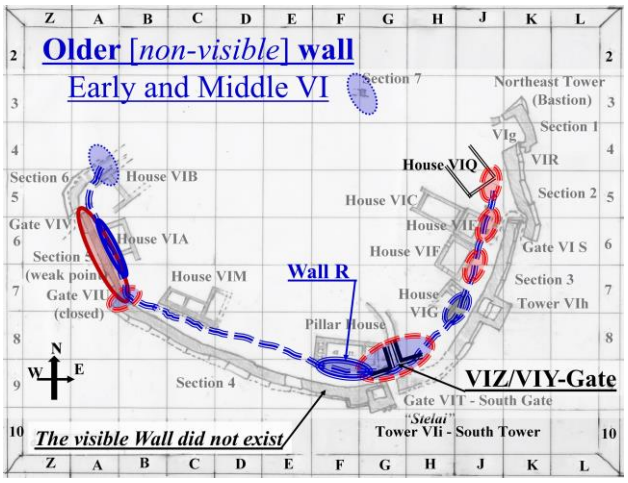

Figure 2. Walls of Early and Middle Troy VI: (a) Early VI Wall with blue; (b) Middle VI with red; (c) The Gates VIU and VIZ existed at Early VI (blue shadow) but both were reconstructed during Middle VI, when VIZ replaced VIY (red line); (d) Section 5 (dark red ellipse) was constructed in front of the earlier Wall (blue ellipse) underneath the external wall of House VIA. The visible today Wall did not exist then.

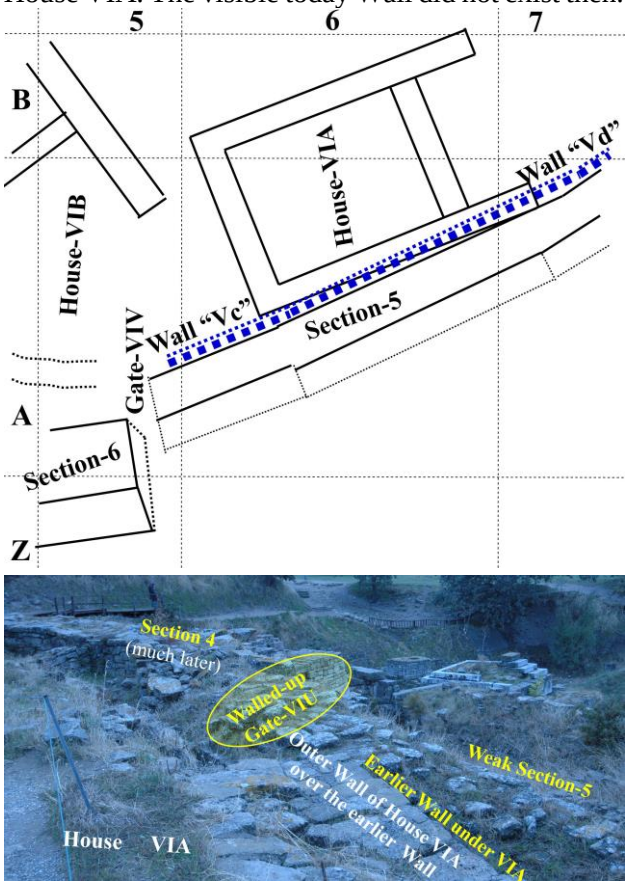

Figure 3. (Upper) the older Wall 'Vc'-'Vd', longer than 35m, is located beneath the outer wall of House VIA and in contact to its successor, the 'weak' Section 5 [plan-view based on [[4], 2:Fig. 503]. (Lower) [photo by the author]; The walled-up today Gate VIU, the House VIA: under its outer wall the earlier Wall is located in contact to the Section 5.

2a) *Section 5*, in average 2,70m thick ([[4], 101-2, 111, 163, 219]; [[2], 123: half of Section 4: 5,00/2]; [[14], 68:'<3,00m', 79-81]; [[12], 1:124: 3,00m]) is 'the last surviving piece of the older fortification,' [[4], 1:109] and 'presents three (re-)construction stages' [[14], 69-70], which resulted probably by *attacks against the, adjacent to it, 'Scaean(s)'=left/western* [Liddell-Scott [23]] *Gate VIU*. Section 5 was 'founded on a layer that contained a good deal of pottery of Early and possibly Middle VI; it cannot have been erected before *late*-"*Early VI*"' (1550-1500(+)), '*but its north end* points to an *early-VIe* dating, *perhaps slightly earlier than the Wall R*' [[4], 1:**111**, **191**, 200, **219**-20, 254], namely at 1500/1500(-) B.C..

2b) The *First Reconstruction* includes an increase of width 1,20→3,50m (**Fig.2**), on *the same outline of the Early VI Wall* ([[14], 79, 70]; [[4], 1:194]). 'Dörpfeld and Blegen [[4], 1:**111**-2, **194**, 81] found its traces at some Houses (Pillar [*Wall R*], VIG, VIF, VIQ), at the Gate $VIU_{(f\text{-}h)}$,' and 'behind "Section $VI_{19\text{-}20}$"'/'Bastion VIk' ([[14], **79**, **68**]; [[4], 1:**111**-2, **194**, 81]; [[12], 1:124]). This 3,50m thick Wall of 1500-c.1490 B.C. ([[14], 75-6, 79: 'early-fifteenth century']; [[4], 1:111: 'early-VIe']; [[12], 1:123]) is 'twice as strong'[2] [[14], 68] compared to 2,70m of Section 5, which constituted probably an initial phase to strengthen the pilaster-Wall of the Western/'Scaean(s) Gate(s)'.

3) The *Second Renovation*, 5m thick ([[14], 61-2, 70-1]; [[12], 1:124]; [[4], 1:84-5 'Section 2: 4,50m, 3: 4,75m']) at 1425(-)/c.1410 B.C., ([[14], 42-4, 79-80: 'VIf-beginning']; [[4], 1:111 'VIf not far from 1400]), includes walls behind the Gate VIU [[14], 79], the Sections 2-3, and the Gate VIS, without its overlapping wall (**Fig.8**). Sections 2-3 (**Fig.4**) were built outside the wall of Early/Middle VI [[4], 1:112, 81], 'which *had neither perished in a great catastrophe nor been thoroughly destroyed but was gradually replaced*'[[12], 1:124, 107]. 'The Pillar House' touched the earlier Wall and 'served a military purpose during Troy VIf [[4], 1:187, **228**-9, 232-3] (1425-1400 B.C.) since seventeen terracotta-pellets/sling-bullets [[4], 2:305: photos] were unearthed there;' afterwards, it 'functioned as spinnery or workshop (VIg) and dwelling house (VIh)' [[2], 133]. *These finds point towards a pre-1400 B.C. siege*.

4) The *Third Building stage* (c.1390 B.C.) ([[2], 124: 'early-VIg']: [[14], 80: 'early-fourteenth century]), 5m thick ([[14], 61, 70-1]; [[2], 123]; [[4], 1:106]; [[12], 1:112]), includes Sections 4, 6 (*built outwards too*), the 4,65m thick Bastion VIk ([[14], 79]; [[4], p.1:93]) and the Gate VIUi-k (**Figs.5, 9, 14-15**).

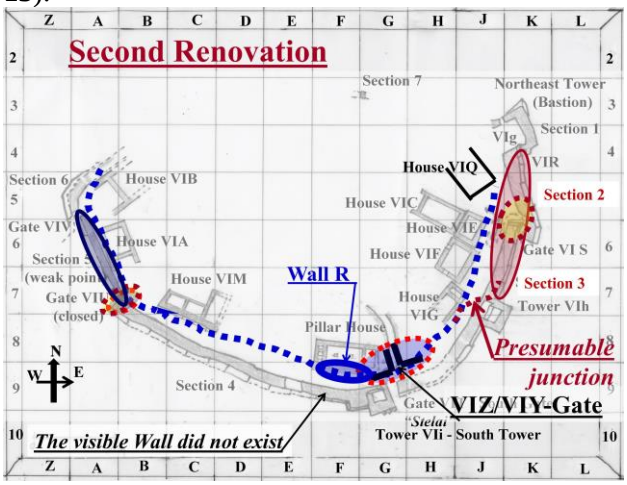

Figure 4. Walls of Troy: *Second Renovation* (with dark red color); the, belonging to this phase, Gates VIS (without its overlapping Wall) and VIU are marked with dark red ellipses and yellow shadow. Earlier Wall-Section 5 is marked with dark blue.

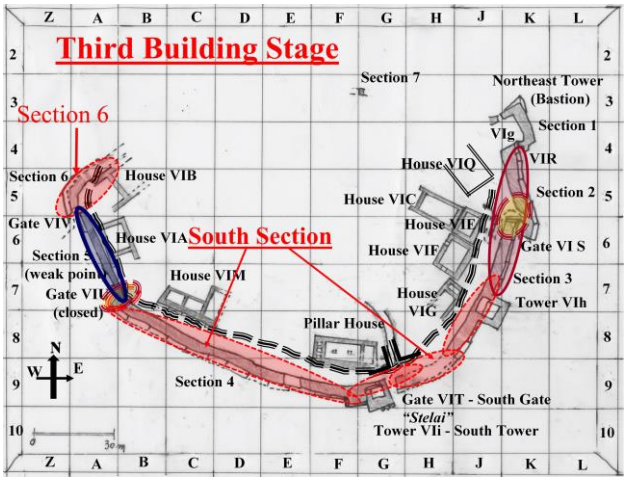

Figure 5. Walls of Troy: *Third Building Stage* (with red color) which supplemented the previous *Second Renovation* (with dark red color); after this stage the earlier Wall (black triple dashed line) was not used with the exception of its part at the area of the *Gate VIU* (see below the description for this Gate). Earlier Wall-Section 5 is marked with dark blue.

5) The *Fourth Supplementary stage* (1250-1190 B.C.), includes the attachment of the Towers VIi, VIh and the overlapping-wall of the Gate VIS [[14], 80-1, 68]; the Tower/Bastion VIg was dated with great discrepancies: 'after Section 2' [[2], 119], 'with Section 4, earlier than the Towers VIh, VIi' [[12], 1:139, 115], or at 1250-1190 B.C. [[14], 80-1]

[2] Relation between the *Horizontal Moments of Inertia*: $(1*\mathbf{3,50}^3)/(1*\mathbf{2,70}^3)=2,20$.

(**Fig.6-Lower**). Potsherds dated to Middle VI (1500-1400 B.C.) were found at the junction between the Bastion/Tower VIg and the ditch of the stone foundation of the mudbrick wall of the lower town [[8], 30-1, 11] (**Fig.6-upper**); these finds warrant the dating of the construction of the mudbrick wall at its joint with the Bastion VIg. The internal stair leading to the interior of the castle is contemporary to the mudbrick wall, some postholes between the two staircases are dated even earlier ([[8], 30-1, 11]; [[15], 17-9, by Aslan, 42]; [[12], 144-50]; [[4], 1:82]) and an inner floor of Troy VI overlies 'older foundation layers' (**Figs.7, 22**). *An earlier defensive structure existed, obviously, at this area*.

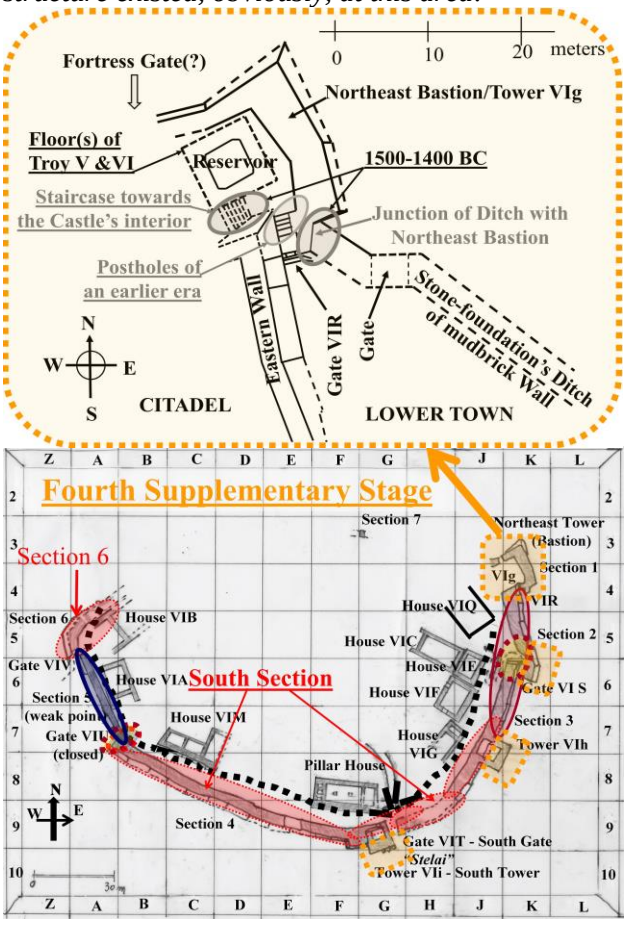

Figure 6. Walls of Troy: the *Fourth Supplementary stage* with orange (lower) and detail of the Tower VIg (upper). *Section 5* is marked with dark blue. The *Second Renovation* is marked with dark red (**Figs.4-5**). The *Third Building Stage* is marked with red.

During the *Second Renovation* and the *Third Building stage* (1425(-)/c.1410-c.1390 B.C.), the earlier Walls were demolished, shifted outwards in plan-view and rebuilt at the outline of the preserved to-date Walls (**Figs.4-5**), contemporaneously to Blegen's '*vigorous/thorough housecleaning*' ([[4], 1:301-2, 110-1, 200, 228-9, 241, 254: Troy 'VIg', 263, 278-9, 297]; [[16], 277]). These finds are compatible with non-complete destructions and changes of Kings at Troy. Mellink [[291], 100] supported that the Fall of Troy must have included looting and captivity, but not the great blaze envisioned by Agamemnon [TLG-Hom.*Il*., 2:414-5]; Vermeule ([[17], 142-3]; [[18], 85-8]) searched evidence for a Trojan War in LHII-LHIIIA1 (1600(+)/1500-1390/1370 B.C.). *These demolitions and reconstructions between 1425(-)/c.1410-c.1390 B.C. appear to be this evidence* (**Fig.5**).

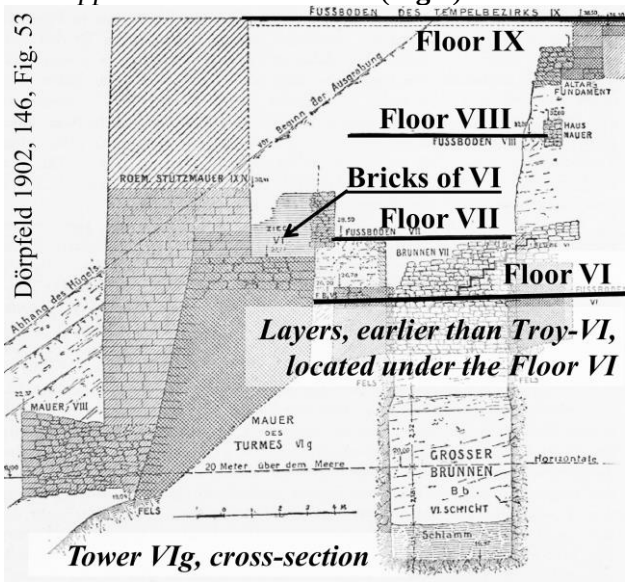

Figure 7. Cross-section of the Tower VIg, with bricks of Troy VI and Floors of Troy VI-IX [designed by the author based on [[12], 1:146, Figure 53].

We recall:

1. The Argonauts killed Trojan King Laomedon and his sons but enslaved his youngest son *Podarkes*. Hercules lent *Hesione*, Laomedon's daughter and Queen of *Achaean* King (of Salamis island) Telamon, money to purchase her brother, thus Podarkes was permanently renamed Priam/Πρίαμος='Purchased' [TLG-Liddell-Scott-Jones: *πρίαμαι/priamai*] and enthroned King, by the Argonauts.

2. The demolition(s) of Wall-section(s) '*by the Trojans to fit the Trojan-Horse and pull it inside Troy*,' according to Mytilenean Lesche(o)s (eighth-seventh century B.C.), an act that caused the Fall; Lesche(o)s transfers likely faded memories of these demolitions due to the Fall, presumably connected to a dynastic change ('Priamids'→'Aeneads') ([[306]; [TLG-Proclus.*Chrestomathia* 233-235: Lescheos' 'Little-Iliad']; [TLG-Paus.*Graec.descr*. 10:26:1:12-10:26:2:8]).

2.2 Reconstructions of the Gates of Troy

The Gates are vulnerable points in fortifications, where the attacks are directed; they must be secured

sufficiently [[14], 77]. Their reshaping(s) are easier than the redesign of the curtainwall.

1) *The Gate VIS* (**Fig.8**) operated without flanking protection until c.1250-1190 B.C., when the overlapping wall *a-g-g$_1$-f-e-d-a$_1$-a* was constructed beyond *ag/a$_1$g$_1$* ([[12], 1:124-8]; [14, 42]) and *functioned as a Bastion*.

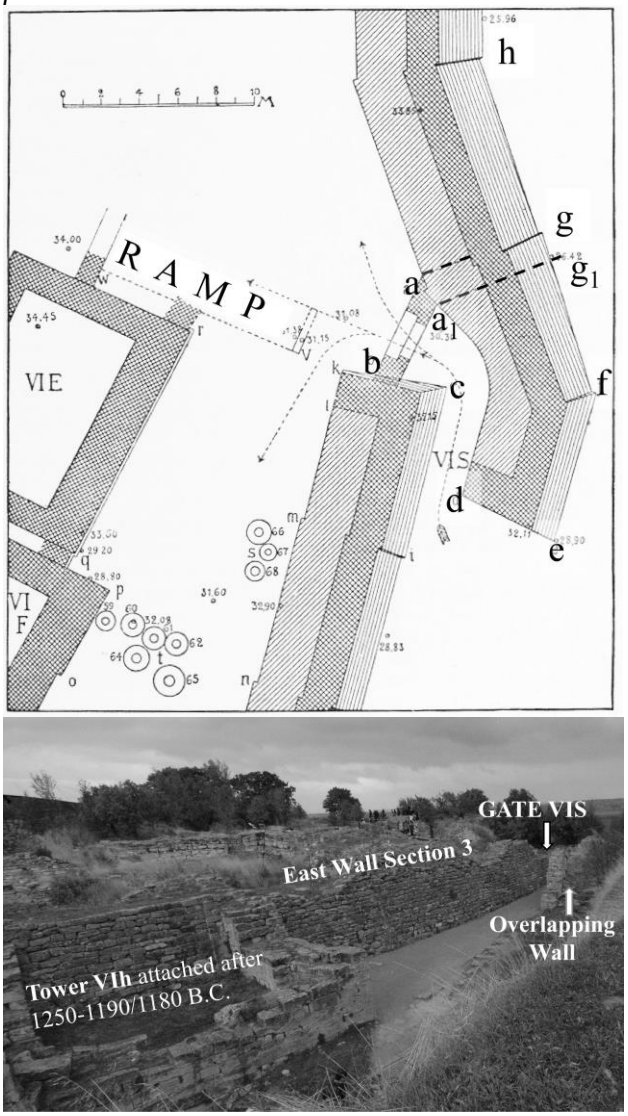

Figure 8. (Upper) the Gate VIS, before (at a_1g_1) and after the construction of the overlapping-wall (a-g-g_1-f-e-d-a_1-a), which functioned as a Bastion [based on [[12], 1:127, figure 40]; (Lower) photo [shot by the author].

2) The *South-Gate* (VIT/VIY/VIZ) presents four reconstruction stages (**Fig.9**):

- *Gate VIZ* at Early VI ([[14], 59-61]; [[2], 117]);
- *Gate VIY*, reoriented, shifted a little to the west and twisted, replaced *Gate VIZ*, at 1500-c.1400 B.C. [*ibid.*].
- *Gate VIT* replaced *VIY, when the castle was enlarged to the south in the new line of defense* [[14], **59**, 80], at 'early-"1400-1375"'=c.1390 B.C..
- *The Tower VIi* flanked, at 1250-1190 B.C., the *Gate VIT* and embodied the Bastion VIk, the *previous flanking protection* since c.1390 B.C. [*ibid.*] (**Figs.9, 17-upper**).

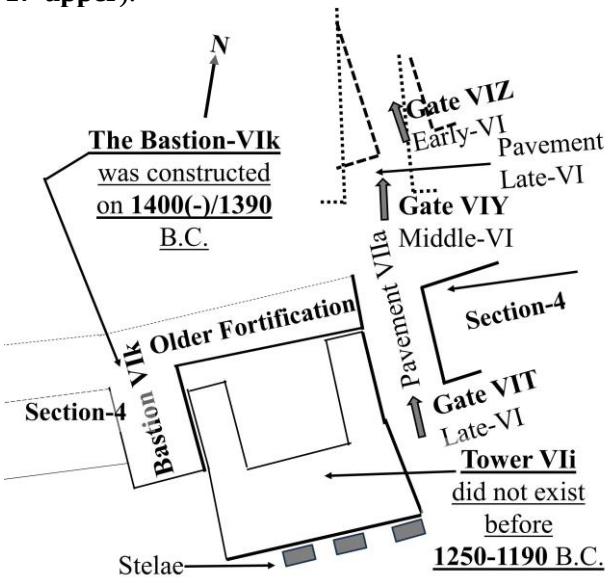

Figure 9. The South Gate VIZ/VIY/VIT.

3) *The Gate VIV* of 'barely 1,50m opening' and 2,50m width (**Fig.10**) is rather narrow for a gateway of any importance with a pillar/stele like a guard ([[4], 1:104]; [[14], 70-1]). Section 6 extends 5m westwards beyond Section 5 as a Bastion; a roadway, along Section 5, turned sharply eastwards through the opening, since the attackers were shot from both Sections [[2], 123-4].

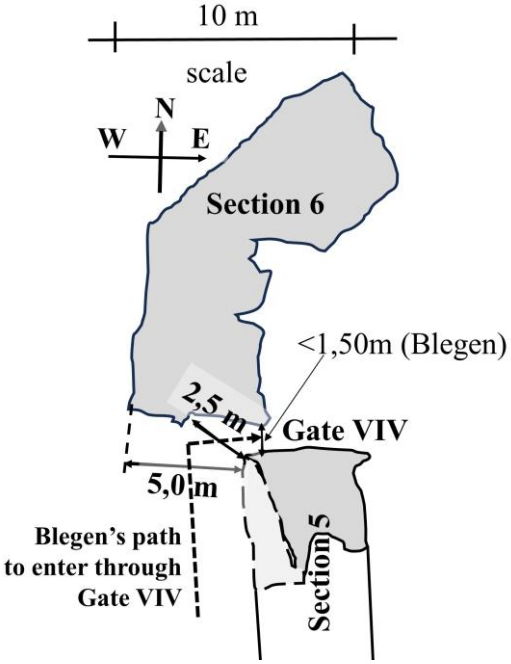

Figure 10. The Gate VIV. [The Figures 9, 10 were designed by the author based on [[4], 2: figures 452, 504].

