

Ernst Pernicka, Sinan Ünlüsöy,
Stephan W. E. Blum (eds.)

Early Bronze Age Troy

Chronology,
Cultural Development,
and Interregional Contacts



EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



UNIVERSITY OF
CINCINNATI

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Early Bronze Age Troy: Chronology, Cultural Development and Interregional Contacts

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In memoriam
Hans Günter Jansen
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Contents

Ernst Pernicka Preface	9
Chronology and Stratigraphy	
Mariana Thater White Painted Pottery in Early Bronze Age Troy	13
Mariya Ivanova Stratigraphy and Architecture of Troy I: the Excavations in »Schliemann’s Trench«	39
Peter Pavúk Dating of the Pinnacle in square E4/5, Dörpfeld Stratigraphy and Formation Processes at Troy	49
Peter Jablonka Beyond the Citadel: A Map of Greater Early Bronze Age Troy	61
Göksel Sazcı and Devrim Çalış Sazcı The Troy III Period in Light of Recent Excavations	75
Stephan W. E. Blum The Final Stages of the Early Bronze Age at Troy: Cultural Development, Chronology, and Interregional Contacts	89
Cultural Development and Interregional Contacts	
Barbara Horejs – Bernhard Weninger Early Troy and its significance for the Early Bronze Age in Western Anatolia	123
Halime Hüryılmaz Yenibademli and Troy: Reflection of Troy I Culture in the Light of Archaeological Findings and Cultural Identity of Yenibademli	147
Hayat Erkanal and Vasif Şahoğlu Lıman Tepe, an Early Bronze Age Trade Center in Western Anatolia: Recent Investigations	157
Vasif Şahoğlu Early Bronze Age Cemeteries at Bakla Tepe: Changing Patterns	167
Göksel Sazcı The Metal Finds of the 3rd Millennium in Troy and their Counterparts in the Early Bronze Age World	183
Eylem Özdoğan Kanlıgeçit – an Anatolian Model of an Urban Center in Eastern Thrace: an Overview	197

Lydia Berger – Walter Gauss	
Early Bronze Age Aegina Kolonna: A View from a Southwest Aegean Centre	209
Martin G. Hristov	
Dubene and its Probable Contacts with the Aegaeo-Anatolian Region	229
Krassimir P. Leshtakov	
Troy and Upper Thrace: What Happened in the EBA 3? (Interrelations Based on Pottery Evidence)	239
Emergence of Stratified Societies	
John Bintliff	
Early Bronze Age Troy and the Emergence of Complex Societies in the Aegean	259
Özlem Çevik – Mehmet Sağır	
The Rise of the Elites on both Sides of the Aegean Sea	267
Thomas Zimmermann	
Early Bronze Age Elites: A fresh look at some old and new evidence from West and Central Anatolia	277
Economy and Trade	
Canan Çakırlar	
Early Bronze Age Foodways in the Aegean: Social Archaeozoology on the Eastern Side	291
Diane Thumm-Doğrayan	
Storage Strategies in Early Bronze Age Troy	305
Simone Riehl and Elena Marinova	
The Interplay of Environmental Change, Socio-political Stress and Human Resilience at Early to Middle Bronze Age Troy	319
Production and Distribution of Raw Materials and Craft Specialization	
Christoph Bachhuber	
The Industry and Display of Textiles in Early Bronze Age Western Anatolia	339
Neyir Kolankaya-Bostancı	
New Interpretations of Early Bronze Age Obsidian Procurement and Distribution in Western Anatolia	365
Ivan Gatsov – Petranka Nedelcheva	
Early Bronze Age Lithic Assemblages from Troia	375
Maria Gurova	
Troy I–V Chipped Stone Assemblages: Functional Connotations	379
Sinan Ünlüsoy	
Troy and the Aegean During the Third Millenium BC	397

Preface

Ernst Pernicka

Troy has been of outstanding importance for EBA archaeology ever since the discovery and excavation of the site by Heinrich Schliemann. Partly due to the paucity of archaeological research on EBA Anatolia, Troy has long been considered as the only key site for Western Anatolia and the Northern Aegean. However, as a result of recent excavations at other contemporary sites (e. g., Liman Tepe, Yenibademli, Külliöba), it has become clear that Troy was not the only significant EBA settlement in this region and that its position as a key site is due for a re-examination. To explore the similarities and diversities of Early Bronze Age cultures across the Northern-Aegean and Western Anatolia, an international conference entitled »Early Bronze Age Troy: Chronology, Cultural Development and Interregional Contacts« was held in early May 2009 at the University of Tübingen. Besides the general aspects of chronology and stratigraphy, it addressed themes such as the emergence of stratified societies, concepts of EBA economy and trade, production and distribution of raw materials and craft specialization with special reference to Troy itself.