4) *The 'very important' Gate VIU* with 3,60-4,0m opening was 0,40-0,80m wider than the Gate VIY/VIT; 'the remains of three gates one on top of the other' were revealed there ([[14], 64, 66, 63: 3,60m]; [[22], 38]; [[12], 1:135: 4,00m]):

- *Gate VIUat-f* was wide enough for a chariot or carriage, existed during the *Early* and *Middle VI* periods, and belonged to the earlier Wall *a-b-c-d-e-f-g-h* (≤1m thick) behind Section 5 (**Fig.11**). At location *e*, this older wall jumped 1m out of flight against the enemy side towards location *d* and, with *c-d*, formed a nearly 4,50m wide *Bastion e-d-c* protecting the *Gate VIUat-f*. Today, only a joint in the masonry, the right eastern corner of this Gate, is preserved [[14], 66]. 'A ramp of 1:4,60 inclination of a road towards Skamander river through Gate(s) of the lower town' ([[14], 65-6]; [[22], 39, Ab.34, 38]; [[35], 37]) has been unearthed *which should be attributed to the Third Building stage*, since, 'immediately outside the Gate VIU, in Square A7 (**Fig.5**), strata of Early VI were excavated,' contemporaneous to the *Wall a-b-c-d-e-f-g-h*. 'Their presence allows us to conclude that *this earliest road up to the citadel must be sought further to the South-East*' [[15], 77].

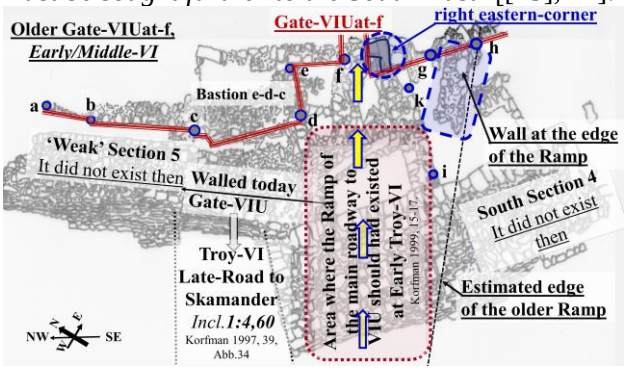

Figure 11. The earlier *Gate VIUat-f*, wide enough for a chariot/carriage. [The plan-views of the Gate VIU used in **Figs.11-14** were designed by the author based on [[14], Tafelns 21-22]. The detail of the 'right east-corner' of *VIUat-f*, in the blue dashed circle, and the wall at the 'edge of the Ramp' ('Rampenwange') in the blue dashed parallelogram, were designed after the photo (Abb.31) shot and presented by Klinkott [[14], 44]. The earlier ramp with the road on it, in the dark red parallelogram with dotted lines, was designed after [[15], 15-7]; this ramp was later partly covered with earth and the Section 4 was built on it. The photo (Abb. 36) in [[22], 40] presents this road as it was unearthed by Korfman under the Section 4.

- *Gate VIUat-f was afterwards closed and placed higher* bordered by two 1,20m wide wall-strips at VIUf, VIUh. This relocation led to the formation of a 3,50m wide *Gate VIUf-h* (**Fig.12**), 2-3m away from the '*Tower-like*' Bastion *e-d-c*, on the axis of the earlier ramp (with increased inclination now). The Gate VIUf-h allowed the most unhindered passage of vehicles [[14], 66].

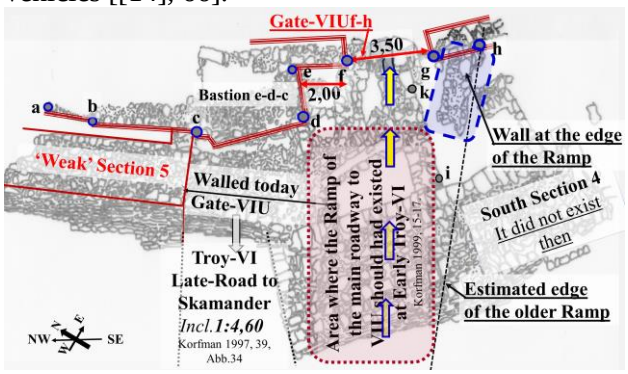

Figure 12. The Gate VIUf-h, of 3,50m opening, was placed higher but on the axis of the older ramp (with dark red color), whose inclination had increased now.

- *Gate VIU*, during *the Third Building stage*, was a wide *'external opening in the new much thicker Wall, moved 3m to the northwest* (**Fig.13**). It was not on the axis of the older Gate VIUf-h, which initially had remained in function with (a part of) its ramp; the Wall *a-b-c-d-e-f-g-h* still had to be maintained there.' The Gate VIU 'served as a Propylon/"Vortor"' of VIUf-h; 'an "annoying-for-the-traffic" corner at VIUd still remained in the very narrow space between the two fortifications' ([[14], 66, 77]; [[4], 1:109, 165]) (*a-b-c-d-e-f-g-h*, Section 4). After the

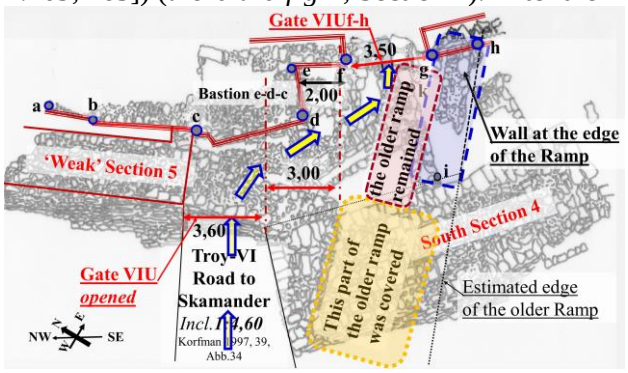

Figure 13. At c.1390 B.C., the *Gate VIU* was opened 'in the new much thicker wall, located c.3m to the northwest as Propylon' to the Gate VIUf-h. The earlier ramp was partly covered by earth (orange rectangle with dashed line) so that Section 4 was built (on it); a part of the ramp remained (dark red).

construction of the, functioning as a Bastion, Section 4 over a part of the earlier ramp 'that had been covered by earth', the 'access to the citadel,' via the Gate(s) VIU-VIUf-h, '*was very difficult, if it was possible at all due to elevation differences at that time*' (**Fig.13**): 'the access to the citadel was less important than a better defense of the Gate' [[14], 66,

77].' Finally, 'the Gate VIUf-h was walled up, and a new access-road was created, leading around the "dressed end" of Section 4 with an almost 90° turn to the east' towards the Gate VIUi-k ([[4], 101]; [[14], 65-6]) (**Fig.14**) of 1,25m opening, *which was no longer an option for wagon-traffic* ([[14], 65-6]; [[2], 123]; [[4], 1:101-2]); a Gate-lock appears to have already been there in '*Dörpfeld's Third Renovation*' [[14], p.67] (c.1390 B.C.). The elevati-

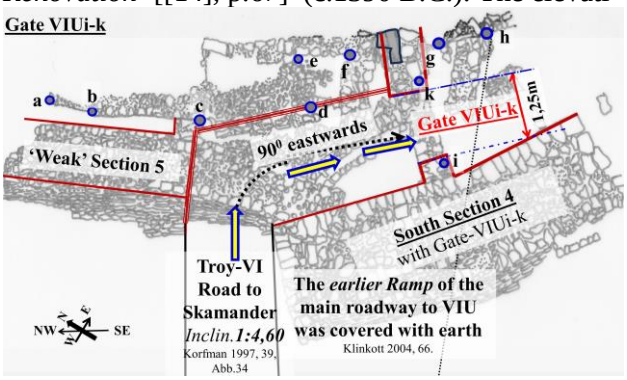

Figure 14. The Gate VIUi-k was reoriented 90⁰ to the East and had 1,25m opening; it was no longer an option for wagon-traffic. It presented an inclination from 45,00% (*min*) to 59,30% (*max*).

ons of the floor of the Gate VIU [+25,00m], the soil at Houses VIM [+30,60m], VIA [+30,80m] and behind the Gate VIUi-k [+29,75m] (**Fig.15**), 'presented too steep rise(s) of 4,50-4,75(+)m in 8-10m;' the inclination (45,00-59,30%) was prohibitive for vehicles, while 'it was a great advantage for defense' ([[14], 65, 67, 72]; [[2], 123]). The ramp of 1:4,60 inclination (21,74%) was very steep too.

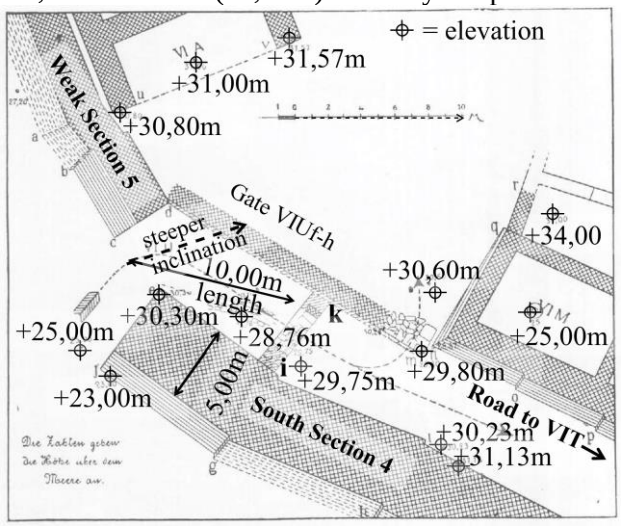

Figure 15. The absolute elevations are measured from the sea-level; a part of the older ramp had been covered with earth, Section-4 was built on it and the inclination towards the previous Gate VIUf-h was more steep. The new ramp leading to Skamander (1:4,60) presented a too steep inclination (21,74%) too. [Based on [12, p. 1:136, figure 46)]].

• *Gate VIUi-k* was finally walled-up after 1190/1180 B.C., as its precedent VIUf-h during the apogee of Mycenaean power, at 1400-c.1390(-) B.C.; Dörpfeld believed that the Gate VIU was walled up '*to improve the defense, due to war, which resulted in the destruction of Troy VI*' ([[14], 78-81, 64]; [12, p.1:137-8]).

2.3 The Ileian Plain and the Scaeans Gates

The geography of the Trojan Plain has been the subject of research since Strabo (64 B.C.-24 A.D.) until today ([24]; [25]; [26]; [27]; [28]; [29]; [30]). Radiocarbon datings of geological specimens imply that at c.1300 B.C., a deep gulf intruded in the plain, since marshes existed around the estuaries of Skamander and Simoes rivers ([31]; [[280], 182]). In **figure 16**, the double-line ellipse depicts the location of the Greek Camp and Ship Station, while the dashed-line with an arrow-ending determines a probable route towards Troy, over the, still existing today [Hom.Il.: 11:160, 20:427: πτολέμοιο γεφύρας=bridges of war=river fords], *fords of Skamander river* ([[31], 165-6]; [[28], 38-9]; [[29], 115-120]).

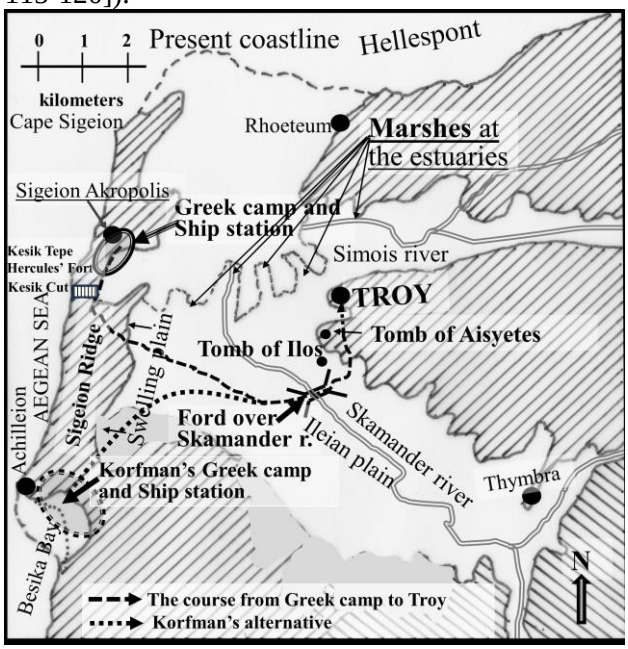

Figure 16. The Ileian plain at c.1300(+) B.C., the Greek Camp and Ship Station below the Sigeion Ridge, according to Kraft et al. [31] and Luce [[98], 111-163]; the Ship Station at Besika Bay according to Korfmann [[33], 12-13]. Two alternative courses were designed from both afore-mentioned Ship Stations to Troy, through the river-fords over Skamander river. [Designed by the author, based on: [34]; cf. similar maps in [[8], 7], and [[32], 129].

Homer locates the Greek Camp and Ship Station '*by the wide Hellespont*' [TLG-Hom.*Il.*:7:84-86,

17:429-433; 15:431-435], the opposite of today's 'narrow Hellespont'. Strabo tried to define their location at the inland of the gulf. Korfman [[33], 8-13] proposed Besika Bay (**Fig.16**), since Hellespont could not offer convenient anchorage due to strong currents. However, no port installations have been found at Besika Bay yet; consequently, merchant ships could not probably anchor there [[8], 292, n.50, 41]. Nevertheless, at 1300(+) B.C., a, silted today, leeward anchorage existed below the Sigeion ridge (also [[33], 8], [[32], 129]), '*by the wide Hellespont*,' without marshes, therefore the Greek Camp could be developed therein [31].

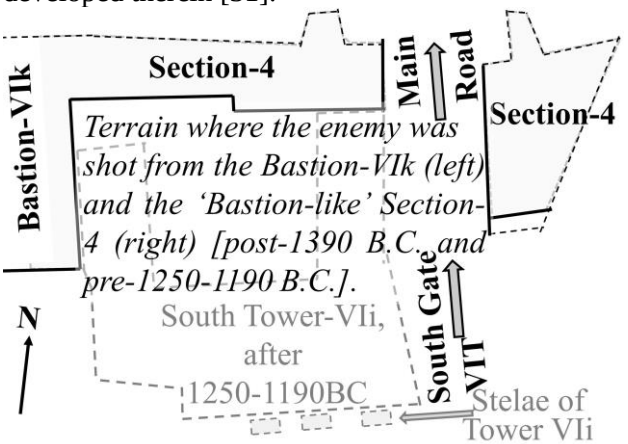

Figure 17. (Upper) The Gate VIT, the Tower VIi, the apotropaic Stelae in front of it and the Bastion VIk. [Designed by the author based on [[14], Tafel 16]; (lower) photo [shot by the author]. See also **Fig.9**.

The courses, from both anchorages to Troy, turned northwards after the Skamander's ford and led to the 'Scaeans Gates' VIU (and VIV) [[2], 123-4]. 'The Tower VIi together with the row of apotropaic stelae lined up on its façade alongside the Gate VIT (**Figs.9, 17**) are the hallmarks of the great importance of this Gate; both are missing from the Gate VIU.' However, the addendum of Tower VIi is dated to 1250-1190 B.C., *approximately two centuries later than the easily accessible Gate VIUf-h*. 'A built-up fragment of a stela/stele in the Wall indicates that the Gate VIU was also placed under divine/apotropaic protection; its convenient location and the width of its opening *make it suitable for the main entrance of Troy*' ([[35], 2]; [12], 1:138]; [[2], 1:101, VIU: 050m broader than VIT]). The later sanctuaries of the Greek era could have been built on top of previous ones and the cave with the sub-terrainean spring further afield infers that cultic connections also existed there [[14], 62-5, 77].

Troy II (2600-2350 B.C.) disposed two main-Gates (**Fig.18**): the southern-FO and the western-FM, which had a small lateral sally-port [[2], 60-5]. 'The roads leading to these Gates have also been maintained until Troy VI' ([[14], 55, 63], leading to the Gates VIT, VIU, VIV, but after 1400/c.1390 B.C., '*the wagon/chariot-traffic was very difficult or impossible through the Western/"Scaean(s) Gate(s)"* (VIU-VIUf-h and VIUi-k), *due to elevation differences*.'

However, the Iliad describes that martial chariots [TLG-Hom.*Il.* 3:259-64, 11:165-85, 16:710-5] exited '*to the plain*' and reentered the citadel easily and systematically through the 'Scaeans Gates,' which were adjacent to a '*weak Section and a Tower*,' from where the elders watched the battles ([TLG-Hom.*Il.* 6:431-9, 3:146-155]; [[2], 14-5]].

Consequently, *the Iliad maintains a pre-1400/c.1390 B.C. memory* of the Gate VIUf-h with '*the most unhindered passage of vehicles*,' the '*Tower-like*' Bastion *e-d-c* and the *weak Section 5* (2,70m<3,50m of *a-b-c-d-e-f-g-h*).

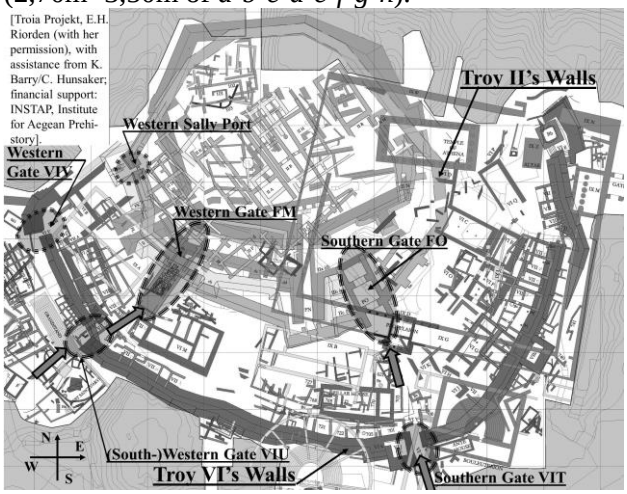

Figure 18. Troy II: two main-Gates (FO-south, FM-west-southwest) and a western sally-port as in Troy VI (VIT, VIU and VIV); based on E.H. Riorden's map of Dörpfeld, (with her permission), with assistance from K. Barry/C. Hunsaker (Troia Projekt) and financial support: INSTAP, Institute for Aegean Prehistory; [[13], 34].

2.4 Mycenaean Technology in Troy VI

Archaeological finds document that, by c.1400 B.C., the *Mycenaean ceramic objects of daily luxury* increased greatly in the Houses inside the Walls

([[295], 146-7]; [[296], 371]; [[4], 1:139]), namely, *the Houses of the Reigning Family and its highest officials*; this evidence suggests that after 1400 B.C., the new pro-Achaean, as the author proposed, Royal Family at Troy *was strongly influenced by the Mycenaean way of life*. It has to be underlined also that the unearthed biconvex seal, 'with hieroglyphic script generally used by the Hittites,' is dated to Troy VIIb2 (post-1150 B.C.) ([[312], 115-8]; [[8], 49]; [[313], 361-2]), while 'not a single object of any kind, which can be called Hittite, has been identified in Troy VI' [[297], 11].

In Greece, fortifications with Bastions and Towers, the predecessors of the Mycenaean fortifications, existed at Lerna (2650-2100 B.C.), Syros (2300-2100 B.C.) and Aegina (2200-2050 B.C.), as the plan-views of the fortifications depict (**Fig.19**) [cf. also: ([[316], 158]; [[317], 26-27]). At c.1400/1400(-) B.C., Bastions flanked the Gates at Mycenae and Tiryns (**Figs.20-21**) [[118], 287].

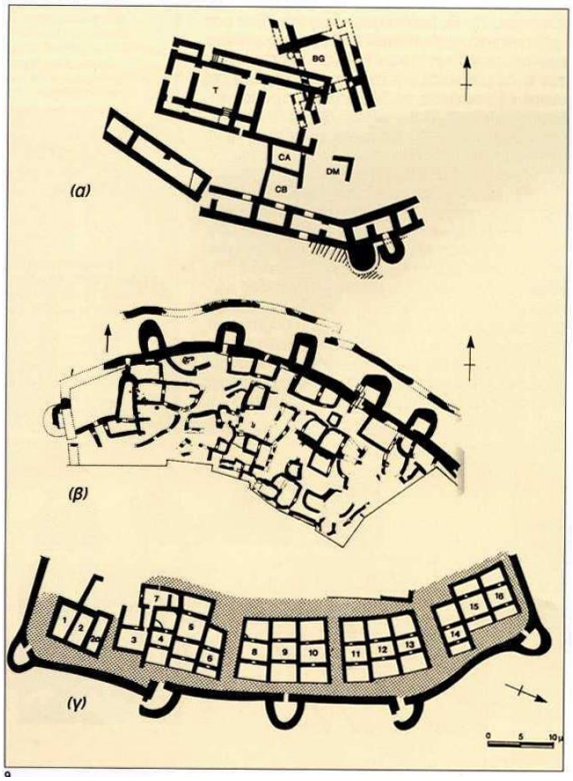

Figure 19. Fortifications at Lerna (upper, α), Kastri of Syros (middle, β) and Aegina Kolonna (lower, γ) [[314], 16; courtesy of prof. Palyvou].

According to the archaeological finds, the Gates of Troy VI 'were constructed without flanking protection; later, Bastions flanked the Gates' [14, p.75] VIV, VIU, VIT and VIS: the plan-views of the Gates of Troy were changed and bastions were constructed at c.1390 B.C.: (a) the Bastion VIk at the South Gate-VIT, (b) Section 4, which functioned as a Bastion both to the Gate VIUi-k and the earlier pair of Gate VIU (Propylon) and VIUf-h, (c) Section-6 was constructed and functioned as a Bastion to the Gate VIV since (d) the overlapping Wall was later (1250-1190 B.C.) added as flank protection at the Gate VIS. *This design 'has no resemblance either to Hittite, Syrian or Mesopotamian comparative examples and corresponds more to the Mycenaean West'* [[14], 75].

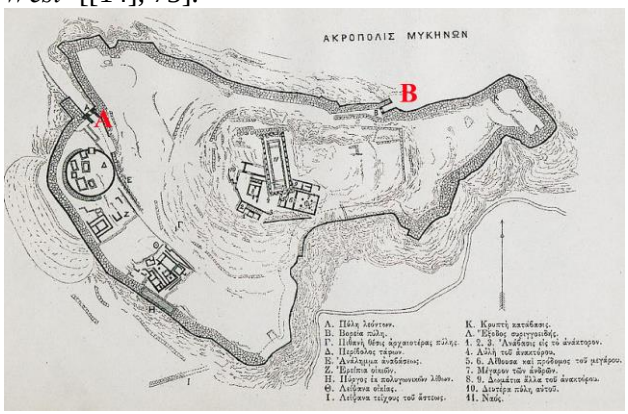

Figure 20. Plan-view of the citadel of Mycenae. Red (A) marks the Lions' Gate, (B) the sally port, both with flank protection by Bastions (from [[317, Πίνακας (= Table) 1]).

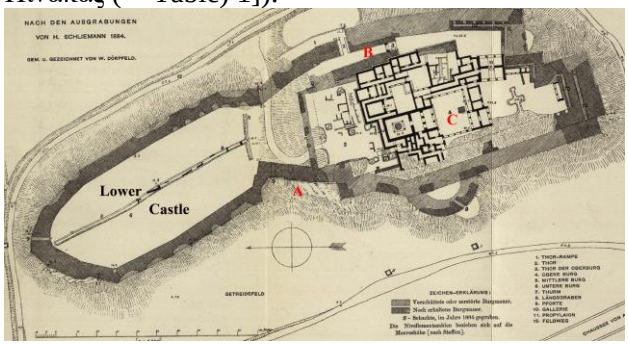

Figure 21. Plan-view of the citadel of Tiryns. Red (A) Area of the door ('pforte') which was protected by one Bastion at each side, (B) inner Gate leading to the Upper Castle (C) protected by two Bastions and the Lower Castle (from [[318], Tafel (= Table) 1]).

'The antiseismic building-method of the Houses' and the 'finishing of the floors with Quicklime', which 'like the Mycenaean pottery was probably imported from Greece (or another region)', are 'similar to the Mycenaean architecture in palaces and castles' ([[2], 134]; [[12], 1:111]). 'The undulations of the joints at the lower areas of Sections 2-3 and Tower VIg is a characteristic antiseismic technique attested at the feet of the side-walls of Dromos of Atreus' Treasure' [[14], 44]. It should be underlined that the lower part of the Tower VIg is dated to Troy VI (**Figs.22, 7**).

'It is not coincidental that Section 4,' *which functioned as a Bastion*, 'appeared with the fortresses of Mycenae and Tiryns' [[4], 1:112].

Dörpfeld [[12], 1:107-181], who 'found *the Walls in association with much Mycenaean pottery*' [[2], 30], characterized Troy VI as '*Mycenaean castle*.'

In the House VIA a thick layer of *Ash from Hearths* was found approximately in the middle of the Hall, in a manner similar to that found in the megara of *Tiryns* and *Mycenae* [[12], 1:152]. It has to be reminded that "Hearths are the representative core, of Mycenaean rulers' residences, since MH/EH and even earlier at Dimini/Iolkos (3700-3550 B.C.)" [[11], 37: photos and bibliography].

The afore-mentioned archaeological evidence suggests that a pro-Achaean Royal Dynasty in Troy, after c.1400 B.C., had adopted Mycenaean everyday luxuries and building and defensive standards; the Towers, 'characteristic of the Hittite defensive architecture' [[14], 76, 80], *after 1450 B.C., since it was Ḫantili II, who built this kind of fortification* ([[319], 298]; [[313], **113**, 420]; [[320], 25-27]; [[321], 163-4]; [[324], 200-06]; [[325], 42]; [[9], 59-60]), were added at the Gates of Troy VI at 1250-1190 B.C..

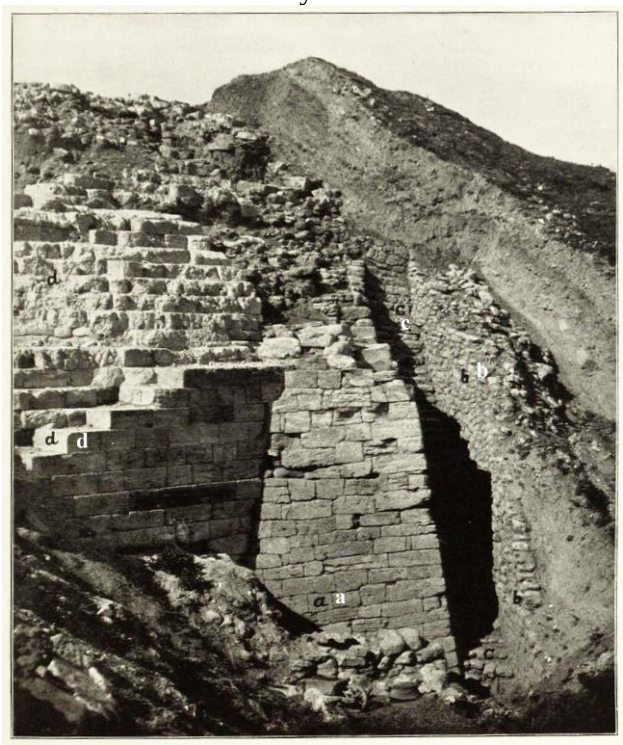

Figure 22. The Tower VIg: the lower area (a) is dated to Troy VI [[12], beilage 22 zum S. 144].

3 Eastern Mediterranean and Aegean Sea: Finds of Mycenaean Technology

3.1 Aegean Sea

The Aegean commercial expansion of Mycenaeans began in the seventeenth century B.C. and accelerated during the sixteenth-fifteenth centuries ([[350], 141-2]; [[296], 381]; [[346], 202: LHI-LHIIA]). Southwestern Asia Minor (Miletus V) and the nearby islands had already received a first influx of Mycenaean colonists by the sixteenth century, who followed and violently conquered former Minoan colonies and replaced the Minoans ([[347], 103]; [[349], 10-16, 20]).

The prevailing historical scenario for the 'arrival' of the Mycenaeans in Crete supports that Greek-speaking Mainlanders either were responsible for the destructions seen at different Cretan sites in LMIB (pre-1450 B.C.) or took advantage of social and political instability and established themselves as rulers of Knossos and Crete in LMII. The gradual adoption of new cultural elements across the island by LMIIIA2 signaled the transformation of 'Minoan' into 'Mycenaean' Crete [[64], 1031-4, with bibliography].

Figure 23. Aegean Sea, Eastern Mediterranean and the Levant. For Washaniya see [[79], 593].

The statue of Amenhotep III (1414/1390-1377/1352 B.C.), at Kom-el-Hetan, records that the King of Danaja/Mycenae with the King of Keftiu/Crete, leading an alliance of 14(+) lesser-rulers of Mycenaean places (the ruler of Achaeanized ┌Ilion was included), raided Egypt [[11], 26-9. 41-2].

Similar practices are documented *during the second millennium*:

a. Mari's official Itur-Asdu (1750(+) B.C.) wrote to his King Zimri-Lim: 'there is not trully a powerful King, just by himself; twenty (lesser-)kings followed Yarim-Lim of Yamkhad (Aleppo) and ten-fifteen followed each one of Hammurabi of Babylon, Rim-Sin of Larsa, Ibalpiel of Eshnunna and Amutpiel of Qatna' ([[67], 117-8]; [[68], 816]; [[69], 13]);

b. Hittite King Muwatalli II 'brought together' fourteen/twenty ([[70], 117-8]; [[71], 205-6]) lesser-kingdoms at Kadesh (1299/1285/1274 B.C.) ([[11], 66-7]; [[9], 62]).

The Iliad [Hom.*Il.*:2.484-762, 6.33-35, 6.414-417] transfers a similar image of 28 lesser-kings

under Agamemnon against Troy. Memories of Achaean 'operations' against Cyprus and Levant before and after the Fall of Troy are also transferred ([TLG-Str.*Geogr*. 1:2:32:32-40], [TLG-Hom.*Od*. 4:81-91, 120-37, 225-30, 350-5, 14:254-84], [Hom.*Il*. 2:484-762, 6:33-5, 6:414-7]).

Correspondingly, the change of local-dynasty in Troy, the eclectic affinity [[9], 19, 42] of local-rulers on the coastal zone of Asia Minor to the Mycenaeans and the appearance of Mycenaean or Minoan – ritually significant – features in Cyprus and Art [[11], 34-8] at the interior of the Levantine Palaces imply that the Mycenaean King exerted a very strong influence.

3.2 The Levant

Nevertheless, three major hypotheses have been put forward to explain the creation of Aegean frescoes at the inner rooms of Palaces at Alalakh, Qatna, Tel-Kabri, and Tell-el-Dab^{c}a [[72], 210]:

1. Aegean artisans traveled, due to diplomatic-relations, diplomatic-marriages, important political-meetings [[73], 280-8, 295] or gift-exchanges [[75], 88-96].

2. Circulation of goods and ideas: the paintings-motifs could have arrived from decorations on exchanged pottery, textiles [[76], 99, 111-4];

3. Aegean and local artisans worked together and melded their styles [[77], 260].

Hypotheses (1) and (3) infer that Aegean skilled-craftsmen, 'Royal-commodities' ([[343], 685-6, 690]; [351]; [352]; [[11], 35]) had received permission/order to travel [[11], 35, n.84], since they were living under restrictions to prevent them from leaving the Palaces [[78], 247]. Hypothesis (2) does not explain how the Levantines, based on decorations on pottery and textiles, had achieved to a) organize the necessary large workshop(s) with the required know-how of the Aegean plaster-technique for the construction of the plaster-substratum under the wall-paintings ([72] op.cit.), and, b) carry out the extensive and elaborate scenes in Aegean technique in many Rooms *inside the (sacred) Near Eastern Palace*s with Minoan/Mycenaean images of ritual, symbolic and divine meaning, quite similar to the interior(s) of the Minoan/Mycenaean Palaces.

Cities with finds of Aegean Technology in the Levant (**Fig.23**) include:

Alalakh: Minoanizing frescoes – a griffin and a bullhead, a possible double-axe and other features reminiscent of Minoan Crete – were found (MBII=mid-16th century); they were made in Syria under the supervision of Aegean artists, who were sent there in response to a request of a local-élite ([[72], 206-9, 202]; color-pictures in: [[80], 41-3], [81]].

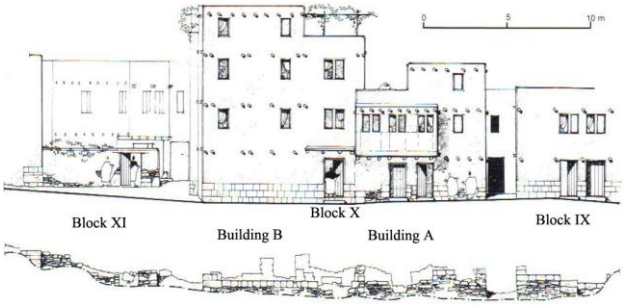

Figure 24. Facades from Ugarit [83].

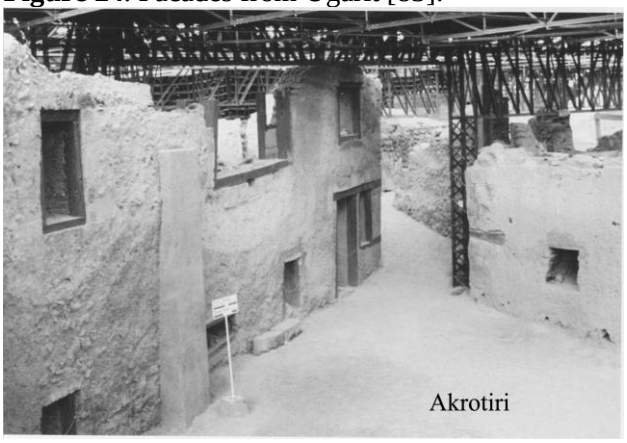

Figure 25. Facades from Akrotiri (author's photo).

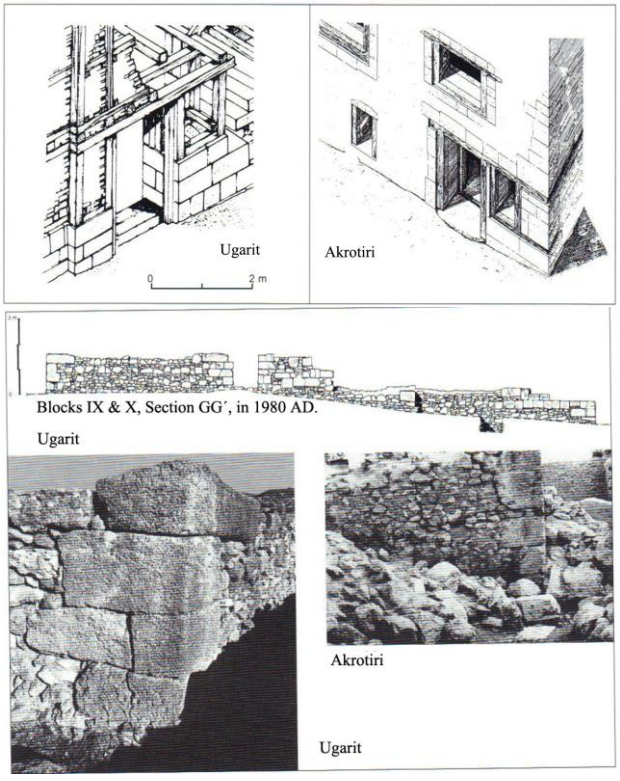

Figure 26. *Upper*: wooden frames for seismic tensile-stresses (left) Ugarit, (right) Akrotiri; *lower*: corner-stones (left) Ugarit (right) Akrotiri ([[82], 45]; [83]). [Figures 24-26 with the permission of prof. Palyvou, who quotes Callot [83]].

Qatna: Aegeanizing frescoes (MBIIB-LBIA-turn=1590/1550–1500 B.C.) and 3.000(+) additional painted fragments – dolphins, turtles, and flora in Aegean style – were found in 14th century's contexts; they had been painted at 16th–15th centuries B.C. ([[72], o.c.: color-pictures]; [[80], o.c.]).

Kabri: small colored pieces in Aegean style – with red, orange, yellow, brown, black-and-white and blue paint –, which had never been found in Israel from this period. The blue pieces are probably part of a white animal outlined in black against a blue background: a griffin's wing (as in Mycenae) or a flying-fish's fin [[80], o.c.: color-pictures].

Ugarit: certain similarities – as the entrance system with the staircase and the square room with the central post – imply that Aegeans built houses for themselves there and thus, propagated concepts of space and structural systems otherwise unknown to the local community [[82], 444-5; cf. [83]]. The architecture of Ugarit resembles signifi-canlty that of Akrotiri (**Figs.24-26**), i.e., before 1613±13-or-1570/1530 B.C. (absolute chronologies in: ([[84], 59]; [[86], 298]; [[87], 4]; [[88], 9]).

Mari: tablets were found, of the kings Yahdun-Lim (1815-1798 B.C.) and Zimri-Lim (1775-1761 B.C.), listing prestigious objects, many of them defined as 'Cretan' (Kaptarītum) or of 'Cretan work-manship': a pair of Cretan boots, shoes, belts, several precious objects from Crete and a quantity of tin delivered to the 'chief of Cretan merchants and his interpreter, in Ugarit'. Furthermore, a journey of Zimri-Lim in c.1765 B.C. from Mari to Ugarit on the Syrian coast is recorded, where Zimri-Lim saw the Cretan fleet ([[89], 119-23]; [[91], 44-5]).

Adana: a Danuna/Danaos King died (1384/1360-1360/1336 B.C.) [[92], 238-9]. The phrase was most likely associated with the (A)ḪḪiya-wans/(A)CHaeans there [[93], 70, 72, 74].

3.3 Cyprus

Cyprus is situated opposite of Lycia, Cilicia, and Levant (**Fig.23**). Mycenaean features – ashlar masonry, large hearths, cult centers, bull figurines, consecration horns, feasting activities, ritual performances, tholos tombs – appear during LCIIA-LCIIB (1425-1340/1315 B.C.) in '*arenas of power* [[360, 442-5]. Destructions during 1425-1375 B.C. and a 'break-in-culture' by 1340/1315 B.C. are also evidenced. A network of fortresses, protecting likely copper sources (**Fig.27**), had been erected/developed by MCIII-LCI (pre-1425 B.C.), reflections of the island's unsettled conditions(?), interrelated with Attariššiya/Atreid; Giannakos published [[11], 16-8] that Hittite perso-nal name Attariššiya = Ateres-(s)i-jo in Linear B, which means "(son) of Atreus" = Atreid [cf. [[94], 34]. This evidence infers that some lesser-rulers in Cyprus were most likely acting as Mycenaean King's allies during LCIIA-LCIIB [[11], 27, 35-39, for analysis, references].

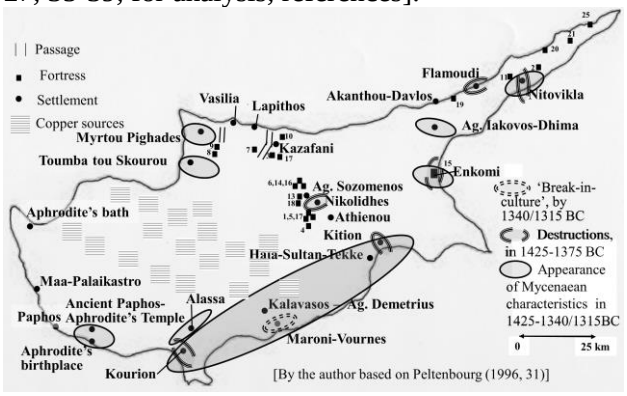

Figure 27. LCIIA-IIB Cyprus: fortresses-network, destructions and appearance of Mycenaean characteristics. 1. Ayios Sozomenos, Nikolidhes; 2. Korovia-Nitovikla; 3. Dhikomo-Pamboulos; 4. Dhali-Kafkallia; 5. Ayios Sozomenos, Barsak; 6. Eylenja, Leondari vouno; 7. Krini-Merra; 8. Asomatos-Potemata; 9. Karpasha-Styllomenos; 10. Bellapais, Kapa-Kaya; 11. Lythangoumi-Troullia; 12. Dhikomo-Onisia; 13. Yeri Vrysi tis Pantelous; 14. Eylenja, Kafizin; 15. Enkomi, Ayios Iakovos; 16. Eylenja, Nifkia; 17. Ayios Sozomenos, Glyka Vrysis; l8. Yeri Phtetia; 19. Dhavlos-Pyrgos; 20. Ayios Thyrsos, Vikla; 21. Rizokarpaso-Sylla. [Designed by the author based on a map of Peltenburg [[94], 31].

3.4 Egypt

Egypt had three different capitals between 1666-1304/1279 B.C. [Beginning of Ramses II's reign: ([CAH, 225-6]; [[95], 114]):

Aketaten/Tel-el-Amarna (1384/1360-1360/1336 B.C.): 1500-2000 Mycenaean sherds were found – with origins of the clay from Tiryns-Asine and Berbati/Mycenae [[96], 149-54, 69]–, which represent over 600 whole pots (their overwhelming majority from LHIIIA2=1375-1300 B.C.). Pendleburry, Director of excavations (A.D. 1930-1936) at Tel-el-Amarna, dubbed one house as the house of the Mycenaean Greek and the street facing it as the Greek Street. He believed that Greeks were living in the city. Olive twigs are depicted in the Great Aten-Temple, being offered by Akhenaten himself. Four wreaths of olive twigs were found in Tutankhamun's tomb. Papyrus fragments ([[97], Pl.8: color-photo]; [[99], 15: color-pictures of olive-branches and the color-papyrus with boar's tusk helmets]; [[101], 342-5]) depicting Mycenaean warriors, a wooden shrine and various cultic items were unearthed in the Central City, as also, a

complete Mycenaean vase and the inscription 'the great statue that the Pharaoh ordered to be made', likely in a chapel devoted to the divine Pharaoh. These artefacts played a significant role in that context. Mycenaean frescoes have also been unearthed ([[102], 68-9]; [[103], 1:8, 46, 43-68, 113; 2: 38, 49-50, 65-74, 118, 140-141, LXXVIII]; [[104], 392: frescoes' color-photo]. Lead-isotope-analysis of Amarna's metallic artefacts showed that Laurion was one of the two copper-sources [[105], 134].

Thebes/Luxor/Malqata (after the conquest of Avaris at 1560/1553 B.C. by Ahmose (1568-1543 B.C.; founder of the eighteenth Dynasty. [[95], 123]; [[106], 128]), with the short interval of Aketaten). Besides the 'Aegean-List' [[11], 27-9, 59-64, Addendum], 'Great Ionia' has also been read (**Fig.28**) on the base-block from the northern approach of the peristyle in Amenhotep III's Temple, the famous Ionia, which appears for the first time, centuries before the Ionians are mentioned in Greek texts ([[108], 82]; [[413, note24]). However, in RCT-tablets (contemporary with Amenhotep III), i-ja-wa-ne has been read, dativ of the anthroponyme Ἰᾱ́ϝων=Ἴων-Ion ([[109], 419]; [[110], 112, 137];

Figure 28. Great Ionia [[107], 453; courtesy of Dr. Sourouzian].

[[111], 197]; [[112], 84-5]). Frescoes with Aegean motifs – animals, bulls, red and blue rosettes – decorated Amenhotep III's Palace at Malqata ([[113], 130), [[114], 288-95: color-pictures]). Thutmose III's Annals record as [Benevolence of the Chief] of D/Tanaya a silver jug of Keftiu-workmanship (as in Mari and Pylos) along with vessels of iron (see references for 'biɜ'=iron, iron-technology in: [[116], 96, notes 226, n.51-52]; [[117], 49-55]; [[118], 78-85]; [[10], 752, note20]). Furthermore, tablet PYTa641 records ([[109], 336]) ti-ri-po-de ai-ke-u ke-re-si-jo we-ke=two tripod-cauldrons of Cretan-workmanship, of ai-ke-u type (*Αιγεύς/Aegeus*?). The Keftiuan metalwork was highly appreciated since the artefacts from Keftiu were given together with iron bowls, a priceless metal at this early stage [[119], 96]. During Hatsepsut-Thutmose coregency (1504/1479-1477/1443 B.C., Thutmose's 28th regnal-year) scenes from tombs of Egyptian officials depict Cretans (Minoans/Mycenaeans) bringing metal bowls with rosettes and bullheads, as gifts, identical to a bullhead at Mycenae (grave-II). The rosettes constitute the emblem of royal power and divinity in Minoan Crete [[120], 70, note191].

Avaris/Tell-el-Dabᶜa/ᶜEzbet-Helmi (1666-1558 B.C., Hyksos Dynasty, and later): Rosettes, maze-patterns and bull-leaping scenes have been unearthed from the Hatsepsut-Thutmose co-regency, as well as a Throne-room with a huge emblematic griffin (palace F, which was constructed with the palace G, during Ahmose's early-reign, in unified Egypt) quite-similar to Knossos' throne-room and similar to the paintings in the tombs of Egyptian officials [[120], 27, 38-40: color-photos, 45-66]. The flying gallop of animals attacked by a human figure on the hilt of a gold-plated dagger of the Hyksos King Apophis is also of Aegean origin, as well as a griffin with wings decorated with the 'notched-plume' motif of Minoan origin on the axe-blade of Pharaoh Ahmose [[121], 80: color-photo] and the lion chasing a bull in a flying-gallop on the dagger of his mother (Queen) Ahhotep/Aahotep – both from her tomb. The symbolic evidence of these finds, combined with the inscribed lid [[122], 82-3: photos] with the cartouche of Hyksos king Khyan found in Knossos' Palace, provide visual expression of political, ideological, dynastic, and religious connection between Minoan Knossos and Hyksos-regime ([123], 93]; [[124], 5, 12-13]), which continued in the 18th Dynasty. We recall that Io gave birth to Pharaoh Epaphos who sounds very close to Hyksos Pharaoh Apophis (1615-1575 B.C.) [[106], 118, 413, 419, note122].

3.5 Land of Ḫatti

Ḫattuša (capital-city): Mycenaean frescoes were unearthed inside two Temples (9, 5) and the Palace. Based on their technique, Müller-Karpe dates the frescoes to the Amarna-period, while Brysbaert dates them to the relevant ones at Tell-el-Dabᶜa, Kabri and Qatna ([[104], 392-3: color-photos]; [[125], Abb.75]; [[126], 101-2, 108]).

Tapigga: imported Mycenaean pottery of LHIIIA2 was found in a 13th century layer ([[127], 197]; [[102], 137]). The letters from Tapigga belong to the period 'Arnuwanda I-Tudḫaliya III' (1350(+) B.C.) [[128], 39-41: De-Martino: 1400/1390-1350, Alp: 1370(+)-1350 B.C. (Tudḫaliya)].