After the untimely death of Manfred Korfmann who directed the new series of excavations until 2005 I was asked by the university to resume the responsibility for the research at Troy. This was not an easy task although I was associated with the project from the beginning in 1988, but rather from the outside and more as an adviser than a true member of the team. I gratefully acknowledge the help of many colleagues to get a grip of this enormous task but Hans Günter Jansen in particular formed a solid rock for me whose advice was always welcome and important on which I could rely on in every aspect. Hans Günter served as director of the Troy Foundation at the University of Tübingen and accompanied our research with deep knowledge and sympathy and, last not least, with outstanding generosity. It is for this reason the editors as members of the excavation team dedicated this volume to his memory.

After a successful career as physicist in an international computer company Hans Günter Jansen began a new one in the field of applied physics in archaeology. He took this very serious and indeed began formal studies of prehistoric archaeology at the University of Tübingen in 1984 where he also met Manfred Korfmann. When the new excavation project as one of the major goals of the research was the Lower City of Troy, whose existence was suspected since Heinrich Schliemann but was never really confirmed in the field. It was Jansen who suggested a large-scale geophysical prospection of the area south of the citadel of Troy and immediately began himself with this enormous task in view of the instrumentation then available. In the years between 1988 and 2001 an area of around 50 hectares was surveyed by Jansen himself and other specialist in physical prospection. As a result it was possible to outline the »city plan« with an orthogonal street system with *insulae* of the Hellenistic and Roman periods (Troy VIII and IX) together with the western Hellenistic city wall over a length of 400 m. But the most important discovery was the outline of the Late Bronze Age (Troy VI and VIIa) Lower City, which is represented not by a wall as originally assumed but by a ditch of 4 m width that extends over a length of more than one kilometer as has later been shown by excavations.

Besides his scientific achievements in archaeology, not only in Troy, Hans Günter Jansen was an indispensable member of the Troy team in a time when computers began to be applied at a regular and large scale also in archaeology. Here he could combine the knowledge of his two professional careers by creating a homepage of the project for the internet and improving its public visibility in every respect.

Finally, as managing director of the Troy Foundation he used his wide-ranging contacts to find supporters and donors and actually made considerable donations himself. He continued to participate in the excavation campaigns every summer and

was highly respected as archaeologist and geophysicist. He was awarded the honors medal of the University of Tübingen and in 2002 also the Bundesverdienstkreuz, an order of the Federal Republic of Germany. He remained interested in the progress of research at Troy until the last field campaign in 2012. He died on 25 February, 2013. We will remember

him as a warm-hearted friend and knowledgeable colleague.

Finally, we want to express our gratitude to the Deutsche Forschungsgemeinschaft (DFG) for long-term support of the Troy project and the Institute for Aegean Prehistory (INSTAP) for financial support for the publication of this volume.

Tübingen, March 2016



Liman Tepe, an Early Bronze Age Trade Center in Western Anatolia: Recent Investigations

Hayat Erkanal and Vasıf Şahoğlu

Zusammenfassung

In den letzten Jahrzehnten hat die Erforschung der prähistorischen Zeiten in Griechenland und in der Türkei grosse Fortschritte erzielt. Die für die einzelnen Kulturlandschaften auf dem griechischen Festland, den ägäischen Inseln und in Westanatolien erarbeiteten chronologischen Systeme lassen lokal geprägte Entwicklungen ebenso deutlich werden wie weitreichende Beziehungen und gegenseitige Beeinflussungen. Am Rande der syro-mesopotamischen Staatenwelt des 3. Jahrtausends v. Chr. werden auch in Anatolien und in der ägäischen Welt in der Frühbronzezeit Ansätze zu einer frühurbanen oder urbanen Entwicklung sichtbar. In Westanatolien ist zu Troia auf dem Liman Tepe (prähistorisches Klazomenai) ein weiteres frühbronzezeitliches Zentrum überregionaler Bedeutung hinzugekommen.

Vor allen die Frühbronzezeit 2 ist eine Periode, der in Liman Tepe eine grosse Bedeutung zukommt. Die vier Architekturschichten dieser Periode wurden auf einer Lehmziegelfüllung gegründet, die die ältere Periode abdeckt. Durch diese Füllung hat man die Siedlung in Richtung nach Süden ausgeweitet und ein neues Verteidigungssystem errichtet. Nach der topographischen Lage sieht es so aus, dass Liman Tepe in dieser Periode eine ovale Innenstadt mit einem Verteidigungssystem hat. Im Süden der Innenstadt befindet sich ausserdem eine Unterstadt.

In der Umgebung von Liman Tepe wurden mehrere Siedlungen aus der Frühbronzezeit 2 festgestellt. Sie haben entweder dörflichen Charakter, oder aber sie halten die Pässe und das Meer unter der Kontrolle. Unter diesen Siedlungen zeichnet sich Liman Tepe durch seine Lage aus und kann deswegen und wegen seines städtischen Charakters als ein Zentrum bezeichnet werden.

*A small ›Armağan‹ for
Prof. Dr. Armağan Erkanal for her 70th birthday*

Liman Tepe is situated on the southern coast of the Gulf of İzmir and located opposite Karantina Island on a headland which is divided into two by the İzmir-Çesmealtı road (Fig. 1) (Erkanal 2008: Fig. 4–5, 7). The site, which is today located within the borders of the municipality of Urla, is inhabited from 6th Millennium BC onwards without any apparent break in its habitation history, until modern times (Fig. 2).

Liman Tepe possessed a fortified citadel during the first half of the 3rd millennium B.C. The settlement transformed into a major regional center with a citadel and a lower town spreading to its south from the middle of the 3rd millennium B.C., until the last quarter of the millennium. (Erkanal 1996: 76–79; Erkanal 1999: 238–239). The complex social structure and impressive architectural features seem to go through a decline and the site possessed a lower profile during the last quarter of the 3rd millennium B.C.

Recent archaeological investigations at this impressive site revealed new data concerning the settlement organization and architectural development in coastal Western Anatolia during the Early Bronze Age (henceforth EBA).

Liman Tepe Level VI

As of the season of 2010, a fortified citadel with an impressive gateway accompanied by two rectangular towers have been unearthed at Liman Tepe belonging to Level VI of the site's long stratigraphy (Fig. 3).

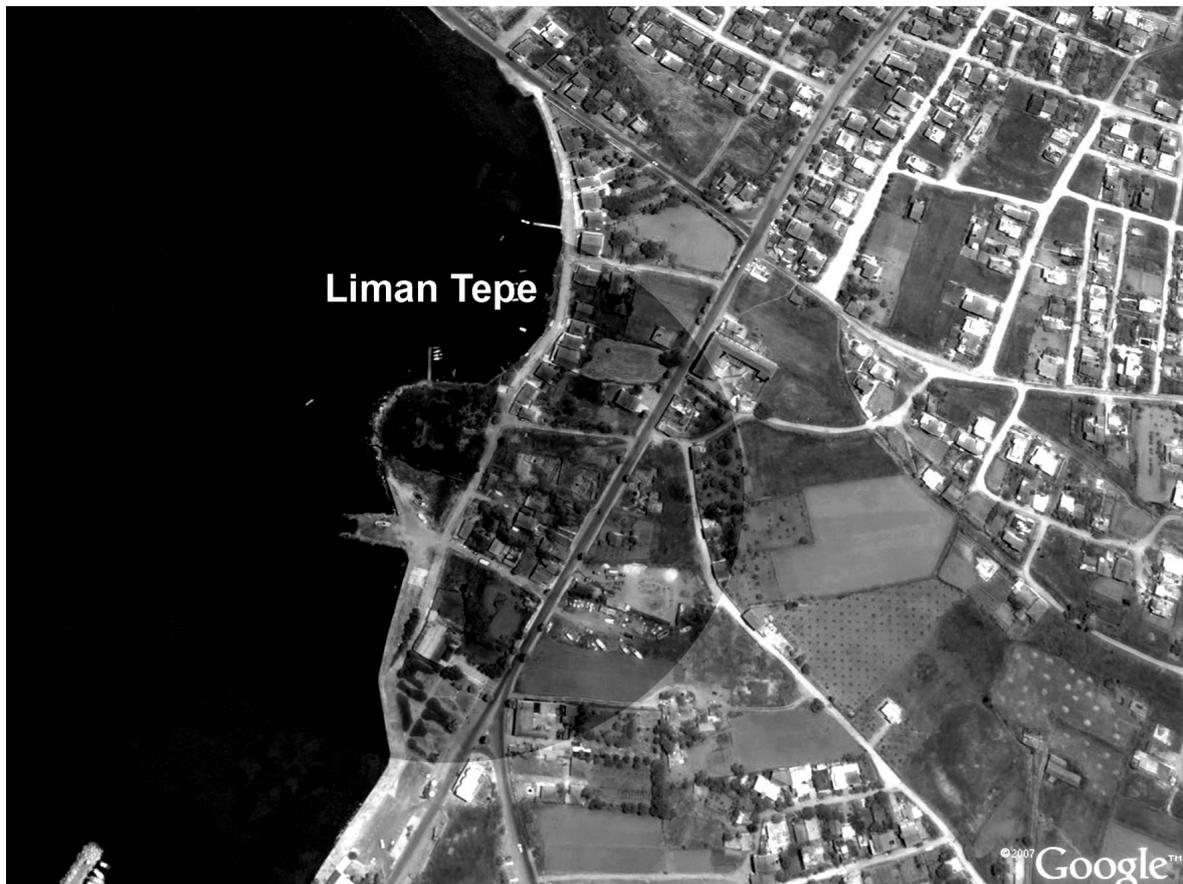
Approximately 25 m. of the fortification system has been excavated so far. This impressive structure is built using limestone slabs with mudbrick superstructure. There are buttress-like small projections on the main body of the fortification wall every 1.5 m., built of the same material. The outer face of