3.6 Adoption of Mycenaean Technology in foreign Royal Palaces: an Explanation.

As an explanation for the presence of Minoan royal emblems and paintings at Avaris, Bietak [[129], 28, note53] supported that Queen Aahotep, the 'Mistress of the shores of Haunebu'='Aegean Sea' [[117], 47, note229, with references], was most likely of Cretan origin. Later, professors Bietak, Marinatos and Palyvou [[120], 86] argued that, despite some criticism, Bietak's hypothesis received support by renowned scholars – Hankey, Morgan, etc. – and gained even more ground after the discovery of the huge emblematic griffin at Tell-el-Dabᶜa, similar in size to the one in the Throne-Room of Knossos. '*Marriage with a foreign princess led to the creation of official and private rooms for such high-ranking personalities to enhance their status and enable their own spiritual life*'. *This is also valid for Ḫattuša*, since the name of Queen Henti (1350(+)-1331(+) B.C., approximately contemporaneous to Amarna-regime), wife of Supilluliuma I, is most likely the transliteration of an Achaean princess' name ((h)Ἐνδη(ίς)/(h)e-(n)t-i(ς)) in Hittite [[11], 21, n.44-6].

These finds document a strong Mycenaean influence in the Levant *before and after the Fall of Troy (c.1400±(20-50) B.C.)*, since foreign rulers had adopted Aegean ritual and symbolic motifs in the sacred inner Rooms of the Palaces, materialized most likely by Mycenaeans, palatial skilled-craftsmen.

3.7 Mycenaean know-how was transferred to Phoenike, and not Phoenician Technology to Greece

The period 1500(+)-1350/1320 B.C. (Thutmose III-Supilluliuma I) is the era of the apogee of power and prosperity in Mycenanean Greece with masterpieces of technological achievements and artistic creations as a continuation and legacy of the relevant Minoan accomplishments (detailed analysis in: [9], [[10]: *silver production since 4th Millenium B.C.*]; [[11]: Annex]; [[130]: *Land Reclamation, Drainage and Irrigation Projects since 3nd Millenium B.C.*]). The Mycenaean wanax-(ϝ)Ἄναξ-King had – obviously – permitted his artisans-craftsmen to work in the Palaces of his allies and transfer know-how to the East.

Nevertheless, some scholars support that there was only an opposite flow of technology, i.e., from East (Phoenike) to West (Greece). For example, Morris [[131], 130-131, 30-35, 73-100] argued for:

–Phoenician craftsmen at metal-rich areas of Greece such as Thasos, Euboia, Boiotia, Lakonia, Crete, Rhodes, Laurion, based on traditions about Daidalos, Kadmos, Tyrian Hiram and King Solomon [[131], 39].

–An oriental origin of the Greek culture and technology, because the architect-god Δαίδαλος/Daedalus and the Olympian god-Engineer Ἥφαιστος/Hephaestos (quoting an ancient author: *Hyginus' Fabulae* (*33*), [132]), originate from Ugaritan Kothar-va-Hussus/Hasis, since 'the Ugaritic-texts are older than the final concept of Hephaestos in Homer' [[131], 95, 75-8].

–The exclusion from archaeological evidence of da-da-re-jo=Δαιδαλειόν-δε in the tablets of Knossos, because placenames fail to illuminate the historicity of Δαίδαλος/Daedalus [[131], 75].

Moreover, Morris supported that Achilles'shield, as described by Homer [Hom.*Il.*:8:474-82], has never protected a Mycenaean warrior, because "its materials, bronze/tin/gold-and-silver, claim poetic attention" [[132], 11-2].

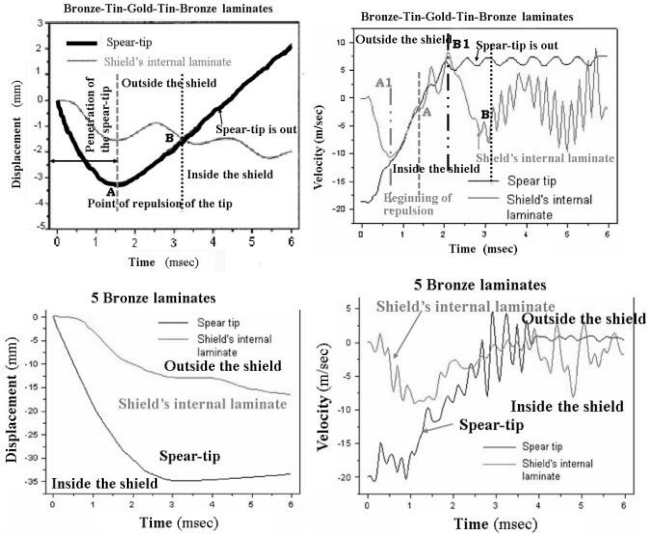

Figure 29. Lab-tests: (upper) Achilles' shield: after 1,5msec the spear-tip is stopped and repulsed, while after 3msec, it moves outside the shield: (left) the displacement of the tip, (right) the velocity of the tip. (Lower) a five bronze laminates shield: the spear-tip penetrates it: (left) the displacement of the tip, (right) the velocity of the tip [[139], courtesy of professor Kostopoulos].

1) Profesor T.P. Tassios ([[133], 27-32]; [135]; [136]; [137]; cf. [130]) refuted these theories by recording Mycenaean projects and by "sampling Morris [131] and Penglase [138] and their occasional epistemological flaws". Furthermore, he argued that the autochthonous technical development should be the first alternative to be investigated since – anthropologically speaking – Technology is a universality, by definition, while Science and Technology are not the meticulous accumulation of

speculations. Furthermore, professors Paipetis(†) and Kostopoulos, at the University of Patras, performed experimental archaeology in the laboratory ([[139], 122]; [[141], 183-91]) by throwing a spear against an 'Achilles' shield' of five metallic layers/laminates, i.e., bronze-tin-gold-tin-bronze, and against one bronze shield of five-layers/laminates (each layer=1,5mm width). Their results (**Fig.29**) show that the tip of the spear pierces completely the bronze shield and creates a significant hole, while it only penetrates through the two outer layers of 'bronze and tin' of the Achilles' shield and, after reaching the golden core, bounces back out of the shield. These experiments prove that the Iliad describes *an effective Mycenaean know-how*, and not something that 'claims poetic attention'.

2) The Levantines called themselves either kn'n=Can'-ani from their Land (ca-na-na-um/ca-na-na), or by their city's name (Tyrians, Sidonians); 'Phoenicians'/'Φοίνικες' and 'Phoenike'/'Φοινίκη' appear after-1200 B.C.,' according to professor Aubet [[142], 8-12], an expert in Phoenicians, and, consequently, 'Phoenicians could not transfer Technology' anywhere before 1200 B.C.. Furthermore, '*Po-ni-ki-jo-pho(i/e)nikio-φοινίκιγιο*, of the Knossos tablets, was produced in large quantities at southern Crete, and was widely used as food; po-ni-ki-jo was most likely the term for palm-date(s) (Fruits of palm-tree='phoenician-tree'=φοίνικας-δένδρο in Greek) without any relation to 'Phoenicians', who had not yet appeared in History' [[143], 81-3].

3) Regarding the origin of Daedalus and Hephaestus, the Ugaritic-tablets were redated to 1185 B.C. most likely (or 1350) by Smith and Pitard [[144], 7-8] who revised the dating 1400-1350/1380-1350 B.C. of Smith [[145], 1]. Daedalus and Hephaestus were not 'Homer's final' poetic (750-700 B.C.) 'concept', since Knossos-tablets (1400(-) B.C.) had already mentioned Daedalus and Hephaestus:

Pre-Hellenic [[36], 94] Δαίδαλος/Daedalus is included in a list of gods [[146], 257-61]; he had already been a venerated hero/god in the Mycenaean era ([[111], 263]; [[159], 70]; [[89], 708]; [[151], 142]). Daedalus' sanctuary was located inside the Knossos Palace [[148], 196]; it was signified by the substantive adjective (in accusative of singular, with -δε suffix) *da-da-r**e-jo**-de=Δαιδάλ**ειόν**-δε* [[148], 196], 'not surprisingly, given the close mythological connections of Daedalus with the Palace' [*ibid.*]. 'The ***-e-jo*/-ειος** ending does not correspond to any type of the Greek language [[111], 258], is frequent in Knossos which is nearer to the Minoan civilization [[111], 262] , and is related to the "pre-Hellenic -e-ja/-ειᾰ ending [[111], 248-9]" in the pre-Hellenic language' ([[111], 261, 260-2]; [[152], 726, n.8]). The Palatial ceremonies at Knossos were performed 'at the Court of the Palace, a ritual arena for Court-based ritual activities' [[154], 65-6] devoted to relevant gods as Daedalus [cf. [[148], 205]]; 'the Court remained the ceremonial core of the community for almost two millennia, since Final Neolithic IV [[154], **65**, 34, 64-68, 41, 43, 46],' namely at 3300-3100/3000 B.C. [153, xi].

Ἥφαιστος/Ἄφαιστος/Aphaestus originates likely from the unaspirated theonym Ἀφᾱ/Apha [[111], **230: n.103**, 157: n.309, 54: n.39]; after a post-Mycenaean turn Ἀ>Ἁ, it sounded aspirated [*ibid.*]. Ἀφᾱ was used as divine toponym/placename like Ἀθήνη/Athēnē and e-ra/Ἥρᾱ [[111], 108: n.50, 260: n.132]; a-ta-na=Αθῆνα/Athens ([[147], 241, 235]; [[148], 205]) e-ra/Ἥρᾱ ([[111], 89: n.75, 228: n.89, 131]; contra: [[147], 188]] and a-pa-i-ti-jo/hĀphaistios ([[111], 24: n.13]; [[160], 188]) are pre-Hellenic [[158], 87] placenames, namely 'a legacy of the EBA pattern of settlement before the arrival of the Greeks' ([[109], 14]; cf. [[161], 26]; [[162], 152]). EBA is radiocarbon dated to 3600/3200-2090/2000 B.C. ([[163], 169]; [**Fig.30** below]], since 'a cultural break speaks about the "coming of the Greeks" at EHII c.2600/2100 B.C.' [[148], 204].

Consequently, the pre-Hellenic theonyms-placenames predate 2600 B.C..

However, chthonic [[166], 278] god dGú-šar/Gaṯaru [[339], 1:237-41], of post-2350 B.C. Ebla [[340], 16-8, 120], 'identified as the Ugaritan *kṯr/kṯrt/kšr/kšl=ka-ša-ru/ka-ša-lu* ([[300], 58, 125-6]; [[300], 170]; [[298], 296-7]; [[301], 28]; [[302], 54: "**s/*š function as merger of *θ-sound with*s/*ś-sounds*"]) = Kôṯaru-wa-Ḫasīsu, meant "*skillful*"' [[165], 1-3], '*proper*' ([[164, p.23], [AHw, p.461-462]) or '*he who repairs*' [CAD, 284-286] and had 'Sumerian Enki and Hephaestus as functional equivalent deities'[[166], **280-1**, 174-9].

Since Daedalus and Hephaestus are traced to a pre-Hellenic era much earlier than Kothar/Kôṯaru and definitely before dGú-šar/Gaṯaru, therefore *their myths do not* '*originate from the Levant*'.

4) Furthermore, the Levantine élites accepted the supremacy of Cretan know-how and technology, and respectively configured the religious local tradition for the Palaces of their divinepantheon. Ugaritic-tablets (1350/1185 B.C.) show that the goddess Anat invited the god Kothar-va-Hussus/Hasis from Crete – where his throne and Palace were located since Egypt was his inherited Land – to the Levant ([[166], ibid]; [[119], 83-6]; [[167], 239-40]) to build the Palace of god [[145], xxiii] Baal. The Levantine Kings imitated their gods for their royal palaces. The Mycenaean King of Crete 'permitted' obviously the

– attached to his Palace – craftsmen to work in the palaces of his Levantine allies, satisfying their requests. Herennius Philo [[*TLG-Fragmenta* 2:87-94], from Byblos, identified Kothar-va-Hussus/Hasis-Χρυσὼρ-Χουσὼρ as the inventor of iron and connected him with the Olympian-Gods *Hephaestus* and *Zeus-meilichios*/*Ζεύς-μειλίχιος*. We recall that Zeus had been raised in Crete (from where Anat invited a 'god-engineer') and mastered the (know-how of) thunders. His son Hephaestus possessed the know-how for metallurgy. After the rebuttal of the old theory about the Hittite monopoly of iron([[168], 219-21]; [[169], 24-5]; [[341], 270-2]; [[342], 167]), during the second millennium B.C. it could be inferred that Keftiu/Crete possessed the know-how for this, difficult to process, luxurious metal [[9], 58].

The *Cretan technology* was apparently highly appreciated and imported by the Levantine and the Egyptian *élites* by 1500(+) ([[156], 119-120]; [[117], 50-5]; [[10], 752]), and that equates *to a flow of technology from Greece to the Levant*. To validate this theory, we should extend the investigation to the beginning: the Neolithic era.

4 Archaeological Evidence for the Neolithic Origins of the Copper Smelting Technology

The orientalism followed the social evolutionary schemes of Lubbock [171], Morgan [172] and Childe ([173]; 174]; [175]). Childe argued for a hyperdif-fusion of inventions of bronze/copper-production from a mother civilization in the Near-East towards the rest of Eurasia. According to them, it occurred coincidentally, when the social complexity and civilization appeared for first time in these far-apart regions given that the know-how necessary to transform ores into metal was too complex to have been invented more than once. Levantine itinerant metalsmiths/furnace-smelters migrated and formed *islet-colonies of foreigner smelters*, as agents of technological and social change and development of civilization in Eurasia [[176], 504-12].

4.1 Levant and Balkans

Nevertheless, similar large-scale mining activities for lithic materials (mining shafts, flint mines) had already been established in the Neolithic era [[177], 73]. Renfrew ([179]; [180]; [181]; cf. [182]) used radiocarbon datıng to demonstrate that European metallurgical-sites existed earlier than similar sites in the Near-East. The earliest evidence for crucible-based copper-smelting has been found in Vinča culture, Belovode Serbia, dated to the mid-late sixth millennium. The Vinča-culture presents strong links with Dimini-V in Greece ([183], 2777-8]; [[184], 236-8]; [[185], 1]). The earliest evidence in southeastern Iran is dated to 5200-4500 B.C. while in the Near-East/Levant to the mid-late fifth millenium ([[187], 302-3]; [[188], 181]; [189]; [[191], 309-12]) or fourth millennium B.C. ([[192], 126]; [[193], 96]), namely, several hudrends-of-years [[195], 14-7] or *1.000(+) years later*. The pre-6000 BC copper-objects in Asia Minor (Çan-Hasan, Çatalhöyük) and at Zagros mountains in Iraq are not products of smelting ([[195], o.c.]; [[196], 21]; [[197], 5]; [198]). Furthermore, *itinerant skilled metalwork-kers in foreign cultures are ethnographically rare* ([[199], 113]; [[200], 447-67]), while various independent metallourgical-centers of domestic-production had developed throughout Eurasia [[195], 9-11], evidence that is non-compatible to *'islet-colonies of itinerant foreigner smelters*'.

Gamble (2007, 61-62) deconstructed the unique "Originsland" as also, Wailes [202], Anthony [204], Chapman [205], Gilman [206] in a volume ([203]) in memory of Gordon Childe(!). The lithic civilization has gone one step further than merely hammering native copper ([[207]: definition/description]; [[192], 93]; [197]; [198]; [208]), by using the knowledge that heating copper with fire ([[209], 118-9]; [[210], 133]; [[177], 73]; [[211], 146-7]) caused it to soften so that further processing could be made. Heating in a form of 'annealing' for lithic materials, flint (quartz) and obsidian had been developed in large-scale mining during the Neolithic era before the earliest use of native copper ([[177], 73]; [[212], 342]). Quarried obsidian at Melos, in Greece, is evidenced from EN-beginning (6500/6300 B.C., **Fig.30**) [[213], 180-4: *with obsidian-quarries' photos*]. Although the annealing temperature was often as high as 800^0C, no melting had been achieved: a forced draught would have been necessary to reach the melting-point (1083^0C/1981^0F, see [[212], 343, 347-52]). The fact, that no permanent pottery kilns are known from the Neolithic period and that the start of extractive metallurgy can be equated with the use of such kilns, supports that copper-melting started either by accident, or by intention in a pottery-kiln ([212], ibid]; [[195], 16]. Cf.: [[214], 2, 7], [[192], 97-8, 122, 144], [[215], 465], [[197], 2], [216], [217], [[218], 213-4]). Mining is rarely performed continuously throughout each year, but is a seasonal activity *carri-ed out by a group of seasonal participants, who may*

Periods	Demoule/Perlès 1993[a]	Tsirtsoni 2016b[b]	Renfrew 2018[c]	Philippoi/Dikili-Tash[d]	Sitagroi/Photolivos[e]
Early-Neolithic (EN) Phase 1	6500-5800[g]		EN: 6300-5600[g]		
Middle-Neolithic (MN) Phase 2	5800-5300		MN: 5600(?)-4900	Period I = MN: 5450/5350-5150/5050[g]	Phase-I: 5500-5200[g]
Late-Neolithic (LN) Phase 3	5300-4800	LNI / LNIa: 5500(-)-5000[g]	LN: 4900-4100		Phase-II: 5200-4600
Late-Neolithic (LN) Phase 4	4800-4500	LNII / LNIb: 5000-4600		Period II = LN: 4700/4500-4350/3900	Phase-III: 4600-3500
Final-Neolithic[f] (FN) Phase 5	4500-3200	FN[h] / LNIIa: 4600-4000	FN: 4100-3200		Phase-IV: 3500-3100
Early Bronze Age (EBA) I	EBA: 3200-	FN / LNIIb: 4000-3400	EBA: 3200-		
Early Bronze Age (EBA) II		3400-3100			

[a] The chronologies were taken from Demoule/Perlès (Fig.2, p.366), where they are written in a way that indicates most likely the beginning of each Phase.
[b] After radiocarbon datings. The chronologies represent the "*state of research prior to the "Balkans 4000" project*" (Table 1) and, in this article, they were estimated after interpolation, since they are written in a way that indicates most likely the 'middle' of each Phase/subperiod; this is also supported by §15: "the LNI begins some time after 5500 cal B.C., according to radiocarbon dates".
[c] In calendar years after radiocarbon datings (5568 half-life); "*culture sequence and absolute chronology for the FN as reviewed after Renfrew 2017/1972, 76*".
[d] Treuil 1992a, 34-36: C^{14} datings.
[e] Elster and Renfrew 2003a, xxvii.
[f] Chalcolithic = Eneolithic = FN, the transition period between Neolithic and Bronze Age (BA), (Tylecotte 2002, 7).
[g] B.C..
[h] In some sites situated at Northen Greece and Bulgaria, FN began at the previous sub-period, at ca. 4800(+) B.C..

Figure 30. Neolithic chronologies of Greece from [225, p.366], [234], [236, p.76], [237, xxvii], [239, 34-6].

fluctuate from occasion-to-occasion and from year-to-year ([177], 73]; cf.: [[219], 40-1], [[220], 49]). The strict specialization of '*itinerant perma-nent miners/smiths*' was neither an organizational/socioeconomic choice nor a technological one-way. The required expertise for copper-mining could have been gained *through a continuation of pre-existing traditions of flint and obsidian mining* [[221], 142-3].

4.2 Neolithic Greece

The quantity of metal finds from the Neolithic Greece increases almost every year. Most of these finds come from Phase-5, while a small number of finds come from Phase-4 (**Fig.30**), close to or even earlier than the datings from Serbia and earlier enough than the relevant datings of Levant ([222], 155-6]; [[224], 78-80]; [[225], 394-5]; [[226], 8, 11]; [[227], 9-10]; [[229], 81-2]; [[231], 168-174]). Greece and Europe were obviously independent centers of invention of metallurgy ([179], 31, 29-38]; [[233], 179-80, 183: "possible contacts with the Balkans"]).

The main sites and finds, until now, are (**Fig.31**):

Philippoi/Dikili-Tash ([[240], 34-6]; [[224], 76]): A tiny copper pearl of MN (6th millennium) was found, either from native copper, after hammering and polishing, or by annealing a copper oxide, such as malachite, in 8000C using a 'well-oriented' fire, while the copper melting at 11000C is, perhaps, attested. In level-14 of the archological site, many copper objects dated at FN (early-5th millennium) were unearthed [[241], 113-6]. These chronologies should probably be revised by almost 1.000 years earlier to the EN-period (6400/6200 B.C.) according to the most recent radiocarbon datings presented by Tsirtsoni (2016) [234], [304].

Photolivos/Sitagroi ([[240], 34-6]; [[224], 76]): Four metal objects of unintentional alloying (Phase-II), sherds with copper deposits, eleven copper objects and one golden bead were found. Three objects contained tin but not in the high concentration normally associated with deliberate alloying [[242], 302], see (**Fig.30**).

Dimitra (Serres) ([[243], 312, note389: "*late-7th millennium*"]; [[244], 247: "*late-6th millenium*"]): Five copper beads from a MN-period and four copper beads with two gold beads from a LN-period as Sitagroi I (sixth millenium) were found. They constitute some of the earliest copper finds in Europe and the earliest gold objects [[224], 76].

Makriyalos, Pieria ([[245], 117, 112]; [[229], 81-2]): Sixty-one coper objects of the latest LN-period and twenty-seven objects of the earliest LN-period were found (6th millennium).

Dimini and Sesklo ([247]; [248]): Several finds (copper pins, axes and one gold earring) were unearthed from Phase-4 but within an unclear stratigraphic environment.

Mikrothives ([249], §34-35: photos]): Three bronze leaf-shaped, double-edged daggers (similar daggers at Petromagoula, Dikili-Tash and the cave of Zas (Naxos)) with a manufacture requiring a rather developed technology, dated at LN-period, and eight tin plated bronze objects either from pure copper or from a copper-arsenic alloy, with surface enrichment of arsenic at 10-18% concentration, were unearthed.

Hagia/Aghia Marina, Fokis – today Amfikleia-Tithorea municipality in Phthiotis – ([[250], 163-6]; [[251], 286-7, 298-9, 260-3, 270-81]; [[252], 964]): One of the earliest finds for metallurgy in Greece was found (Phase-3 with Sitagroi II or even MN-period) according to Sotiriades (professor of Archaeology at

the University of Athens, Member of the Academy of Athens [253]), while there are disagreements ([[225], 394: "not Neolithic"]; [[236], 116: "EBA-III"]). On the contrary, Treuil ([[254], 146, 148]; also Blegen [[162], 150]) accepts Sotiriades' dating, arguing that Renfrew did not present any argument.

Figure 31. The Neolithic places in Greece with finds of copper products. Cf. Ζάχος/Zachos (2010, 83) where a map is presented with many more Neolithic places in Greece with evidence of early metallurgical activities. [Designed by the author].

Attica: A copper axe from *Spata* (probably FN/EHI-period), in *Zagani* a copper pin from the 3rd layer of the *Kitsos cave*, a copper slag and 34 pieces of litharge from the FN/EHI-period in *Merenta* were found. Litharge is a by-product of the cupellation of argentiferous lead during silver-production and its presence directly attests the practice of this process in Attica since the mid-4th millennium B.C. as terminus-ante-quem. Moreover, a 'remarkable polymetallurgy' appears by FN-period in the Aegean and Southeastern Attica. Two sherds with spiral motifs, characteristic of the chalcolithic eastern Balkans, lead to a probably higher dating of this earlier metallurgical evidence ([[255], §50, 34[; [[256], 57, note64]; [[257], 78-83]). At gallery-3 of the ancient mine in *Thorikos* [258], the findings of LN–FN pottery of do not establish a clear link between pottery and the early mining activities in *Thoricos*. The earliest sherd is dated at on the 5th millennium B.C.

Kephala, Kea [[259], (analyses by Konofagos), 3-4, 24-5, 66, 79, 88, 108-11, 113-4]: Four pieces (tools or artifacts) from almost pure copper, crucibles and a slag were unearthed, evidence for copper production during LN (mid-fourth millennium; however, one only radiocarbon-dating was performed on seeds and gave early-third millennium).

Ftelia, Mykonos: A small collection of copper objects, especially awls and pins, and a circular gold disk with a central perforation were unearthed. Ten calibrated radiocarbon dates support 5000-4500 B.C. [[260], 153-155: "early-LNI/early-5th millennium"].

Yali, Nisyros [[261], 8, 2-3]: Socketed and non-socketed crucibles were found from the early-fifth millennium. The closest contemporary parallels for both types of crucibles are from *Thermi III* (Lesbos), *Chalandriani* (Syros), *Sitagroi III*, *Sesklo*, *Mandalo*, *Petromagoula* (possibly).

Cyclades ([[262], 21, 3]; [[263], 113-5]; [[265], 159-62]; [264]): Metal artefacts with the first remains of metallurgical activities (cf. [[259], 4]) appear during the FN, while the only possible LN example is the gold plate from the *Cave of Zas*, Naxos (stratum-I [[267], 154], LNII [[268], 125]). The furnace with numerous perforations presents a design common to the southern Aegean since FN at *Kephala* [[259], pl.22; "mid-4th millenium"] (also, EHII at *Raphina* [[269], 80-1], EC at *Sideri* and *Aspra Spitia* (Kythnos) [[270], 44-7], at *Fournoi* and *Avesalos* (Seriphos)), with "no such evidence for copper-smelting outside the Southern Aegean: it was a local and indepedent metallurgical tradition for at least 1000 years" ([[271], 123, 127-8]; [[272], 209]; [[273], 277-280, 287: evolution of copper-alloys]).

Crete: Small pieces of azurite (as cosmetic) were discovered in a layer of 6000 B.C. [[214], 1]. At *Petras Siteia*, a FN or FN/EMI-transition pyro-technology activity is evidenced [[274], 160-4]. At *Crysokamino*, sherds of FN consitute a probable but uncertain evidence of metallurgic activity [[267], o.c.], although the excavator Betancourt [[275], 65] notes that all the FN pottery finds are (with one surface exception) from within the slag-pile.

The early metallurgy in Greece should be dated to the 'late-LNI'-'early-LNII' ('late-"5500-5000"'-'early-"5000-4500"' B.C., by recent radiocarbon-datings presented by Tsirtsoni [234] (see **Fig.30**), an era which corresponds to the early-Chalcolithic in the Balkans. A detailed examination of the Greek Neolithic underlines its originality. It was part of a larger LN-FN southeastern European koine, which does not – obviously – mean that its features have their origin in the Northern Balkans ([[267], 82]; [[225], 394]; [[276], 3-4]; [[216], note59]; [[277], 29-30: "early-5th millennium"]). It was the result of a self-evident exchange-procedure among the groups of people living in this extended area. This was a cultural phenomenon leading to the adoption of

common technical achievements, but with variations in production-systems which operated at different temperatures and redox environments [[278], 28]. Several artefacts from Aegean Spondylus-shells [[213], 188, map116: *distribution of Spondylus-shells in Europe*, 193: photo] were found in sites of Vinča-culture, since networks of long-distance exchanges existed between the Aegean and the Balkans ([[234], §15, 20-21, 18, 36]. Cf. [[213], 180, 186], [[279], 1861-4], [[222], 157], [[259], note10]).

It appears that:

1. During the Copper Age, the zone from the Carpathian area and the Balkans until the Iranian highlands may have been an innovative center of copper production. The co-production of know-how and innovations, among interconnected societies from different regions, would have been quickly adapted and modified by the receiving societies [[218], 213-4].

2. The classical diffusionist position on the primacy of the Middle East and the Levant in relation to areas of Europe seems incapable of accounting for the current archaeological evidence [[279], 1861-2, 1864].

5 THE FALL OF TROY IN THE ANCIENT LITERATURE

The ancient Greek Literature describes many Achaean expeditions against Troy, besides the Trojan War described by Homer; the Iliad and various ancient authors presented divergent versions about the Fall of Troy. The '*Homeric Question*' arises: *how have the Epics been formed in their current form through the centuries until the present day*?

This Question is related with the composition, date, probable variants and/or additions to the Epics. A debate is ongoing about whether the poems were compositions-in-performance in an oral poetry tradition, dictated to writers by poet-performers, or recited from written texts. There are five periods of formulation of the Epics, from the early-second millennium B.C. to Aristarchus of Samothrace at the library in Alexandria (c.150 B.C.) ([[289], 1, 65-112, 41-2]; [[280], 311, 83-7]; [324]; [326]; [[328], 112-5]; [[329], 25-32]; [330]; [[331], 1-13]; [[332], 151, 154-9]; [[291], 88]; [[282], 257-8, 287]).

Aristarchus produced a reconstruction (koinē) of the Athenian Homeric textual tradition, based on the majority of surviving *convergent variants of the Epics*; the *divergent variants*, which he called '*khariesterai*'='more refined' manuscripts, were '*athetized*'='omitted' ([[328], 155-8]; [[333], 623-51]; [334]; [[335], 585-9]) from his version, accommodated in separate papyrus-volumes, named '*hupomnēmata*'/'*Scholia*' [[324], 92-3]. Several variants have survived in ancient Greek authors too. Mytilene of Lesbos, supposedly representing all the Aeolian-speaking Hellenes, claimed the Iliadic territory of Aeolian Sigeion and was led to war against the Athenians, obviously due to the strategic position of Sigeion at the entrance of Hellespont. The

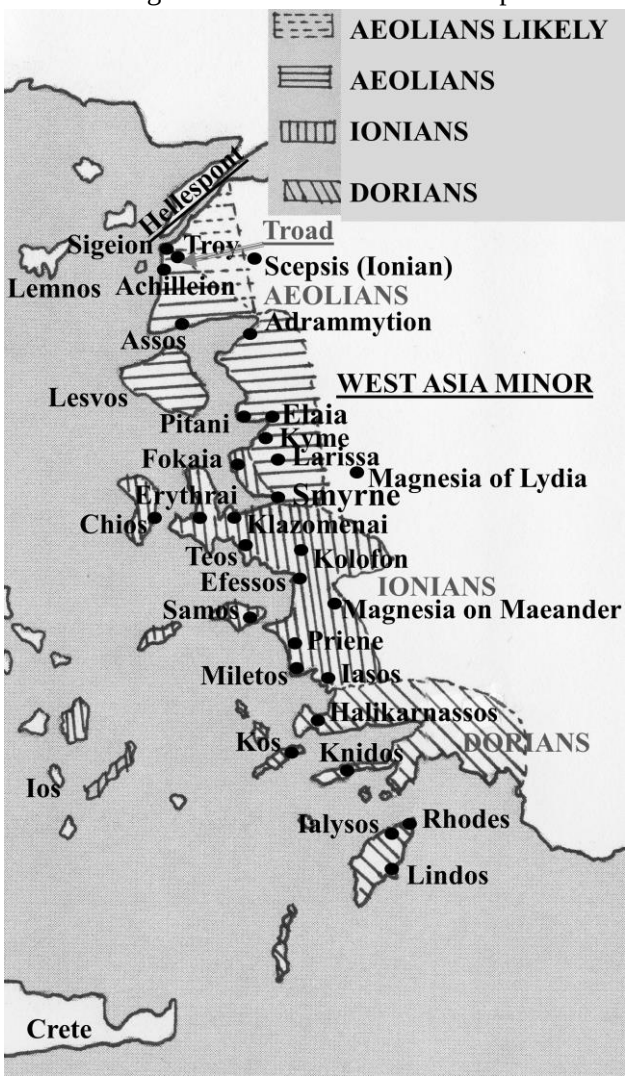

Figure 32. Colonies of the Aeolians, the Ionians and the Dorians in Asia Minor; [based on [[338], 46], [CAH II-2:774]].

Aeolians had founded Sigeion, Achilleion and New Ilion (on Ancient Ilion) and maintained strong symbolic bonds with Troy by using stones from Troy. The Athenians defeated Mytilene and, followed by the Ionians of Scepsis, claimed incorrectly that it was Scepsis which was built on the ruins of Troy [TLG-Str.Geogr. 13:1:53:1-22], and not present-day Troy, aiming to impose their propagandistic version and support their claims on Troas. For this purpose, they

supported that ancient Troy had been destroyed totally by the Achaeans and was left uninhabited [[280], 135, 146-7, 189-92, 205-6, 210]. This version was adopted and supplemented by the Romans: Aeneas had left a ruined Troy, migrated, and founded Rome [[280], 197, 207-11]. Ephorus (405-330 B.C. [336]) of Aeolian Cyme, 'the most important city of Aeolis' [*CAH* II-2:780], '*discussed the mythical era*' and 'named *Aeolis* the entire area from Abydos to Cyme' ([[337], 159, 142]; [TLG-Ephorus.*Fragm.*, '2a,70,F,163b.']), a claim that is compatible to the distribution of Greek dialects (**Fig.32**) ([[338], 46]; [*CAH* II-2:774]).

The Ionian poetic tradition has preserved that Aeolians had migrated to Lesbos before the Fall of Troy, which 'is supported by archaeological evidence' [CAH, II-2:778-9], and to Asia Minor and the seashores of Troas relatively early in the Dark Age [ibid., p.780], namely at 1100-1050 B.C. [[8], 149]; they inherited obviously local traditions of Lesbos and Troas. Aeolian historian Hellanicus of Lesbos (480-395 B.C. [308]) maintained in Τρωικά/Trōïka that Troy was not destroyed totally; some of its population survived and rebuilt Troy as 'New Ilion' under a new ruling Dynasty: Ascanius, the son of Aeneas, together with Hector's son, Skamandrios, ruled New Ilion. Later, after the Aeolian migration, the Aeolians expelled only the descendants of Aeneas, who founded Rome afterwards [[280], 178, 189-201, 69-73]. In the Iliad [TLG-Hom.Il. 20:180-5, 302-6, 329-31]:

a) Achilles blames Aeneas as having the unachievable hope to become King of Troy, and,

b) the Gods of the winners, Poseidon with Hera's assent, protected and saved Aeneas' life, because *Zeus 'hated Priam's generation and decided that Aeneas "shall be King/ϜΆναξ" in Troy, during his "lifetime/βίη", as his "sons-of-his-sons" too'*.

In 1450-1050 B.C. ([[8], 267-74, 312-3]; [[281], 103]; [[282], 255-62]; [[18], 85-7, note297]; [[17], 206, 279]. [[283], 521]; [284]; [285]; [280]), apparently after the Fall of Troy, at the mainland Greece and, after the Greek migrations (1100-1050 B.C.) at the eastern coasts of Aegean Sea ([[353], 218]; [[8], 249 n.74, 312-3, 377]), palatial *singers-aoidoi* [[356], 39] sang stories about Troy to audiences aware of the story ([[354], 90]; [[357], 11-2, 16, 18]) and the recent to them royal succession at Troy. Therefore, 'Zeus' decision' [TLG-Hom.Il. 20:302-6] should have reflected the actual royal succession, otherwise Zeus' indisputable power/rule ([[354], 89]; [[358], 434]; [[**290]**, **141-2**]; [[289], 84-5]; [[**280], 105-6**, 71, 101]] as supreme God would be challenged.

According to divergent variants:

–*Dardanian king Aeneas, ally/επίκουρος of Troy*, who had been scorned by Alexander/Paris and excluded from his prerogatives by Priam, either *overthrew Priam* and *became one of the Achaeans* (quotation of Menekrates from Xanthos located in, the *ally of Troy*, Lycia) ([TLG-Dion.Halic.*Antiq.-Romanae* 1:48:3:1-11, 53:5:1-11], [TLG-Procl.*Chrestomathia* l:248-251]), or retreated to mount Ida and negotiated with the winners for his relocation [[280], 196-8].

–Antenor, whose two sons were second-in-command under *Aeneas* in Dardanians, had hosted Menelaus and Odysseus in his house/'μεγάροισι' inside Troy during the War [Hom.*Il.* 2:819-823, 3:203-207], while before the Fall, Antenor visited the Achaean Camp and negotiated with Agamemnon to deliver the sacred Palladium and Troy to Odysseus [Δίκτης/Dictys.Εφημερίς/Ephemeris iv:22, v:8 see [359]]; for this reason, a leopard's skin was put in front of the doors of Antenor's house to be left unpillaged (*Strabo quotes Sophocles*) and Antenor with Aeneas with a group of followers safely escaped [TLG-Str.*Geogr*. 13:1:53:1-22].

6 THE FALL OF TROY, BASED ON ARCHAEOLOGICAL EVIDENCE OF MYCENAEAN TECHNOLOGY IN TROY AND AT THE LEVANT

A multitude of archaeological finds suggests that several reconstructions of the Walls of Troy occurred, due to 'numerous Trojan Wars' [[303], 38], after:

1. Some Threats/Defeats(?), which pushed the Trojans to construct the 1,00-1,30m thick Wall at Early VI.

2. Attacks, which at early-VIe (1500-c.1490 B.C.) led to:

a. the construction of *Section 5* (2,70m width), *most likely* an initial phase to strengthen the pilaster-Wall of the Western/'Scaean(s)' Gate(s), since,

b. the *First Reconstruction* followed right after, with a general increase of the Wall-width (1,20m→3,50m) on the existing plan-view.

3. Two defeats, which are associated with *the demolition of the non-visible Walls, shifting outwards and (re-)building at the location of the today visible Walls*. The non-visible Walls 'had neither perished in *a great catastrophe nor been thoroughly destroyed*', *as it occurs after a devastating Fall and sack of a city*, 'but were gradually replaced,' along a:

a. shorter length, at 1425(-)/c.1410 B.C. (*Second Renovation*), since until 1400 B.C., the Pillar House touched the non-replaced earlier Wall and 'served a military purpose' *with finds which point towards a pre-1400 B.C. siege*.

b. Larger length according to defensive standards '*corresponding more to the Mycenaean West*,' *approximately one generation later* (1400-c.1390 B.C., *Third Building Stage*), contemporaneously to *Blegen's vigorous housecleaning and the consequent increase of Mycenaean objects of daily luxury in the, built with Mycenaean building standards*, Houses of the Reigning Family inside the Walls, which 'were discovered *in association with much Mycenaean pottery*.'

We recall the raids of the Argonauts and Hercules *one generation before the Trojan War*.' The 'demolitions' of the Walls, in 1425(-)/c.1410-c.1390 B.C., are compatible with captures of Troy and pro-Achaean changes of:

i) King (Laomedon→*Priam/Πρίαμος*), after a capitulation of Troy, the '*purchase*' and enthronement of 'Priam/"Purchased";'

ii) Dynasty (Priamids→Aeneads), *after the demolition of Wall-sections of Troy* to fit the Trojan-Horse, *an act that has been exclusively related to the Fall*.

The results of geological research illuminate the descriptions about the 'Scaeans Gates.' After 1400/c.1390 B.C., the *wagon/chariot-traffic*, through the Western/'Scaean(s) Gate(s)' (VIU-VIUf-h and VIUi-k), was very difficult or impossible *due to elevation differences*. Consequently, *the Iliad maintains a pre-1400/c.1390 B.C. memory of the Gate VIUf-h with 'the most unhindered passage of vehicles,' the 'Tower-like' Bastion e-d-c and the weak Section 5* (2,70m<3,50m of a-b-c-d-e-f-g-h).

It must be admitted, however, that *the working hypotheses for such open questions of a too distant past can seldom be tested against established data*; in such cases, *the criterion of the 'level of appropriateness' (compatibility) is often used*.

The documented respect of the Eastern Mediterranean *élites*, during 1500(+)-1200(+) B.C., to the 'Cretan workmanship' in metals, the Aegean technique in frescoes and the Mycenaean architecture evidence a respectable Mycenaean King of high-status, who permitted his palatial artisans/craftsmen to work abroad and transfer technology to the East, in the sacred interiors of Palaces of Kings, who were related to him:

a. as allies in the Levant and Cyprus,

b. through probable diplomatic marriages (Queen Henti/(h)Ἐν-δη(ίς)/(h)e-(n)t-i(ς)) in Ḫattuša,

c. via earlier marriages (Hyksos, Aahotep (Ahmose), Hatsepsut-Thutmose, Akhenaten) in Egypt, and,

d. as representatives, enthroned by him, in Troy.

In Greece, obsidian had been produced in Melos by early-EN (6500/6300 B.C.); copper-smelting was probably the next evolutionary step after obsidian production, and appeared in Greece by the 'late-sixth'-'early-fifth' millennium B.C., 'several "hundreds of years" earlier than in the Levant.' Minoan and Mycenaean Technology during EH-LH [[9], 52-56] constitute the natural evolution and continuation of this pre-existing know-how and could not have been imported from the Levant.

Therefore, the fortifications corresponding to the Mycenaean West and the Mycenaean objects of daily luxury in Houses of the Reigning Family at Troy, the Aegean finds with ritual significance inside Palaces at the Levant, Ḫatti, Egypt, and Cyprus and the respect of the Levantine and Egyptian élites to the Mycenaean/Cretan metallurgy, around 1400 B.C., align with the previously proposed ([11]; [9]; [10]) dating for the Fall of Troy (1400±(25-50) B.C.), during the heyday of Mycenaean power and Technology.

References:

[1] Η ΚΑΘΗΜΕΡΙΝΗ/KATHIMERINI, 3-6-2018, according to a B.B.C. special.

[2] Blegen, C.W. 1963. *Troy and the Trojans* (series: Ancient Peoples and Places, vol. 32), London/NY.

[3] Mountjoy, P.A. 1999a. The Destruction of Troia VIh. In: *StudiaTroica 9*, 253-293.

[4] Blegen, C.W./J.L., Caskey/M., Rawson. 1953. *Troy the Sixth Settlement III, 2 Parts: Texts - Plates*, Princeton Univ. Press, for University of Cincinnati.

[5] Mountjoy, P.A. 1999b. Troia VII Reconsidered. In: *Studia Troica 9*, 295-346.

[6] Blegen, C.W./J.L., Caskey/M., Rawson. 1958. *Troy IV Settlements VIIa, VIIb, and VIII, 2 Parts: Texts - Plates*, Princeton Univ. Press, for University of Cincinnati.

[7] Korfmann, M. 2004. Die Arbeiten in Troia/Wilusa 2003 - Work at Troia/Wilusa in 2003. In: *Studia Troica 14*, 3-31.

[8] Latacz, J. 2004. *Troy and Homer – Towards a Solution of an Old Mystery*, Oxford/NewYork [translation by Windle, K., and R., Ireland (eds.) of: *Troia und Homer, Der Weg zur Lösung eines alten Rätsels*, München, 2003].

[9] Giannakos, K. 2016. Cutting-Edge Technology and Know-how of Minoans/Mycenaeans during LBA and Possible Implications for the Dating of

the Trojan War, *ΤΑΛΑΝΤΑ, 46-47 (2014-2015)*, Proceedings of Dutch Archaeol. and Hist. Soc., 51-79. https://www.academia.edu/27566172/.

[10] Giannakos, K. 2015b. The Aegean type Sword found at Ḫattuša and the Written Sources about the Exchange of Technology at the Late Bronze Age. In: N., Stampolides, C., Maner, and K., Kopanias (eds.), *NOSTOI, Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the LBA and EIA*, Proc. of the Intl Conf. at Istanbul 31/3 – 3/4 2011, 749-756, https://www.academia.edu/14567976/.

[11] Giannakos K. 2019b. Evidence from Aegean, Cyprus, Egypt, Levant, Asia Minor and Possible Dating of Trojan War (Part II), *ΤΑΛΑΝΤΑ vol. LI (51)*, Proc. of Dutch Arch. and Hist. Soc., 9-75. https://www.academia.edu/41680418.

[12] Dörpfeld, W. 1902. *Troja und Ilion. Ergebnisse der Ausgrabungen in den vorhistorischen und historischen Schichten von Ilion 1870-1894*, 2 vols., Athen, https://digi.ub.uni-heidelberg.de-diglit/doerpfeld1902bd1 & bd2. [It is extensively quoted by Dörpfeld's permission in H.C., Tolman, and G.C., Scoggin 2013, as also in M. Klinkott 2004].

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

[14] Klinkott, M. 2004. Die Wehrmauern von Troia VI. In: *Studia Troica 14*, 33-85.

[15] Korfmann, M. 1999. Troia – Ausgrabungen 1998. In: *Studia Troica 9*, 1-34; p.17-19 by R. Aslan.

[16] Mountjoy, P.A. 1997. Troia Phase VIf and Phase VIg: The Mycenaean Pottery. In: *Studia Troica 7*, 275-294.

[17] Vermeule, E.D.T. 1983. *Ελλάς: Εποχή του Χαλκού*, Athens [Greek translation of: Vermeule, E., 1964, *Greece in the The Bronze Age*, Chicago, IL].

[18] Vermeule, E.D.T. 1986. Priam's Castle Blazing: A Thousand Years of Trojan Memories. In: *Mellink [19]*, 77-92.

[19] Mellink, M.J. (ed.) 1986. Troy and the Trojan War, A Symposium held at Bryn Mawr College, October 1984, Bryn Mawr, PA).

[20] TLG = Thesaurus Linguae Graecae <https:/www.stephanus.tlg.uct.edu>, A digital library of Greek literature; in this article: *Homer*, *Plutarchus*, *Pausanias*, *Aristotle*, *Thucydides Hist*, *Proclus Philosopher*, *Xenophon*, *Strabo Geogr.*, *Scholia-in-Homerum*, *Dionysius Halicarnassensis*, *Diktys Cretensis*, *Scepsian Demetrios*, *Sophocles*, University of California, Irvine, CA (Brumet, Th./M., Pantelia, eds.).

[21] Encyclopedia-Britannica: *Lescheos*.

[22] Korfmann, M. 1997. Troia – Ausgrabungen 1996. In: *Studia Troica 7*, 1-71.

[23] Liddell, H.D./Scott, R. 1997. *Μέγα Λεξικόν της Ελληνικής Γλώσσης* =(*Great Lexikon of Greek Language*), I. Σιδέρης, Athens; it is also comprised in TLG ([20]).

[24] Rennel, J. 1814. *Observations on the Topography of the Plain of Troy*, Cambridge Library Collection, digitally (re)printed, 2014.

[25] Leaf, W. 1971. *Reprint*. *Troy, a Study in Homeric Geography*, Freeport, NY, 1912.

[26] Kayan, I. 1995. The Troia Bay and Supposed Harbour sites in the Bronze Age. In: *Studia Troica 5*, 211-5.

[27] Kraft, J.C./I., Kayan/O., Erol. 1980. Geomorphic Reconstructions in the Environs of Ancient Troy, *Science 209(4458)*, 776–782.

[28] Luce, J.V. 1984. The Homeric Topography of the trojan Plain Reconsidered, *Oxford Journal of Archaeology, 3(1)*, 31–43.

[29] Luce, J.V. 1998. *Celebrating Homer's Landscapes*, Yale University.

[30] Rapp, G.,/J.A., Gifford, (Eds). 1982. *Troy: Archaeological Geology*, Suppl. Monograph, Princeton.

[31] Kraft, J.C./G.R., Rapp/I., Kayan/J.V., Luce. 2003. Harbor areas at ancient Troy: Sedimentology and geomorphology complement Homer's Iliad, *Geology 02/2003*, 163-166.

[32] Zangger, E. 2016. *The Luwian Civilization - the Missing Link in the Aegean Bronze Age*, Ege Yayinlari, Istanbul.