the fortification wall is further supported by a ramp-like structure composed of rounded stones. This structure also covers the lower half of the main fortification wall and measures more than 2.5 m. in height. The fortification system seems to have gone through various phases of use throughout its history and the main gateway for the citadel was blocked at a later date. A second probable gateway was unearthed during the course of the most recent excavations. This probable gateway is situated approximately 15 m. to the west of the one discovered earlier. The second gate was probably modified at a later date and a very well preserved mudbrick wall with stone foundations was built at this location probably to close this opening (Fig. 3). The location of this gate corresponds with the location of House 1, thus there are still important questions to be answered regarding the nature of this feature. More detailed work on this subject will be undertaken in the following years.

So far, five long houses have been excavated in the northern excavation area in total, all being attached to the interior face of the fortification wall. The long houses are rectangular in plan and are approximately 25 m. in length. Houses 2 and 3, which are the most intensively investigated ones, are both 4.5 m. in width (Fig. 4). The entrances to the houses must have been on the northern short wall since they are all attached to the fortification wall on their southern end. Unfortunately, the entrances could not be investigated due to the destruction caused by the construction of the terrace wall of the later EBA 2 period (Liman Tepe Level V). Future research may reveal more information regarding this matter.

All houses share common walls which are constructed on stone foundations with mudbrick superstructures (Fig. 5). The mudbricks used for constructing the walls differ in colour, which must point to different inclusions and clay sources. Clay mor-

Fig. 1: Aerial view of Liman Tepe.



DATE	ANATOLIA Kültepe Tarsus Beyce Sultân			CRETE	GREEK MAINLAND	CYCLADES	EASTERN AEGEAN ISLANDS	TROIA	LİMAN TEPE	CHRONOLOGY
2000	11b	EBA III	VIa	Early Minoan IIB	Early Helladic III Aegina V	Middle Cycladic	Heraion V Poliochni Brown Heraion IV	V	LMT B IV-1	EBA 3b
			VIII		Lerna IV Aegina IV	Early Cycladic III (Phylakopi I)	IV (?)			
2500	12	EBA III	XII c	Early Minoan IIB	Early Helladic II Late Lerna IIID Aegina III	Early Cycladic IIb (Kastri Group) Ayia Irini III Palamari III Syros-Kastri Zas IV Mt. Kynthos	Heraion III Poliochni Yellow Emborio I	Late	LMT B IV-2	EBA 3a
	13				Lefkandi I / Manika Pevkakia VII				Heraion II Emborio II Poliochni Redi	LMT B V-1a
2500	14	EBA II	XIII a	Early Minoan IIA Knossos Poros	Lerna IIIC Pevkakia VI	Early Cycladic IIa	Heraion I Thermi V	Early		LMT B V-1b
	15				Early Helladic II Early Lerna IIIB				LMT B V-2a	
2500	16	EBA I	XVII	Early Minoan I	Lerna IIIA	Early Cycladic I	Emborio III Poliochni Green Thermi IV	Late	LMT B V-2b	EBA II Early
	17				Aegina I Early Helladic I				LMT B V-3a	
2500	18	EBA I	XIX	Early Minoan I	Early Helladic I	(Aplomata Grup)	Polioch Bl. Evoluta Emborio IV Poliochni Blue Thermi III	Middle	LMT B V-3b	EBA II Early
	17									
3000	18	EBA I	XX	Early Minoan I	Early Helladic I	(Aplomata Grup)	Emborio V	Early (?)	LMT A VI-1b	EBA I Middle
									LMT A VI-1c	EBA I Early
3000							Thermi II Thermi I	Kumtepe IB	LMT A VI-1d ? LMT A VII	ETÇ I Early / Late Chalcolithic (?)