[33] Korfman, M. 1986. Troy: Topography and Navigation. In *Mellink [19]*, 1-16.

[34] Kraft, J.C./N., Thomas. 2003. Geology corresponds with Homer's description of ancient Troy, *University of Delaware*, https://www1.udel.edu/PR/UDaily/2003/troy030303.html.; UDAILY is produced by the Office of Public Relations 150 South College Ave. Newark, DE 19716-2701 (302) 831-2791: https://www1.udel.edu/PR/UDaily/2003/troy030303.html#:~:text=Geology%20corresponds%20with%20Homer's%20description%20of%20ancient%20Troy&text=March%203%2C%202003%2D%2DCombining,the%20geography%20of%20ancient%20Troy.

[35] Korfmann, M. 1998. Troia – Ausgrabungen 1997. In: *Studia Troica 8*, 1-70.

[36] Melena, J.L. 2014. Mycenaean Writing. In: *Duhoux/Morpurgo-Davies 2014 [37]*, 3-186.

[37] Duhoux, Y./A., Morpurgo-Davies (eds). 2008/2011/2014. *A Companion to Linear B – Mycenaean Greek Texts and their World*, vols.1/2/3 (series: Bibliothèque des Cahiers de l'Institut de linguistique de Louvain. Antiquité:120/127/133), Louvain-La-Neuve-Dudley, MA.

[38] Driessen, J./C., Langohr. 2007. Rallying Round a 'Minoan' Past: Legitimation of Power at Knossos During the Late Bronze Age. In: *Galaty/Parkinson [39]*, 178-189.

[39] Galaty, M.L./W.A. Parkinson, (eds.) 2007. *Rethinking Mycenaean Palaces II: Revised and Expanded Second Edition (series: Monograph / Cotsen Institute of Archaeology*, University of California, Los Angeles; 60), Los Angeles, CA.

[40] Driessen, J. 1990. An Early Destruction in the Mycenaean Palace at Knossos-A New Interpretation of the Excavation Field-Notes of the South-East Area of the West Wing, *Acta Archaeologica Lovaniensia Monographiae*, Leuven.

[41] Driessen, J. 2008. Chronology of the Linear B Texts. In: *Duhoux/Morpurgo-Davies 2008 [37]*, 69-79.

[42] Palaima, T. 2011. Scribes, Scribal Hands and Plaeography. In *Duhoux/Morpurgo-Davies [37]*, 33-136.

[43] Wiener, M.H. 2016. Aegean Warfare at the Opening of LBA in Image and Reality. In: E., Alram-Stern, F., Blakolmer, S., Deger-Jalkotzy, R., Laffineur, and J., Weilhartner, (eds), series: *Aegaeum39*, Liège/Austin, TX, 139-146 [kindly provided to the author by Dr. Malcolm H. Wiener].

[44] Ruijgh, C.J. 1976. Offprint. *Chars et Roues dans les Tablettes Myceniennes: La Methode de la Mycenologie* (Mededelingen der Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Letterkunde: Nieuwe reeks; deel 39, no. 5), North-Holland, Amsterdam/Oxford/New Vork, ISBN 072048323 9, pp.171-200.

[45] Lejeune, M. 1968. Chars et Roues a Cnossos: Structure d' un Inventaire, Minos 9, 9-61.

[46] Driessen, J. 1996. The Arsenal of Knossos (Crete) and Mycenaean Chariot Forces. In: M., Lodewijckx, (ed.), *Archaeological and Historical Aspects of West-European Societies*, *Acta Archaeologica Lovaniensia Monographie 8*, Leuven University Press, 481-498. 1996

[47] Killen, J.T. 2001. Some Thoughts on Ta-ra-si-ja. In: S., Voutsaki, and J. Killen, (Eds.), *Economy and Politics in the Mycenaean Palace States*, Cambridge, Cambridge Philological Society, 161-180.

[48] Duhoux, Y. 2003. *Des Minoens en Egypte? "Keftiu" et "les îles au milieu du Grand-Vert"* (series: Publications de l'Institut Orientaliste de Louvain, vol. 52), Louvain-la-Neuve.

[49] Driessen, J. 2000. *The Scribes of the Room of the Chariot Tablets at Knossos – Interdisciplinary Approach to the Study of Linear B Deposit*, *Supplementos a Minos, No15*, Universidad de Salamanca, [after a request of the author, it was kindly provided and uploaded to https://www.academia.edu/312335/, by professor Jan Driessen].

[50] Firth, R.J. 2002. A Review of the Find-Places of the Linear B Tablets fromthe Palace of Knossos, *Minos 35–36*, 2000–2001, 63–290.

[51] Gulizio, J./K., Pluta/T.G., Palaima. 2001. Religion in the Room of the Chariot Tablets, in R. Laffineur/R. Hägg, (eds), *Potnia: Deities and Religion in the Aegean Bronze Age*, *Aegaeum 22*, 453-460.

[52] Firth, R.J./C., Skelton. 2016. A study of the scribal hands of Knossos based on phylogenetic methods and find-place analysis, *Minos 39*, 159-188.

[53] Evans, A. 1900/1901. *The Palace of Knossos*, *Annual of the British School at Athens*, Vol. 7, 1-120.

[54] Evans, A. 1935. *The Palace of Minos at Knossos*, v.IV-Part II, MacMillan, London.

[55] Raison, J. 1998. *Les Palais du Second Millénaire à Knossos*, v.I, Librairie Orientaliste Paul Geuthner, Paris.

[56] Melena, J.L. 2019. *The Knossos Tablets - Sixth Edition*, in collaboration with R.J., Firth. INSTAP, Philadelphia, Pennsylvania.

[57] Firth, R.J. 1999. The Find-Places of the Tablets from the Palace of Knossos, *Minos 31–32*, 1996–1997, 7–122.

[58] Firth, R.J./J.L., Melena. 2016. Re-visiting the scribes of the Room of the Chariot Tablets at Knossos: The Principal Hands 101-123, 125-141, *Minos 39*, 249-318.

[59] Olivier, J.P. 1967. *Les Scribes de Cnossos-Essai de Classement des Archives d' Un Palais Mycénien*, Dell' Ateneo, Rome.

[60] Driessen, J. 1997. Les Palais de Cnossos au MRII-III: Combien de Destructions? In: J., Driessen, and A., Farnoux, (eds), *La Crète Mycénienne - Actes de la Table Ronde international organisée par l'École française d'Athènes* (Athènes, 25-28 mars 1991), *BCH-Supplement 30*, Paris, 113-134.

[61] Evans, A. 1899/1900. *Knossos. Summary Report of the Excavations in 1900: I. The*

Palace, Annual of the British School at Athens, Vol. 6, 3-70.

[62] Evans, A. 1901/1902. *The Palace of Knossos-Provisional Report of Excavations for the Year 1902, Annual of the British School at Athens, Vol. 8*, offprint, 1-124.

[63] Evans, A. 1904/1905. *The Palace of Knossos and its Dependencies, Annual of the British School at Athens, Vol. 11*, 1-26.

[64] Hatzaki, H./A., Kotsonas. 2020. Knossos and North Central Crete. In I.S., Lemos, and A. Kotsonas, (eds), *A Companion to the Archaeology of Early Greece and the Mediterranean*, Wiley-Blackwell, Medford, MA, USA, 1029-1053.

[65] Driessen, J./C.F., MacDonald. 1997. *The Troubled Island, Minoan Crete Before and After the Santorini Eruption* (series: *Aegaeum 17*), Liège/Austin, TX.

[66] De-Fidio, P. 2008. Mycenaean History. In *Duhoux/Morpurgo-Davies 2008 [37]*, 81-114.

[67] Dossin, G. 1938. *Les Archives Epistolaires du Palais de Mari, Syria*, 19:2, 105-126.

[68] Charpin, D. 1995. The History of Ancient Mesopotamia: An Overview. In: J.M., Sasson, (ed.), *Civilizations of the ancient Near East*, 4 vols, NY, Charles Schribers sons, 2:807-829.

[69] Bryce, T. 2003. *Letters of the Great Kings of the Ancient Near East: The Royal Correspondence of the Late Bronze Age*, London.

[70] Breasted, J.H. 1906. *Ancient Records of Egypt – Historical Documents*, Vol.III, The Nineteenth Dynasty, University of Chicago.

[71] Helck, H.W. 1962. *Die Beziehungen Ägyptens zu Vorderasien im 3. und 2. Jahrtausend v. Chr*. (series: Ägyptologische Abhandlungen, vol. 5), Wiesbaden.

[72] Pfälzner, P. 2013. The Qatna Wall Paintings and the Formation of Aegeo-Syrian Art. In: J., Aruz, S.B., Graff, and Y., Rakic, (Eds), *Cultures in Contact from Mesopotamia to the Mediterranean in the Second Millennium B.C.*, The Metropolitan Museum of Art, NY, 200-213.

[73] Bietak, M. 2007. Bronze Age Paintings in the Levant: Chronological and Cultural Consideration. In: *Bietak/Czerny [74]*, 269-300.

[74] Bietak, M./E., Czerny, (eds.). 2007. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second-Millenium B.C.*, vol. III, Proceedings of the SCIEM 2000-2nd Euro Conference, Wien, 28th-May/1st-June 2003 (series: Denkschriften der Gesamtakademie, Bd.37; Contributions to the chronology of the Eastern Mediterranean, vol.9), Wien.

[75] Niemeier, W.-D./B., Niemeier. 1998. Minoan Frescoes in the Eastern Mediterranean. In: E.H., Cline, and D., Harris-Cline, (Eds), *The Aegean and the orient in the second millennium*, Proceedings of the 50th anniversary symposium Cincinnati (series *Aegaeum 18*), 18th–20th April, Liege, 69–98.

[76] Von-Rüden, C. 2011. Die Wandmalereien aus Tall Mišrife/Qatna im Kontext überregionaler Kommunikation-with studies by A. Brysbaert, I. Weisser, Qatna Studien 2, Wiesbaden; [non vidimus it is quoted by *P., Pfälzner 2013, [72]*].

[77] Brysbaert, A. 2011. The Painted Plaster from Qatna: A Technological Study. In: C., von-Rüden, 249– 269, 329–335; [non vidimus it is quoted by *P., Pfälzner 2013, [72]*].

[78] Zaccagnini, C. 1983. Patterns of Mobility among Ancient near Eastern Craftsmen, *Journal of Near Eastern Studies*, 42:4:245-264.

[79] Michel, C. 2001. *Correspondance des Marchands de Kanish au debut du IIe Millenaire avant J.-C.*, Cerf, Paris.

[80] Cline, E.H./A., Yasur-Landau. 2013. Aegeans in Israel: Minoan Frescoes at Tel Kabri, *Biblical Archaeology*, July, 37-44, 64.

[81] Von-Ruden, C. 2019. What's in a Style? Minoanizing Paintings in the Eastern Mediterranean, *Ancient Near East Today*, https://www.academia.edu/40629253/.

[82] Palyvou, C. 2007. The Cosmopolitan Harbor – Town of Ugarit and the "Aegean" Aspects of Its Domestic-Architecture. In: P.P., Betancourt, M.C., Nelson, and H., Williams (eds.), *Krinoi kai Limenes. Studies in Honor of Joseph and Maria Shaw* (series: Prehistory Monographs, vol. 22), Philadelphia, PA, [kindly provided to the author by profesor Clairy Palyvou].

[83] Callot, O. 1994. *La tranchee «Ville Sud». Etudes d 'architecture domestique* (Ras Shamra-Ougarit 10), Paris, https://www.mission-ougarit.fr/Publications/serie-Ras-Shamra-Ugarit.

[84] Friedrich, W.L/J., Heinemeier. 2009. The Minoan eruption of Santorini radiocarbon dated to 1613±13 B.C. – Geological and Stratigraphical Considerations. In: *Warburton [85]*, 57-63.

[85] Warburton, D., (ed.). 2009. *Time's Up – Dating the Minoan eruption of Santorini*, Danish Institute at Athens, Aarhus.

[86] Warburton, D. 2009a. Epilogue. In: *Warburton [85]*, 295-298.

[87] Pearson, C.L./P.W., Brewer/D., Brown/T.J., Heaton/G.W.L., Hodgins/T.A.J., Jull/T., Lange/M.W., Salzer. 2018. Annual radiocarbon record indicates 16th century B.C.E date for the

Thera eruption, *Science Advances, (August)*, <http://advances.sciencemag.org>.

[88] Manning, S.W./B., Kromer/M., Cremaschi/M.W., Dee/R., Friedrich/C., Griggs/C.S., Hadden. 2020. Mediterranean radiocarbon offsets and calendar dates for prehistory, <http://advances.sciencemag.org/>, *Science Advances, (March)*.

[89] Alberti, M.E. 2019. I Sistemi di Misura Micenei. In: *Del-Freo/Perna [90]*, 2:691-723.

[90] Del-Freo, M./M., Perna, (Eds). 2019. Seconda Edizione: *Manuale di Epigrafia Micenea – Introduzione allo studio dei Testi in Lineare B*, vols.1-2, Libreriauniversitaria, Padova.

[91] Guichard, M. 1993. Flotte crétoise sur l'Euphrate? *Nouvelles Assyriologiques Breves et Utilitaires*, 2:44-45.

[92] Moran, W.L. (edited and translated). 1992. *The Amarna Letters*, Baltimore, MD.

[93] Bryce, T.R. 2016. The land of Hiyawa/Que Revisited, *Anatolian Studies 66*:67-79 [kindly provided to the author by profesor Trevor Bryce].

[94] Peltenburg, E. 1996. From Isolation to State Formation in Cyprus, c.3500-1500 B.C. In: V., Karageorghis/D., Michaelides, (eds), *The Development of the Cypriot Economy*, Nicosia, 17-44.

[95] Redford, D.B. 2006. *A History of Ancient Egypt: Egyptian Civilisation in Context*, Dubuque, IA.

[96] Hankey, V./D., Aston. 1998. Mycenaean Pottery at Saqqara. In: J.B., Carter/S.P., Morris, (eds.), *The Ages of Homer: a Tribute to Emily Townsend-Vermeule*, Austin TX, 67-91.

[97] Parkinson, R./L., Schofield. 1995. Images of Myceneans - A Recently acquired Painted Papyrus from El-Amarna. In: *Davies/Schofield [98]*, 125-126.

[98] Davies, W.V./L. Schofield (eds.) 1995: *Egypt, the Aegean and the Levant – Interconnections in the Second Millennium B.C.*, London.

[99] Kelder, J.M./E.H., Cline. 2018. Memphis, Minos, and Mycenae: Bronze Age Contact between Egypt and the Aegean. In: *Spear/Potts/Timothy/Cole [100]*, 9-17.

[100] Spear, J./T., Potts/S. Timothy/Cole, (Eds). 2018. *Beyond the Nile – Egypt and the Classical World*, The J. Paul Getty Museum, LA, USA.

[101] Kelder, J.M. 2009. Royal Gift Exchange between Mycenae and Egypt: Olives as "Greeting Gifts" in the Late Bronze Age Eastern Mediterranean, *American Journal of Archaeology*, 113:3:339-352.

[102] Kelder, J.M. 2010. *The Kingdom of Mycenae - A Great Kingdom in the Late Bronze Age Aegean*, CDL-Press, Bethesda Maryland.

[103] Pendlebury, J.D.S. 1933/1951: *The City of Akhetaten, Parts* [II with H. Frankfort and H.W., Fairman, III, vols.1-2], Oxford University Press, London.

[104] Müller-Karpe, A. 2003. Remarks on Central Anatolian Chronology of the Middle Hittite Period. In: M., Bietak, (ed.), *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millenium B.C.-II*, Wien, ÖAW, II:383-94.

[105] Stos-Gale, Z.A./H., Gale/J., Houghton. 1995. The Origins of Egyptian Copper: Lead-Isotope Analysis of Metals from El-Amarna. In *Davies/Schofield [98]*, 127-135.

[106] Redford, D.B. 1992. *Egypt, Canaan, and Israel in Ancient Times*, Princeton University Press, NJ.

[107] Sourouzian, H./R./Stadelmann/N., Hampikian/M.S, Alvarez/I., Nouredin/M., Elesawy/M.-A., Lopez Marcos/C., Perzlmeier. 2006. Three Seasons of Work at the Temple of Amenhotep III at Kom-el-Hetan, Part III: Works in the Dewatered Area of the Peristyle Court and the Hypostyle Hall, *Annales du Service des Antiquités de l' Égypte, Le Caire*, 80:401-487, [kindly provided to the author by Dr. Hourig Sourouzian].

[108] Sourouzian, H./R., Stadelmann. 2005. Die ältesten Erwähnungen von Ioniern und Danaern: Neueste Grabungen im Totentempel Amenophis' III, in Theben enthüllen kolossale Statuen und Sockel mit Darstellungen fremder Völker, *Antike Welt = Ancient World*, 6:79-83, [kindly provided to the author by Dr. Hourig Sourouzian].

[109] Ventris, M./J., Chadwick. 1956. *Documents in Mycenaean Greek*, Cambridge [2nd ed. 1973, ed. by Chadwick, J.].

[110] Ruijgh, C.J. 1968. Les Noms en -won- (-āwon-, -īwon-), -uon- en Grec Alphabetique et en Mycenien, *Minos 9*:1, 109-155.

[111] Ruijgh, C.J. 1967. *Études sur la Grammaire et le Vocabulaire du Grec Mycénien*, Amsterdam.

[112] Driessen, J. 1998-1999. Kretes and Iawones Some Observations on the Identity of Late Bronze Age Knossians. In: J., Bennet, and J., Driessen, (Eds), *A-na-qo-ta, Studies presented to J.T., Killen*, (*Minos 33-34*), Universidad de Salamanca, 83-105.

[113] Fletcher, J. 2000. *Cronicle of a Pharaoh - The Intimate Life of Amenhotep III*, NY, Oxford University Press.

[114] Νικολακάκη-Κέντρου/Nikolakaki-Kentrou, M./P.P., Betancourt. 2000. Θραύσματα Τοιχογραφιών από τη Μαλκάτα (= Fragments of Wallpaintings at Malqata). In: *Καρέτσου/Karetsou/Ανδρεαδάκη-Βλαζάκη/Andreadaki-Vlazaki/Παπαδάκης/Papadakis [115]*, 287-297.

[115] Καρετσου/Karetsou, A./M., Ανδρεαδάκη-Βλαζάκη/Andreadaki-Vlazaki/N., Παπαδάκης-Papadakis (eds.). 2000. *Κρήτη–Αίγυπτος, Πολιτιστικοί Δεσμοί Τριών Χιλιετιών–Κατάλογος* (= *Crete-Egypt, Cultural Bonds of Three Millenia-List*), Heraklion.

[116] Redford, D.B. 2003. *The Wars in Syria and Palestine of Thutmose III*, Leiden, Brill.

[117] Giannakos, K. 2012. *Aegean Type Sword and Finds at Ḫattuša – Technology, Sources and Dating of Trojan War*, Saarbrücken (a translated and extended version was published in Greek, see *Γιαννακός/Giannakos 2016 [118]*).

[118] Γιαννακός/Giannakos, K. 2016. Τεχνολογία, Μαρτυρίες και Χρονολόγηση του Τρωικού Πολέμου - Μυκηναϊκά Ευρήματα σε Χαττούσα, Μικρά Ασία, Αίγυπτο, Κύπρο, Λεβάντε (= Technology, Evidence and Dating of Trojan War – Mycenaean Findings in Ḫattuša, Asia Minor, Egypt, Cyprus, Levant), Αθήνα. [Greek edition of *Giannakos 2012 [117]*].

[119] Strange, J. 1980. *Caphtor/Keftiu: A new Investigation* (series: Acta Theologica Danica, vol.14), Leiden.

[120] Bietak, M./N., Marinatos/C., Palyvou. 2007. *The Taureador Scenes in Tell el-Dabca (Avaris) and Knossos*, Ö.A.W., Wien.

[121] Ανδρεαδάκη-Βλαζάκη/Andreadaki-Vlazaki, M. 2000. Δεύτερη Μεταβατική Περίοδος στην Αίγυπτο (Hyksos) – Αρχή Νέων Ανακτόρων στην Κρήτη (ΜΜΙΙΙ-ΥΜΙΑ, 1648-1550 π.Χ.) = Second Intermediate Period in Egypt/Hyksos–Beginning of New Palace-period in Crete (MM-III-LMIA, 1648-1550 B.C.). In: *Καρέτσου-Karetsou/Ανδρεαδάκη-Βλαζάκη/Andreadaki/Vlazaki/Παπαδάκης/Papadakis [115]*, 80-1.

[122] Macdonald, C. 2000. Πώμα του Khyan = Lid of Khyan. In: *Καρέτσου-Karetsou/Ανδρεαδάκη-Βλαζάκη/Andreadaki-Vlazaki/Παπαδάκης/Papadakis [115]*, 82-3.

[123] Cline, E.H. 1995. Egyptian and Near Eastern Imports at Late Bronze Age Mycenae. In: *Davies/Schofield [98]*, 91-115.

[124] Warren, P. 1995. Minoan Crete and Pharaonic Egypt. In: *Davies/Schofield [98]*, 1-18.

[125] Neve, P. 1992. *Ḫattuša Stadt der Götter und Tempel: Neue Ausgrabungen in der Hauptstadt der Hethiter*, Philip von Zabern, Mainz am Rhein.

[126] Brysbaert, A. 2008. *The Power of Technology in the Bronze Age Eastern Mediterranean – The Case of the Painted Plaster, London and Oakville*, Equinox.

[127] Cline, E. 2007. Rethinking Mycenaean International Trade with Egypt and the Near East. In: *Galaty/Parkinson [39]*, 190-200.

[128] Hoffner, H.A., Jr. 2009. *Letters from the Hittite Kingdom*, Beckmann, G.M., (ed.), Society of Biblical Literature, Atlanta.

[129] Bietak, M. 1995. Connections between Egypt and the Minoan World - New Results from Tell El Dab'a. In: *Davies/Schofield [98]*, 19-28.

[130] Giannakos, K. 2015a. The Technology of Land Reclamation, Drainage and Irrigation Projects in MBA–LBA Greece and Possible Implications. In: *Agriculture and Agricultural Science Journal Procedia 4 Elsevier*, proceedings of the E.U. International Symposium: IRLA2014 The Effects of Irrigation and Drainage on Rural and Urban Landscapes, 26-28 Nov. 2014, Patras, p.68-78. https://www.academia.edu/12294592/.

[131] Morris, S.P. 1992. *Daidalos and the Origins of Greek Art*, Princeton University Press.

[132] *Apollodorus' Library and Hyginus' Fabulae*. 2007. Transl. with introd., by R. Scott Smith and Stephen M. Trzaskoma, Hacket, Indianapolis-Cambridge.

[133] Tassios, T.P. 2008. Mycenean Technology. In: *Paipetis 2008 [134]*, 1-18.

[134] Paipetis, S.A., (Ed.). 2008. *Science and Technology in Homeric Epics*, Dordrecht, Springer Science+Business Media, B.V.; Series Editor: Marco Ceccarelli.

[135] Tassios, T.P. 2006a. Mycenean Technology, keynote speaker in the International Symposium on Science and Technology.In: Homeric Epics, Olympia, Greece, August, included in the volume *Θ.Π. Τάσιος – Πρόσφατο Δημοσιευμένο Έργο 1996–2008*, Technical Chamber of Greece, Athens, 2009, 575–603.

[136] Tassios, T.P. 2006b. Selected Topics of Water Technology in Ancient Greece, keynote lecture in the 1st IWA International Symposium on *Water and Wastewater Technologies in*

Ancient Civilizations, Crete, Greece, October, included in the volume *Θ.Π. Τάσιος – Πρόσφατο Δημοσιευμένο Έργο 1996–2008*, Technical Chamber of Greece, Athens, 2009, 604–29.

[137] Tassios, T.P. 2001. Counter fertilization of Science and Technology in Ancient Greece, *International Symposium on Extraordinary Machines and Structures in Antiquity*, Olympia, included in the volume *Θ.Π. ΤΑΣΙΟΣ – Πρόσφατο Δημοσιευμένο Έργο 1996-2008*, Technical Chamber of Greece, Athens, 2009, 529–32.

[138] Penglase, C. 1997. Reprint. *Greek Myths and Mesopotamia - Parallels and Influence in the Homeric Hymns and Hesiod*, Routledge, London/NY, 1994.

[139] Paipetis, S.A./V., Kostopoulos. 2003. Defensive weapons in Homer: Part I the Shield of Achilles. In: *Paipetis 2003 [[140]*, 113-123 [kindly provided to the author by profesor Vasilis Kostopoulos].

[140] Paipetis, S.A., (Ed.). 2003. *Extraordinary Machines and Structures in Antiquity*, Peri-Technon, Patras, 2003.

[141] Paipetis, S.A./V., Kostopoulos. 2008. Defensive weapons in Homer. In: *Paipetis 2008 [134]*, 181-203.

[142] Aubet, M.E. 1997. Reprint. *The Phoenicians and the West – Politics, Colonies and Trade*, Cambridge University Press, NY, 1993, transl. by M. Turton, (= Tiro y las Colonias Fenicias de Occidente, Bellaterra, Barcelona, 1987).

[143] Melena, J.L. 1975. Po-ni-ki-jo in the Knossos Ga Tablets, *Minos 14*, 77-84.

[144] Smith, M.S./W.T., Pitard. 2009. *The Ugaritic Baal CycleVolume IIIntroduction with Text, Translation and Commentary of KTU/CAT 1.3–1.4*, Supplements to Vetus Testamentum, Brill, Leiden-Boston, Leiden.

[145] Smith, M.S. 1994. *The Ugaritic Baal Cycle, Volume I, Introduction with Text, Translation and Commentary of KTU 1.1-1.2*, Supplements to Vetus Testamentum, Brill, Leiden-NY-Köln.

[146] Duhoux, Y. 2008. Mycenaean Anthology. In: *Duhoux/Morpurgo-Davies 2008 [37]*, 243-397.

[147] Garcia-Ramon, J.L. 2011. Mycenaean Onomastics. In: *Duhoux/Morpurgo-Davies 2011 [37]*, 213-251.

[148] Hiller, S. 2011. Mycenaean Religion and Cult. In: *Duhoux/Morpurgo-Davies 2011 [37]*, 169-211.

[149] Lupack, S. 2019. Spezie, Oli Profumati e Offerte Religiose. In: *Del-Freo/Perna [90]*, 2:373-402

[150] Garcia-Ramon, J.L. 2019. Il Greco Miceneo. In: *Del-Freo/Perna [90]*, 2:211-244.

[151] Del-Freo, M. 2019. La Scrittura Lineare B. In: *Del-Freo/Perna [90]*, 2:123-166.

[152] Francheschietti, A. 2019. La Religione Micenea. In: *Del-Freo/Perna [90]*, 2:725-751.

[153] Schoep, I./P., Tomkins/J., Driessen, (Eds). 2012. *Back to the beginning. Reassessing social and political complexity on Crete during the Early and Middle Bronze Age*, Oxford.

[154] Tomkins, P. 2012. Behind the Horizon: Reconsidering the Genesis and Function of the 'First Palace' at Knossos (Final Neolithic IV–Middle Minoan IB). In: *Schoep/Tomkins/Driessen [153]*, 32-80.

[155] Schoep, I./P., Tomkins. 2012. Back to the Beginning for the Early and Middle Bronze Age on Crete. In: *Schoep/Tomkins/Driessen [153]*, 1-31.

[156] Alberti, L. 2012. Making Visible the Invisible: Cretan Objects Mentioned in the Cuneiform Texts of Mari and Archaeological Discoveries in Crete in the II Millennium B.C., *Studi Micenei ed Egeo-Anatolici*, 54:7-32.

[157] Whitelaw, T. 2012. The Urbanisation of Prehistoric Crete: Settlement Perspectives on Minoan State Formation. In: *Schoep/Tomkins/Driessen [153]*, 114-176 [kindly provided to the author by profesor Todd Whitelaw].

[158] Chadwick, J. 1976. *The Mycenaean World*, Cambridge University Press.

[159] Killen, J.T. 1983. Mycenaean Possessive Adjectives in -e-jo, *Transactions of the Philological Society*, 66-99.

[160] Civitilo, M. 2012. Ethnicity and Language: once again on Personal Names from Knossos. In, Carlier, P./C., de Lamberterie/M., Egetmeyer/N., Guilleux/F., Rougemont/J., Zurbach, (Eds), Études Mycéniennes 2010, *Actes du XIIIe Colloque International sur les Textes Égéens*, Sèvres, Paris, Nanterre, 20-23 Septembre 2010, Pisa-Roma, Serra, 177-194.

[161] Buck, C.D. 1926. The Language Situation in and about Greece in the Second Millennium B.C., *Classical Philology*, Vol.21:1, 1-26.

[162] Blegen, C.W. 1928. The Coming of the Greeks: II. The Geographical Distribution of Prehistoric Remains in Greece, *American Journal of Archaeology*, Vol.32:2, 146-154.

[163] Warren, P./V., Hankey. 1989. *Aegean Bronze Age Chronology*, Betts, J.H., (Ed.), Bristol Classical Press.

[164] Gelb, I.J. 1980. *Computer-Aided Analysis of Amorite*, *Assyriological Studies No:21*, The Oriental Institute of the University of Chicago.
[165] Archi, A. 2018. *Eblaite ^{d}Gú-šar and ^{d}Gú-ša-ra-tum–Ugaritic ktr and ktrt*, Nouvelles Assyriologiques Brèves et Utilitaires, 2018:1, 1-3 [kindly provided to the author by professor Alfonso Archi].
[166] Pardee, D. 2002. *Ritual and Cult at Ugarit*, T.J., Lewis, (ed.), Writings of the Ancient World-Vol.10, Soc. of Biblical Lit., Atlanta.
[167] Von-Ruden, C. 2017. Producing Aegeanness - An Innovation and its Impact in Middle and Late Bronze Age Syria/Northern Levant. In: S., Burmeister, and R., Bernbeck, (Eds.), *The Interplay of People and Technologies*, Archaeological Case Studies on Innovations, Berlin Studies of the Ancient World, 43:223-247.
[168] Sandars, N.K. 2001. *Οι λαοί της Θάλασσας – Πολεμιστές στην Αρχαία Μεσόγειο 1250-1150 π.Χ.*, Αθήνα, *The Sea Peoples – Warriors in ancient Mediterranean 1250-1150 B.C.*, 1976.
[169] Muhly, J.D. 2006b. Texts and Technology. The Beginnings of Iron Metallurgy in the Eastern Mediterranean. In: *Καζάζη/Kazazê [170]*, 19-31.
[170] Καζάζη/Kazazê, Γ./G., (ed.). 2005. *2ο Διεθνές Συνέδριο Αρχαίας Ελληνικής Τεχνολογίας* (= *2nd International Conference on Ancient Greek Technology*) πρακτικά (= proceedings), Αθήνα-Athens, 17-21 October, Τεχνικό Επιμελητήριο Ελλάδος/Technical Chamber of Greece.
[171] Lubbock, J. 1892. Fifth Edition. *Pre-Historic Times, as Illustrated by Ancient Remains, and the Manners and Customs of Modern Savages*, NY, Appleton & Co, 1865.
[172] Morgan, L.H. 1877. *Ancient Society*, Chicago, C.H. Kerr & Co.
[173] Childe, V.G. 1930. *The Bronze Age*, Cambridge University Press.
[174] Childe, V.G. 1939. The Orient and Europe, *American Journal of Archaeology*, 43:1:10-26.
[175] Childe, V.G. 1944. Archaeological Ages as Technological Stages, *Journal of the Royal Anthropological Institute of Great Britain*, and Ireland, 74:1/2:7-24.
[176] Amzallag, N. 2009. From Metallurgy to Bronze Age Civilizations, the Synthetic Theory, *American Journal of Archaeology*, 113:4:497-519.
[177] Kienlin, T.L./T., Stöllner. 2009. Singen Copper, Alpine Settlement and Early Bronze Age Mining: Is There a Need for Elites and Strongholds? In: *Kienlin/Roberts [178]*, 67-104.
[178] Kienlin, T.L./B.W., Roberts, (Eds.). 2009. *Metals and Societies - Studies in honour of Barbara S. Ottaway*, Rudolph Hambelt Gmbh, Bonn..
[179] Renfrew, C. 1970. The autonomy of the south-east European Copper Age, *Proceedings of the Prehistoric Society*, 35:12-47.
[180] Renfrew, C. 1986. Varna and the emergence of wealth in prehistoric Europe. In A., Appadurai, (ed.), *The social life of things*, Cambridge University Press, 141-168.
[181] Renfrew, C. 1999. Reprint. *Before civilization*, London: Pimlico; 1973, Cape, London.
[182] Maddin, R., (ed.). 1988. *The beginning of the use of metals and alloys*, Cambridge, MA, MIT Press.
[183] Radivojević, M./T., Rehren/E., Pemicka/D., Šljivar/M., Brauns/D., Borić. 2010. On the origins of extractive metallurgy: new evidence from Europe, *Journal of Archaeological Science*, 37:2775-2787.
[184] Borić, D. 2009. Absolute Dating of Metallurgical Innovations in the Vinča-Culture of the Balkans, in: *Kienlin/Roberts [178]*, 191-245.
[185] Renfrew, C. 2018. Inventing the Final Neolithic. In: *Dietz/Mavridis/Tankosić/Takaoglu [186]*, 1-11.
[186] Dietz, S./F., Mavridis/Z., Tankosić/T., Takaoglu, (Eds). 2018. *Communities in Transition – The Circum-Aegean Area During the 5th and 4th Millenia B.C.*, UK, Oxbow.
[187] Roberts, B.W./M., Radivojević. 2015. Invention as a Process: Pyrotechnologies in Early Societies, *Cambridge Archaeological Journal*, 25:01:299-306.
[188] Thornton, C.P./B.W., Roberts. 2009. Introduction: The Beginnings of Metallurgy in Global Perspective, *Journal World Prehistory*, 22:181-184.
[189] Thornton, C.P./B.W., Roberts. 2014. Introduction. In: *Roberts/Thornton [190]*, 1-10.
[190] Roberts, B.W./C.P., Thornton, (Eds). 2014. *Archaeometallurgy in Global Perspective – Methods and Syntheses*, Springer, NY/Heidelberg/Dordrect/London.
[191] Thornton, C.P./J.M., Golden/D.J., Killick/ /V.C., Pigott/T.H., Rehren/B.W., Roberts. 2010. A Chalcolithic Error: Rebuttal to Amzallag 2009, *American Journal of Archaeology*, 114:2:305-315.

[192] Craddock, P.T. 2010. Reprint. *Early Metal Mining and Production*, Archetype, London, 1995.
[193] Hauptmann, A./G., Weisgerber. 1996. The Early Production of Metal in the Near East. In: *Bagolin/Lo-Schiavo [194]*, 95-101.
[194] Bagolin, B./F., Lo-Schiavo, (eds). 1996. *The Copper Age in the Near East and Europe, Colloquium XIX: Metallurgy: Origins and Technology*, ABACO, Forlì, Italia.
[195] Hauptmann, A. 2020. *Archaeometallurgy – Materials Science Aspects*, Springer, Cham, Switzerland.
[196] Radivojević, M./T., Rehren/S., Farid/E., Pernicka/D., Camurcuoğlu. 2017. Repealing the Çatalhöyük extractive metallurgy: The green, the fire and the 'slag', *Journal of Archaeological Science*, 1-22, https://doi.org/ 10.1016/ j.jas.2017.07.001.
[197] Muhly, J.D. 1988. The Beginnings of Metallurgy in the Old World. In: *Maddin [182]*, 2-20.
[198] Muhly, J.D. 1997. Metals and Metallurgy: Using Modern Technology to Study Ancient Technology. In: *proceedings of 1ο Διεθνές Συνέδριο Αρχαίας Ελληνικής Τεχνολογίας = 1st International Conference on Ancient Greek Technology*, Αθήνα-Athens, 17-21.
[199] Kienlin, T.L. 2010. *Traditions and Transformations: Approaches to Eneolithic (Copper Age) and Bronze Age Metalworking and Society in Eastern Central Europe and the Carpathian Basin*, (series: BAR International 2184), Oxford.
[200] Kienlin, T.L. 2014. Aspects of Metalworking and Society from the Black Sea to the Baltic Sea from the Fifth to the Second Millennium B.C. In: *Roberts/Thornton [190]*, 447-472.
[201] Gamble, C. 2007. *Origins and Revolutions, Human Identity in Earliest Prehistory*, Cambridge University Press.
[202] Wailes, B. 1996a. V. Gordon Childe and the Relations of Production. In: *Wailes [203]*, 3-14.
[203] Wailes, B., (ed.). 1996. *Craft Specialization and Social Evolution: in Memory of V. Gordon Childe*, University of Pennsylvania.
[204] Anthony, D.W. 1996. V.G. Childe's World Systems and the Daggers of the Early Bronze Age. In: *Wailes [203]*, 47-66.
[205] Chapman, R. 1996. "Inventiveness and Ingeniuity?" Craft Specialization, Metallurgy, and the West Mediterranean Bronze Age. In: *Wailes [203]*, 73-83.
[206] Gilman, A. 1996. Craft Specialization in Late Prehistoric Mediterranean Europe. In: *Wailes [203]*, 67-71.
[207] King, R.J. 1989. Minerals explained 10: Native-copper, *Geology Today*, 5:3:104-106.
[208] Maddin, R./T.S., Wheeler/J.D., Muhly. 1980. Distinguishing Artifacts Made of Native Copper, *Journal of Archaeological Science*, 7:211-225.
[209] Strahm, C./A., Hauptmann. 2009. The Metallurgical Developmental Phases in the Old World. In: *Kienlin/Roberts [178]*, 116-128.
[210] Roberts, B.W. 2009. Origins, Transmission and Traditions: Analysing Early Metal in Western Europe. In: *Kienlin/Roberts [178]*, 129-142.
[211] Weisgerber, G./L., Wilies. 2000. The Use of Fire in Prehistoric and Ancient Mining-firesetting, *Paléorient*, 26:2:131-149.
[212] Renfrew, C./P.G., Bahn. 2016. Sixth Edition: *Archaeology – Theories, Methods, and Practice*, Thames & Hudson, London.
[213] Renfrew, C. 1973. Trade and Craft Specialization. In: D.D., Theocharis, (ed.)., *Neolithic Greece*, National Bank of Greece, 179-200.
[214] Tylecotte, R.F. 2002: 2nd Edition, Reprint. *A History of Metallurgy*, Maney for Institute of Technology, London, 1976.
[215] Tylecotte, R.F./P.T., Craddock. 1982. Smelting Copper Ore from Rudna Glava, Yugoslavia, *Proceedings of the Prehistoric Society*, 48:459-465.
[216] Mina, M. 2018. Casting Doubts on Metallurgy and the Transition to Social Complexity: The Evidence from the Aegean. In: *Dietz/Mavridis /Tankosić/Takaoglu [186]*, 67-76.
[217] Renfrew, C. 1971. Carbon 14 and the Prehistory of Europe, *Scientific American*, 225:63-72.
[218] Maran, J. 2021. Attica and the Orgins of Silver Metallurgy in the Aegean and the Carpatho-Balkan Zone. In: K., Kalogeropoulos/D., Vassilikou/M., Tiverios, (Eds), *Sidelights on Greek Antiquity–Archaeological and Epigraphical Essays in Honour of Vasileios Petrakos*, De-Gruyter, Berlin/Boston, 197-225.
[219] Bartelheim, M. 2009. Elites and Metals in the Central European Early Bronze Age. In: *Kienlin/Roberts [178]*, 34-46.
[220] Krause, R. 2009. Bronze Age Copper Production in the Alps: Organisation and Social Hierarchies in Mining Communities. In: *Kienlin/Roberts [178]*, 47-66.

[221] Roberts, B.W. 2011. Ancient Technology and Archaeological Cultures: Understanding the Earliest Metallurgy in Eurasia. In B.W., Roberts, and M., Vander-Linden, (Eds.), *Investigating Archaeological Cultures - Material Culture*, Variability, and Transmission, 137–150.

[222] Muhly, J.D. 2006a. Chrysokamino in the History of Early Metallurgy. In: *Betancourt [223]*, 155-178.

[223] Betancourt, P.P., (ed.). 2006. *The Chrysokamino Metallurgy Workshop and its Territory, Hesperia-Supplement-36*, American School at Athens.

[224] Muhly, J.D. 1996. The First Use of Metals in the Aegean. In: *Bagolin/Lo-Schiavo [194]*, 75-84.

[225] Demoule, J-P./C., Perlès. 1993. The Greek Neolithic: A New Review, *Journal of World Prehistory*, 7:4:355-416.

[226] Sampson, A. 2018. The Neolithic Settlement at Ftelia, Mykonos, an Intra-Site Analysis. In: Sampson, A./T., Tsourouni, (Eds), *Ftelia on Mykonos Neolithic Networks in the Southern Aegean Basin*, University of Aegean, Monograph Series 7, Athens.

[227] Tzachili, I. 2008a. Aegean Metallurgy in the Bronze Age, Recent Developments. In: *Tzachili [228]*, 7-33.

[228] Tzachili, I., (ed.). 2008. *Aegean Metallurgy in the Bronze Age*, Athens, Ta Pragmata.

[229] Ζάχος/Zachos, K. 2010. *Η μεταλλουργία στην Ελλάδα και στη ΝΑ Ευρώπη κατά την 5η και 4η χιλιετία π.Χ.* (= *The metallurgy in Greece and SE Europe during the 5th and 4th millennium B.C.*). In: *Παπαδημητρίου/Papadimitriou/Τσιρτσώνη/Tsirtsoni [230]*, 77-91.

[230] Παπαδημητρίου/Papadimitriou, N./Z., Τσιρτσώνη/Tsirtsoni, (Eds). 2010. *Η Ελλάδα στο ευρύτερο πολιτισμικό πλαίσιο των Βαλκανίων κατά την 5η και 4η χιλιετία π.Χ.* (= *Greece in the broader cultural context of the Balkans during the 5th and 4th millennium B.C.*), Athens, Goulandris Foundation.

[231] Zachos, K. 2007. The Neolithic Background: AReassesment. In: *Day/Doonan [232]*, 168-206.

[232] Day, P.M./R.C.P., Doonan, (Eds). 2007. *Metallurgy in the Early Bronze Age Aegean, Sheffield Studies in Aegean Archaeology 7*, Oxbow, Oxford.

[233] Phelps, W.W./G.J., Varoufakis/R., Jones. 1979. Five Copper Axes from Greece, *The Annual of British School at Athens*, 74:175-184.

[234] Tsirtsoni, Z. 2016b. Concluding Remarks. In: *Tsirtsoni [235]*, 453-464.

[235] Tsirtsoni, Z., (ed.). 2016. *The Human Face of Radiocarbon - Reassessing Chronology in prehistoric Greece and Bulgaria, 5000-3000 cal B.C.*, Maison de l'Orient et de la Méditerranée (MOM), Lyon, avec le soutien de l'INSTAP (Institute for Aegean Prehistory), https://books.openedition.org/momeditions/498.

[236] Renfrew, C. 2017. Repprint. *The Emergence of Civilization – The Cyclades and the Aegean in the Third Millenium B.C.*, Oxbow, Oxford; (Renfrew), 1972.

[237] Elster, E.S./C., Renfrew. 2003a: Preface – Overview. In: *Elster/Renfrew [238]*, xxv-xxxvi.

[238] Elster, E.S./C., Renfrew, (eds). 2003. *Prehistoric Sitagroi*: v.2 *Final Report*, Cotsen, L.A.

[239] Treuil, R. 1992a. La Chronologie: Les Datations par le C14. In: *Treuil [240]*, 33-37.

[240] Treuil, R., (ed.). 1992. *Dikili Tash – Village Préhistorique de Macédoine Orientale I Fouilles de Jean Deshayes, BCH Suppl. XXIV*, https://cefael.efa.gr/detail.php?site_id=1&actionID=book&serie_id=BCHSuppl&volume_number=24&ce=dod20r59lne1j1u8acuot04qs3lg88lr&sp=1, Université de Paris.

[241] Séfériades, M./L., Karali-Yannacopoulos. 1992. L' Outillage. In: *Treuil [240]*, 59-119.

[242] Renfrew, C./E.A., Slater, 2003. Metal Artifacts and Metallurgy. In: *Elster/Renfrew [237]*, 301-29.

[243] Andreou, S./M., Fotiadis/K., Kotsakis. 2001. The Neolithic and Bronze Age of Northern Greece, Addendum. In: Cullen, T., (ed.), *Aegean Prehistory – A Review, American Journal of Archaeology - Supplement I*, Archaeological Institute of America, 259-327.

[244] Sherratt, S. 2007. The Archaeology of Metal Use in the Early Bronze Age Aegean: A Review. In: *Day/Doonan [232]*, 245-263.

[245] Pappa, M./M., Besios. 1999. The Makrygialos Project: Rescue Excavations at the Neolithic Site of Makriyalos, Pieria, Northern Greece. In: *Halstead [246]*, 108-120.

[246] Halstead, P., (ed.). 1999. *Neolithic Society in Greece*, Sheffield Academic Press.

[247] McGeehan-Lyritzis, V./N.H., Gale. 1988. Chemical and Lead Isotope Analyses of Greek Late Neolithic and Early Bronze Age Metals, *Archaeometry*, 30:199-225.

[248] Τσούντας/Tsountas, X./C. 2000. Reprint. *Αἱ Προϊστορικαί Ακροπόλεις Διμηνίου και*

Σέσκλου (= *The Prehistoric Akropoleis of Dimini and Sesklo*), Ἀθῆναι/Athens, 1908.

[249] Adrymi-Sismani, V. 2016. The settlement at the Mikrothives interchange and the transition from the Chalcolithic to the Early Bronze Age. In: *Tsirtsoni [235]*, 395-416.

[250] Σωτηριάδης/Sotiriadis, Γ./G. 1911. Ανασκαφαί εν Χαιρωνεία και εν Φωκίδι (= Excavations in Haironeia and Fokis), *Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας* (= *proceedings of the Archaeological Society in Athens*), 159-167.

[251] Sotiriadis, G. 1912. Fouilles préhistoriques en Phocide, *Revue des Études Grecques*, tome 25:113-114, 253-299.

[252] Zachos, K./A., Douzougli. 1999. Aegean Metallurgy: How Early and How Independent? In: P., Betancourt, V., Karageorghis, R., Laffineur, and W.-D., Niemeier (eds), (series: *Aegaeaum 20*), 959-68.

[253] Σωτηριάδης/Sotiriadis, Γ./G. 2022. https://www.in.gr/2022/01/30/plus/features/georgios-sotiriadis-o-akamatos-ereynitis/.