Fig. 2: Early Bronze Age chronology (After Şahoğlu 2005b with modifications).

tar was also used between mudbricks as binding agent. Walls of House 3 had traces of a thin white plaster (Fig. 6) suggesting that all the walls of these Level VI long houses were probably white plastered.

The long houses have a large innermost room which is reached after passing through a series of smaller rectangular or square rooms. House 2 is the best preserved example with two smaller rectangular rooms in the front and then an exceptionally large rectangular main room at the back. House 2 went through various construction phases like other houses. One of these construction phases is marked by a distinctive earthquake horizon. The central room seems to have gone through various changes during the lifespan of the house and various weak mudbrick wall remains have been found indicating that the largest room might also have been divided into smaller rooms during some of these phases.

It is interesting to note that hearths were always located approximately at the centre of the largest room. These hearths were renewed and re-used many times (Fig. 3). A working area was discovered

next to the hearth in House 2. One of the earlier hearth floors of House 3 on the other hand revealed a small cavity which may be an indication for metallurgical activities. A similar feature was also found in Bakla Tepe in one of the long houses (Erkanal and Özkan 1997: 265).

Each house went through various renovation phases. The big earthquake which took place during one of the occupational phases of these structures affected the entire settlement and some of the walls belonging to the long houses were discovered fallen to or sloping towards the east (Fig. 7). In House 2 for example, the doorway opening from the second room into the main room was blocked with stones following the big earthquake (Fig. 8). The latest phase of the houses was built on top of the fallen/sloping mudbrick walls.

The long houses of Liman Tepe were continuously inhabited for a long period of time. Nevertheless, some basic features like the location of the hearths indicate cultural continuity within each structure. Level VI long houses were used as do-

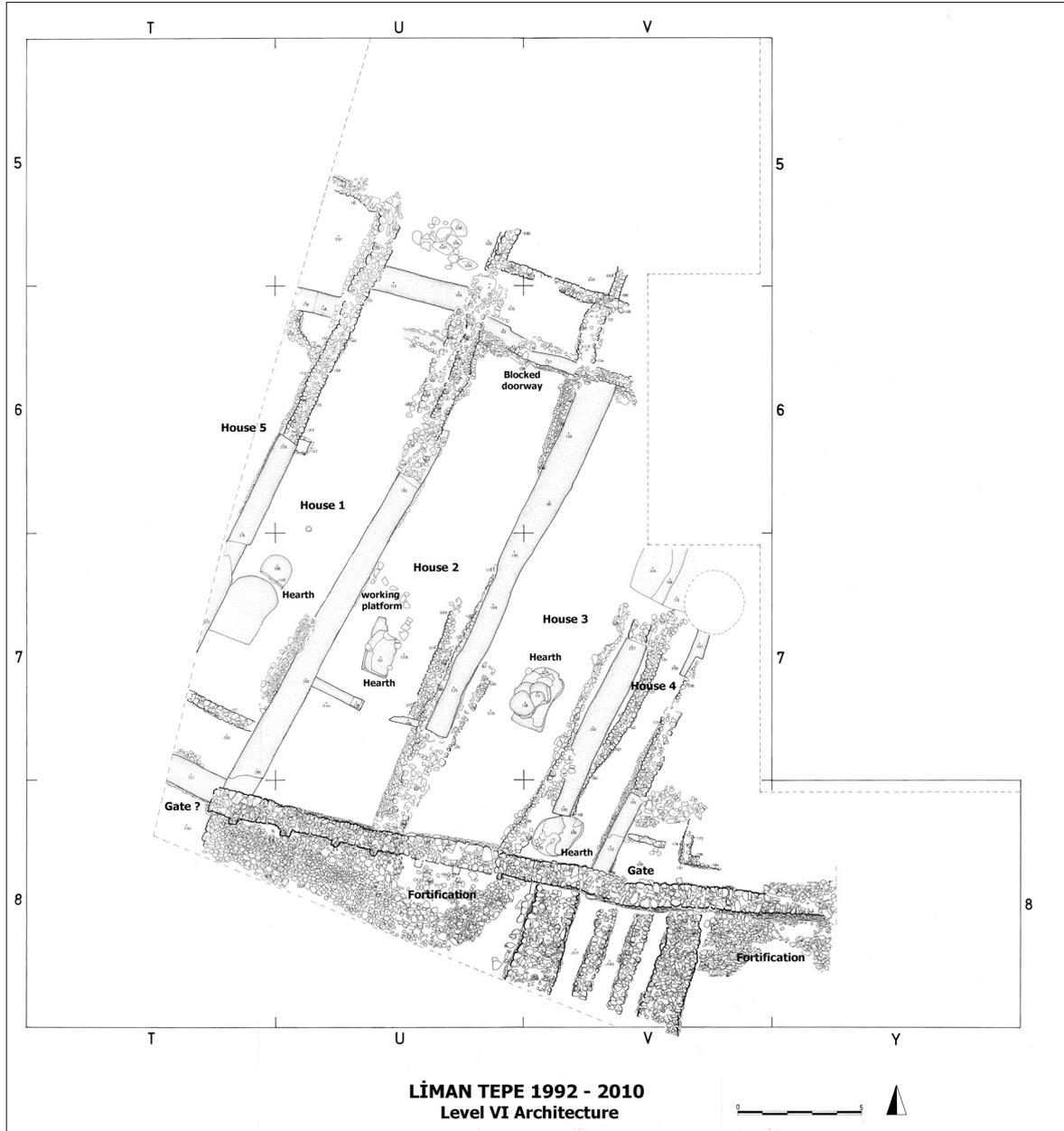


Fig. 3: Liman Tepe Level VI architecture.

mestic units but also possessed activity areas devoted to the production of specific artifacts. House 2, for example, yielded finds like a *tuyère*, a mould and slag remains which together indicate metal production within this structure (Kouka and Şahoğlu, in press). House 3, on the other hand, yielded many small terracotta discs which could be interpreted as tools still being manufactured to be used as loom-

weights in textile production (Erkanal et al. 2010: 350, Çizim 2; Kouka and Şahoğlu, in press). The fact that these crafts continued to be performed within each house in different occupation levels also proves the cultural continuity within each house.

House 1 included a golden band with incised decoration (Keskin 2004, Resim 8a-b; Kouka and Şahoğlu, in press), House 2 yielded a small silver ring



Fig. 4: Liman Tepe Level VI long houses and the fortification wall from the south.



Fig. 5: Liman Tepe Level VI long houses from the east. 10



Fig. 6: Liman Tepe, white plastered wall of House 3. (Level VI).

along with large amounts of pottery which represents one of the richest deposits of ceramics and small finds belonging to this period on the western Anatolian coastline. Local ceramics with highly polished surfaces have been discovered together with Early Cycladic imports in the houses. Houses 2 and 3 in particular have yielded high quality urfirnis sauceboats as well as imported dark on light painted wares from the Cyclades (Şahoğlu 2005a, Fig. 3a-e, 10–11; Şahoğlu 2008, Fig. 7 and 9; Kouka and Şahoğlu, in press). Stamped and incised pottery also indicate interregional contacts especially with the Cyclades (Kouka and Şahoğlu, in press). Lithic tools of Melian obsidian were recovered from every house in large numbers (Oddone et al., in prep.; Kolankaya – Bostancı 2011).