[254] Treuil, R., (ed.). 1983. *Le Néolithique et le Bronze Ancien Égéens - Les Problèmes Stratigraphiques et Chronologiques, les Techniques, les Hommes*, École Française d' Athènes, https://cefael.efa.gr/detail.php?site_id=1&actionID=book&serie_id=BefarA&volume_number=248&sp=3.

[255] Kakavogianni, O./E., Tselepi/K., Dimitriou/C., Katsavou/K., Douni. 2016. The Neolithic and Early Bronze Age settlement in Merenta, Attica, in its regional context. In: *Tsirtsoni [235]*, 437-451.

[256] Kakavogianni O./K., Douni/F., Nezeri. 2008. Silver Metallurgical Finds Dating from the End of the Final Neolithic Period until the Middle Bronze Age in the Area of Mesogeia. In: *Tzachili [228]*, 45-57.

[257] Κακαβογιάννη/Kakavogianni, Ο./K., Ντούνη/Douni, Φ./F., Νέζερη/Nezeri/M., Γεωργακοπούλου/Georgakopoulou/I., Μπασιάκος/Mpasiakos. 2006. Απόπειρα Τεχνολογικής Προσέγγισης της Παραγωγής Αργύρου και Μολύβδου κατά την Τελική Νεολιθική και Πρωτοελλαδική Ι Περίοδο στα Μεσόγεια (= Attempt of Technological Approach to the Production of Silver and Lead during the Late Neolithic and Early Helladic I Period in the Mediterranean). In: *Καζάζη/[Kazazê] [170]*, 77-83.

[258] Nazou, M. 2018. The end of the Neolithic in East Attica: New data from Kontra Gliate (Kiapha Thiti) and Thorikos Mine 3. In: *Dietz/Mavridis/Tankosić/Takaoglu [186]*, 289-295.

[259] Coleman, J.E. 1977. *Keos I Kephala – A Late Neolithic Settlement and Cemetery*, vol.1, *American School of Classical Studies*, Princeton, N.J.

[260] Maxwell, V./A., Sampson/N., Skarpelis/R.M., Ellam. 2018. An Archaeological and Archaeometric Analysis of Early Metals from Ftelia, Mykonos. In: A., Sampson, and T., Tsourouni, (Eds), *Ftelia on Mykonos Neolithic Networks in the Southern Aegean Basin-Vol.-II*, 153-186 [kindly provided to the author by profesor Adamantios Sampson].

[261] Maxwell, V./R.M., Ellam/N., Skarpelis/A., Sampson. 2019. The Context and Nature of the Evidence for Metalworking from Mid-4th Millennium Yali (Nissyros), *Journal of Greek Archaeology*, 4:1-30 [kindly provided to the author by profesor Adamantios Sampson].

[262] Georgakopoulou, M. 2005. *Technology and Organisation of Early Cycladic Metallurgy: Copper on Seriphos and Keros, Greece*, https://discovery.ucl.ac.uk/id/eprint/1445506/, Doctoral Thesis, University of London.

[263] Catapotis, M./O., Pryce/Y., Bassiakos. 2008. Preliminary Results from an Experimental Study of Perforated Copper-smelting Shaft Furnaces from Crysokamino (Eastern Crete). In: *Tzachili [228]*, 113-121.

[264] Catapotis, M./Y., Bassiakos. 2007. Copper Smelting at the Early Minoan site of Chrysokamino on Crete. In: *Day/Doonan [232]*, 68-83.

[265] Philaniotou, O./Y., Bassiakos/M., Georgakopoulou. 2011. Early Bronze Age Copper Smelting on Seriphos (Cyclades, Greece). In: P.P., Betancourt and S.C., Ferrence, 157-164.

[266] Betancourt, P.P./S.C., Ferrence, (Eds). 2011. *Metallurgy: Understanding How, Learning whY - Studies in Honor of J.D. Muhly*, INSTAP, Philadelphia.

[267] Zachos, K. 1999. Zas cave on Naxos and the role of caves in the Aegean Late Neolithic. In: *Halstead [246]*, 153-63.

[268] Zachos, K./A., Douzougli. 2008. Observations on the Early Bronze Age Sealings from the Cave of Zas at Naxos. In: N., Brodie/J., Doole/G., Gavalas/C., Renfrew, (Eds), *Horizon/Ορίζων*, A colloquium on the prehistory of the Cyclades, Stavros Niarchos Foundation, Cambridge, UK, 125-135.

[269] Θεοχάρης/Theocharis, Δ./D. 1951. Ἀνασκαφή ἐν Ἀραφῆνι (= Excavation in Arafin), *Πρακτικά της εν Αθήναις Αρχαιολογικής*

Εταιρείας (= *Proceedings of the Archaeological Society in Athens*), 106:77-92.

[270] Bassiakos, Y./O., Philaniotou. 2007. Early Copper Production on Kythnos: Archaeological Evidence and Analytical Approaches to the Reconstruction of Metallurgical Processes. In: *Day/Doonan [232]*, 19-56.

[271] Tselios, T. 2008. Pre-Palatial Copper Metallwotking in the Messara Plain, Crete. In: *Tzachili [228]*, 123-9.

[272] Hakulin, L. 2008. Bronzeworking on Late Minoan Crete. An Overview based on Published Data. In: *Tzachili [228]*, 197-209.

[273] Papadimitriou, G. 2008. The Technological Evolution of Copper Alloys in the Aegean during the Prehistoric Period. In: *Tzachili [228]*, 271-87. p.277-280.

[274] Papadatos, Y. 2007. The Beginning of Metallurgy in Crete: New Evidence from the FN-EMI Settlement at Kephala Petras, Siteia. In: *Day/Doonan [232]*, 154-67.

[275] Betancourt, P.P. 2007. The Final Neolithic to Early Minoan III Metallurgy Site at Crysokamino n Crete. In: *Day/Doonan [232]*, 57-67.

[276] Nakou, G. 1995. The Cutting Edge: A New Look at Early Aegean Metallurgy, *Journal of Mediterranean Archaeology*, 8:2:1-32.

[277] Aslanis, I. 2018. Greece in the 5th and 4th millenia B.C.: Researching the "missing" 4th millennium. In *Dietz/ Mavridis/Tankosić/Takaoglu [186]*, 27-32.

[278] Radivojević, M./B.W., Roberts/E., Pernicka/ Z., Stos-Gale/M., Martinón-Torres/T., Rehren/ P., Bray/D., Brandherm/J., Ling/J., Mei/H., Vandkilde/K., Kristiansen/S.J., Shennan/C., Broodbank. 2018. The Provenance, Use, and Circulation of Metals in the European Bronze Age: The State of Debate, Journal of Archaeological Research, doi.org/10.1007/ s10814-018-9123-9.

[279] Dickinson, O. 2014. The Aegean. In: *Renfrew/Bahn [212]*, 3:1860-84.

[280] Nagy, G. 2011. Reprint. *Homer the Preclassic*, University of California Press, 2010; https://chs.harvard.edu/re-ad/nagy-gregory-homer-the-preclassic.

[281] Bachvarova, M. 2008. The poet's Point of View and the Prehistory of the Iliad. In: Collins, B.J./M.R., Bachvarova/I.C., Rutherford, (Eds), *Anatolian Interfaces - Hittites, Greeks and their Neighbors*, Oxbow, 93-106.

[282] Ruijgh, C.J. 2011. Mycenaean and Homeric Language. In *Duhoux/Morpurgo-Davies 2011 [37]*, 253-298.

[283] Morris, S.P. 1989. A Tale of Two Cities: The Miniature Frescoes from Thera and the Origins of Greek Poetry, *American Journal of Archaeology* (93):4, 511-35.

[284] Cline, E.H. 1996. Aššuwa and the Achaeans: The 'Mycenaean' Sword at Ḫattušas and its Possible Implications, *Annual of the British School at Athens*, 91:137-151.

[285] Cline, E.H. 1997. Achilles in Anatolia: Myth, Hisotry 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*, Bethesda, MD, 189-210.

[286] Palaima, T. 2008. Mycenaean Religion. In: *Shelmerdine [287]*, 342-61.

[287] Shelmerdine, C.W., (Ed.). 2008. *The Cambridge Companion to the Aegean Bronze Age*, Cambridge University Press.

[288] Watkins, C. 2002. Homer and Hittite Revisited II. In, Yener, A./H.A., Hoffner Jr., (Eds.), *Recent Developments in Hittite Archaeology and History, papers in Memory of Hans G. Güterbock*, Winona Lake, Indiana, Eisenbrauns, 167-76.

[289] Nagy, G. 2005. Reprint. *Homeric Questions*, Austin, TX, University of Texas Press, 1996.

[290] Nagy, G. 2004. *Homer's Text and Language, online publications*, http://chs.harvard.edu/, published in 2004 by the University of Illinois Press.

[291] Mellink, M.J. 1986a. Postscript. In: *Mellink [19]*, 93-101.

[292] Γιαννακός/Giannakos, K. 2019a. Οι Ομηρικοί Αχιλλέας και Τήλεφος, Ο Χετταίος βασιλιάς Τελέπενου, qe-re-qo-ta-o και a-ki-re-u της Γραμμικής Β, σε σύγκριση με τη γλωσσολογική χρονολόγηση στίχων της Ιλιάδας (= Homeric Achilles and Telephus, Hittite King Telepenu, Linear B's qe-re-qo-ta-o and a-ki-re-u Compared to a Linguistic Dating of Iliad's Verses). In: *2nd Intl. Scientific Conference at Farsala*, Greece (7-9 February 2019), proceedings, Noula Vasiliki (ed.), *Homeric Achilles: Diachronic Reflections in the Art and Literature*, Ephorate of Antiquities at Larisa and Municipality of Farsala, Greece, https://www.academia.edu/ 40817454/.

[293] Miller, J.L. 2013. *Royal Hittite Instructions and Related Administrative Texts*, (Writings Fom the Ancient World), Atlanta, SBL.

[294] Huxley, G.L. 1965. (Reprint of) *Achaeans and Hittites*, Belfast, 1960.
[295] Mee, C. 1978. Aegean Trade and Settlement in Anatolia in the Second Millenium BC., *AS*: (XXVIII), 121-156.
[296] Mee, C. 2008. Mycenaean Greece, the Aegean and Beyond. In: *Shelmerdine [287]*, 362-86.
[297] Blegen, C.W. 1964. *Troy*. *Revised Edition of Vol. I & II*, NY, Cambridge University Press.
[298] Albright, W.F. 1940. Islam and the Religions of the Ancient Orient, *Journal of the American Oriental Society*, 60:3, 283-201.
[299] Smith, M.S. 1985. Kothar Wa-Hasis, the Ugaritic Craftsman God, PhD-Thesis, Yale University, USA, University Microfilms International, https://support.proquest.com/s/submit-a-case?language=en_US.
[300] Archi, A. 1979-1980. Les Dieux d'Ebla en IIIeme Millenaire avant J.C. et les Dieux d'Ugarit, *Les Annales Archéologiques Arabes Syriennes 29-30*, 167-171, [kindly provided to the author by profesor Alfonso Archi].
[301] Goetze, A. 1958. Remarks on Some Names Occurring in the Execration Texts, *Bulletin of the American Schools of Oriental Research*, 151:28-33.
[302] Hasselbach-Andee, R. 2005. *Sargonic Akkadian - A Historical and Comparative Study of the Syllabic Texts*, Harrassowitz, Wiesbaden.
[303] Korfmann, M. 1996. Troia – Ausgrabungen 1995, *Studia Troica 6*, 1-63.
[304] Tsirtsoni, Z. 2016a. The Late Neolithic II (Chalcolithic)-Early Bronze Age transition at the tell of Dikili Tash. In: *Tsirtsoni [235]*, 271-97.
[305] Korfman, M. 2003. Troia in Light of New Research. Key note Lecture, The German original of this offprint is edition 2/2004 of the Series: Reden an der Universität Trier. (ISSN 1611-9754); English translation: Joan Clough, Munich (Keynote lecture), William Aylward, Madison,Wisc.,USA (Presidential address).
[306] Britannica. 1911. Lesches. https://en.wikisource.org/wiki/1911_Encyclop%C3%A6dia_Britannica/Lesches.
[307] Britannica. 2008. Ephorus Historian, https://www.britannica.com/print/article/189596.
[308] Britannica. 2016. Hellanicus of Lesbos, https://www.britannica.com/print/article/260263.
[309] Britannica. 2023a. Levant. https://www.britannica.com/print/article/337799
[310] Britannica. 2023b. Near East, https://www.britannica.com/print/article/407449.
[311] Britannica. 2023c. Phoenicia, https://www.britannica.com/print/article/457123.
[312] Easton, D.F., and J.,D., Hawkins. 1996. A Hieroglyphic Seal from Troia. In: *Studia Troica 6*, 111-8.
[313] Bryce, T.R. 2005. The Kingdom of the Hittites, Oxford/New York (2nd edition).
[314] Παλυβού/Palyvou, K./C. 2005. Οικοδομική Τεχνολογία των Προϊστορικών Χρόνων (= Building Technology of Prehistoric Times). *Αρχαιολογία & Τέχνες* (= *Archaeology & Arts*) *94*, Athens, 12-18.
[315] Dickinson, O. 2002. *The Aegean Bronze Age*. Cambridge University Press, Cambridge.
[316] Hope-Simpson, R. and D.K. Hagel. 2006. *Mycenaean Fortifications, Highways, Dams and Canals* (series: Studies in Mediterranean Archaeology, Monographs, vol. 133), Sävedale.
[317] Τσούντας/Tsountas, Χρ./C. 1893. *Μυκῆναι και Μυκηναῖος Πολιτισμός* (= *Mycenae and Mycenaean Civilization*), Εστία, Αθήναι (= Athens).
[318] Schliemann, H. 1886. Tiryns – Der Prähistorische Palast der Könige von Tiryns, Brockhaus, Leipzig.
[319] Bryce, T. 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.
[320] Von-Schuler, E. 1965. *Die Kaškaer - Ein Beitrag zur Ethnographie des alten Kleinasien, (series: Untersuchungen zur Assyrologie und Vorderasiatischen Archäologie* (*Ergänzungsbände zur Zeitschrift für Assyriologie und vorderasiatische Archäeologie, neue Folge*) - Band 3), Walter de Gruyter & Co, Berlin.
[321] Freu, J., M. Mazoyer, and 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.
[322] Carruba, O. 1988. Stato e Società nel Medio Regno Eteo. In: *Stato, in Economia e Lavoro nef Vicino Oriente Antiquo 1988*, Firenze, 195-224; [non vidimus it is quoted by Freu et al. 2007, 163].

[323] Collins, B.J. 2007. *The Hittites and their World* [2008] (series: Archaeology and biblical studies, vol. 7), Atlanta, GA/Leiden.
[324] Nagy, G. 2020. From Song to Text. In: *Pache et al. 2020* [325], 80-95.
[325] Pache, C.O., with associate editors Dué, C./S. Lupack/R., Lambertion, (Eds). 2020. *The Cambridge Guide to Homer*, Cambridge University Press, UK.
[326] Fowler, R. 2004a. The Homeric Question. In: *R., Fowler 2004* [327], 220-32.
[327] Fowler, R, (ed.). 2004. *The Cambridge Companion to Homer*, Cambridge University Press, UK.
[328] Schironi, F. 2020. Early Editions. In: *Pache et al. 2020* [325], 112-5.
[329] Janko, R. 1996. *The Iliad: A Commentary*, Kirk, G.S., (Ed), Cambridge University Press, Edinburg-NY.
[330] West, M.L. 2001. Studies in the Text and Transmission of the Iliad, Saur München, Leipzig.
[331] West, M.L. 2011. *The Making of the Iliad: Disquisition and Analytical Commentary*, Oxford University Press.
[332] West, M.L. 1988. The Rise of the Greek Epic. *Journal of Hellenic Studies* (108):151-172.
[333] Schironi, F. 2018. *The Best of Grammarians*, University of Michigan Press, Ann-Arbor.
[334] Dué, Casey. 2020. Introduction. In: Pache et al. 2020, 3-6.
[335] Dué, Casey and Marks, J. 2020. The Homeric Question. In: Pache et al. 2020, 585-9.
[336] Britannica. 2008. Ephorus Historian, https://www.britannica.com/print/article/189596.
[337] Apostolou, S. 2018. *The Importance of Being Aeolian: Shaping Aeolian Identity in Ancient Asia Minor*, PhD Thesis, submitted to thw University of Notingham [kindly provided to the author by the University of Notingham].
[338] Hall, J.M. 2014. 2nd Edition. *A History of the Archaic Greek World: ca. 1200-479 BCE*, Wiley-Blackwell, UK, 2007.
[339] Pardee, D. 2000. *Les Textes Rituels, Fascicule 1, Ras Shamra-Ougarit XII*, Ministere des Affaires Etrangeres, Editions Recherche sur les Civilisations, Paris.
[340] Archi, A. 2015. *Ebla and its Archives – Texts, History, and Society*, Series Studies in Near Eastern Records, Gonzalo, R. (Ed.), Volume 7, De Gruyter, Boston/Berlin.
[341] Lucas, A. 1948, third edition, [1926]. *Ancient Egyptian Materials and Industries*, London [third, revised edition].
[342] Ogden, J. 2000. Metals, in: Nicholson, P.T./I. Shaw (eds.), *Ancient Egyptian Materials and Technology*, Cambridge, 148-76.
[343] Muhly, J.D. 2005a. Travelling Craftsmen: Love 'em or Leave 'em. In: *Laffineur, and Greco 2005*, 2:685-690.
[344] Laffineur, R., and E. Greco (eds.) 2005. *EMPORIA, Aegeans in the Central and Eastern Mediterranean*, Proceedings of the 10th International Aegean Conference, Athens, Italian School of Archaeology, 14-18 April 2004 (series: Aegaeum 25), 2 volumes, Liège/Austin, TX.
[345] Bushnell, L. 2012: Fragrant Copying? Mycenaean Perfumed Oil and The Role of Cyprus. In: *A. Georgiou 2012*, 196-209.
[346] Georgiou, A. (ed.) 2012: *Cyprus: An island Culture: Society and Social Relations from the Bronze Age to the Venetian Period*, Oxford.
[347] Niemeier, W-D. 2003. Ο Ελλαδικός Χώρος και Χεττιτική Αυτοκρατορία, Μυκηναίοι και Χετταίοι στη Δυτική Μικρά Ασία (= "The Hellenic Territory and the Hittite Empire, Mycenaeans and Hittites in Western Asia Minor"), in: N., Stampolides 2003, 103-107.
[348] Stampolides, N., (ed.), 2003: *Πλόες από τη Σιδώνα στη Χουέλβα, Σχέσεις Λαών της Μεσογείου 16ος–6ος αι. π.Χ.* (= *Sea-voyages from Sidon to Huelva, Relations of the Peoples of the Mediterranean 16th-6th c. B.C.*), Athens.
[349] Niemeier, W-D. 2005. Minoans, Mycenaeans, 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, number 157), London, 1-36.
[350] Muhly, J.D. 2003: Trade in Metals in the Late Bronze Age and Iron Age, in: Stampolides N./V. Karageorghis, (eds.), Πλόες/Sea-Routes – Interconnections in Mediterranean 16th-6th c. BC. Proceedings of the International Symposium held at Rethymon, Crete, 29/9-2/10, 2002, Athens, 141-150.
[351] Michailidou, A., and K., Voutsa. 2005: Humans as a Commodity in Aegean and Oriental Societies. In: *Laffineur and Greco 2005*, 2:17-28.
[352] Michailidou, A. 2005: *Weight and Value in Pre-Coinage Societies - An Introduction, ΜΕΛΕΤΗΜΑΤΑ*, vol. 42, [published by the Centre of Greek and Roman Antiquity, Athens], Athens.
[353] West, M.L. 2002. The View from Lesbos. In: Reichel, M. and A. Rengakos, (Eds), *EPEA*

PTEROENTA-Beiträge zur Homerforschung Festschrift für Wolfgang Kullmann zum 75 Geburtstag, Steiner, Stuttgart, 207-20.

[354] Schein, S.L. 2002. Mythological Allusion in the Odyssey. In: *Montanari, F. with P. Ascheri 2002*, 85-101.

[355] Montanari, F. with P. Ascheri, (Eds*), Omero Tremila Anni Dopo*, Storia e Literatura, Roma.

[356] Martin, R.P. 2020. Homer in a World of Song. In: *Pache et al. 2020*, 36-48.

[357] Ebbott, M. 2020. Early Editions. In: *Pache et al. 2020 [325]*, 9-20.

[358] Heiden, B. 2002. Hidden Thoughts, Open Speech: Some Reflections on Discourse Analysis in Recent Homeric Studies. In: *Montanari, F. with P. Ascheri 2002 [355]*, 85-101.

[359] Δίκτης/Dictys ο Κρητικός/Cretensis. *Η Εφημερίδα του Τρωικού Πολέμου* (= *Ephemeris delli Troiani = Newspaper of the Trojans*). In: *Δίκτης ο Κρητικός/Dictys Cretensis. Η Εφημερίδα του Τρωικού Πολέμου – Όπως τη Μετέφρασε ο Λεύκιος Σεπτίμιος από τα Ελληνικά στα Λατινικά* (= *Ephemeris delli Troiani = Newspaper of the Trojans as Leucius Septimius translated it fron Greek to Latin Language*) & Δάρης ο Φρύγας/Dares the Frygian. *Ιστορία για την Άλωση της Τροίας* (= *De Excidio Troiae Historia = History for the Fall of Troy*), Άγρας/Agras, translation Γιώργης/Georgis Γιατρομανωλάκης/Giatromanolakis, 1996.

[360] Knapp, B.A. 2013. *The Archaeology of Cyprus – From the Earliest Prehistory through the Bronze Age* (Cambridge World Archaeology series), Cambridge.

TEXTS AND EDITIONS

AHw = AKKADISCHES HAND-WÖRTERBUCH, unter Benutzug des Lexikalischen Nachlasses von Bruno Meissner (1868-1947) – Band I, A - L, von-Soden, W., (Ed.), Harrassowitz, 1965.

BRITANNICA = ENCYCLOPEDIA BRITANNICA, THE EDITORS OF ENCYCLOPAEDIA. 2021. SIBYL. 6-6-2021, HTTPS://WWW.BRITANNICA.COM/TOPIC/**SIBYL-GREEK-LEGENDARY-FIGURE**. ACCESSED 5 JANUARY 2022.

BSA=BRITISH SCHOOL OF ATHENS, HTTPS://WEB.ARCHIVE.ORG/WEB/20060925020618/HTTP://WWW.BSA.GLA.AC.UK/KNOSOS/INDEX.HTM?HISTORY%2FHIST.

CAD = THE ASSYRIAN DICTIONARY OF THE ORIENTAL INSTITUTE OF CHICAGO - K, Civil, M./J., Gelb/A.L., Oppenheim/E., Reiner, (Eds), Chicago, IL, USA, 1971.

CAH = Edwards, I.E.S./N.G.L., Hammond/E., Sollberger, (Eds). 2006. Seventh printing. THE CAMBRIDGE ANCIENT HISTORY, vol.II:2, Cambridge University Press, 1975.

OXFORD =*HTTPS://WWW.OXFORDLEARNERSDICTIONARIES.COM/DEFINITION/ENGLISH/EQUIVALENT_1?Q=**EQUIVALENT=EQUAL***.

WIKIPEDIA = Wikipedia. 2022. **Pendlebury John**, https://en.wikipedia.org/wiki/John_Pendlebury.