The houses were in use until the earlier phases of the following EBA 2 period (Liman Tepe Level V-3). This is also the period when the construction of a new and bigger fortification system began. The

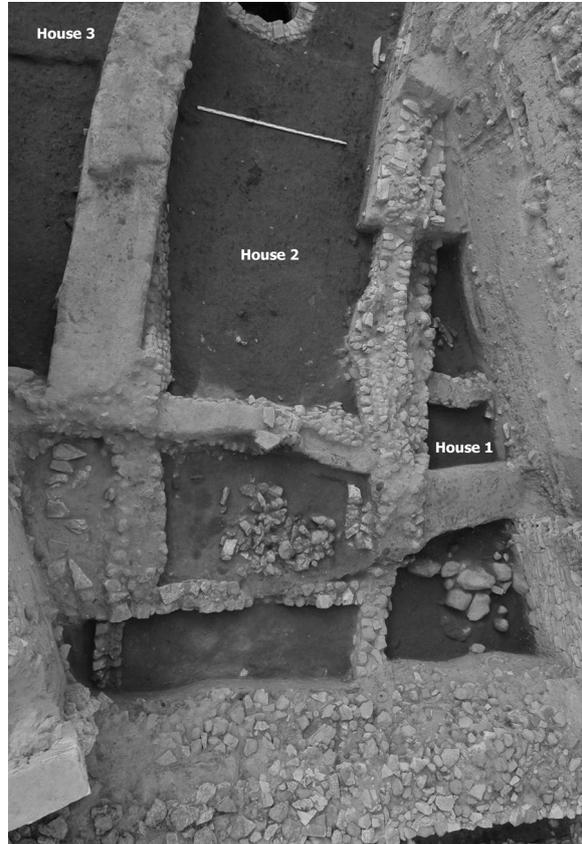


Fig. 7: Liman Tepe, walls of the Level VI long houses collapsed during the earthquake.

Level VI fortification went out of use at the beginning of Level V and the ramp and the remaining wall belonging to this level was filled with mudbrick to create a stable foundation for the new fortification. The long houses must have been in use during



Fig. 8: Liman Tepe, blocked northern doorway of House 2 (Level VI).

this period, eventually going out of use with the construction of the new fortification system, leaving the area inside the citadel for administrative/communal structures. This marks a profound change compared to the previous period (Şahoğlu 2008: 487).

Liman Tepe Level V

The Level V fortification system is a monumental construction for its period. A horse-shoe shaped bastion attached to the fortification wall has been unearthed (Erkanal et al. 2010: Çizim 1). Only a small portion of the wall has been excavated so far, but the size of the bastion suggests that the settlement was surrounded by one of the most impressive constructions of the EBA in the entire Aegean. The construction technique of the horse-shoe shaped bastion has been previously discussed in detail elsewhere (Erkanal 1999). Recent excavations at Liman Tepe revealed new details regarding this matter. The bastion was constructed outside the earlier fortification system (LMT Level VI) and leans on it (Fig. 9) (Erkanal et al. 2009: Resim 4–5). The earlier fortification was thus used as an inner fill to make the new

one even stronger. Recent investigations have shown that the bastion was in fact much larger than previously anticipated and extended north under the modern Çeşmealtı – İzmir road, appearing again in the northern excavation area (Erkanal et al. 2010: Çizim 1).

Already possessing such dimensions and impressive monumental architecture, Liman Tepe has proven to be one of the major settlements of the Aegean during the EBA. A very recent discovery made approximately 500 m away from Liman Tepe in 2009 by the Klazomenai excavation team, further demonstrates the monumentality of the settlement. A horse-shoe shaped bastion built in a similar fashion but of smaller size was discovered in the area where one of the main gateways of Archaic Klazomenai is situated (Fig 10). The EBA bastion seems to have been located next to an entrance into the settlement (Ersoy et al. 2011). The fact that the entrance of the settlement is at the same location in different periods may be an indication of cultural continuity at Liman Tepe/Klazomenai through time.

Surrounded by two different fortification systems, the citadel of Liman Tepe also displays monumental architectural features during the later part of

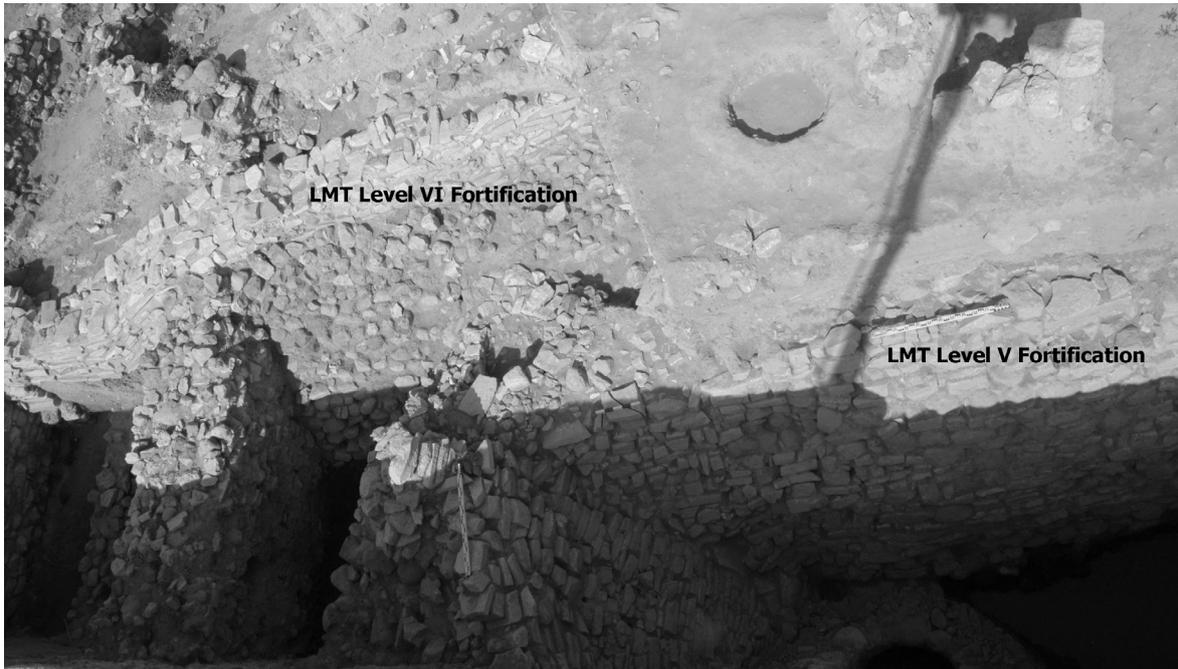
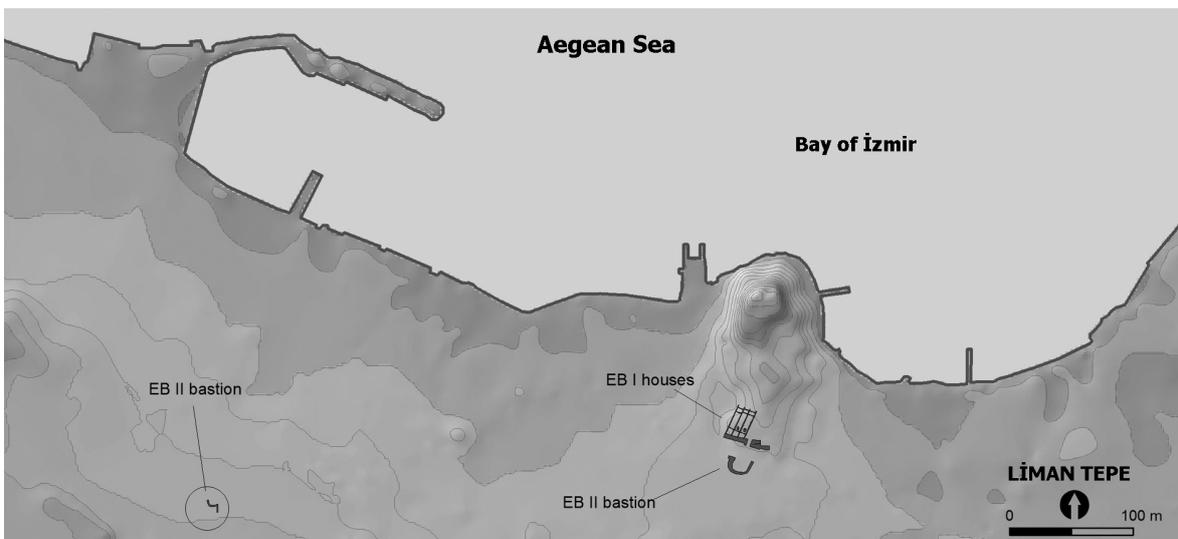


Fig. 9: Liman Tepe, fortification walls of Level V and Level VI.

the EBA 2 (LMT V-2 and V-1) and the earlier part of EBA 3 periods (LMT IV-2) (Şahoğlu 2005b: Figure 2). A central complex consisting of two rectangular narrow rooms, an open courtyard and another structure with rectangular rooms is located within the citadel at a central location (Şahoğlu 2008: 488–489,

Fig. 6). Another structure to the south of this complex also consists of rectangular rooms (Erkanal and Hüryılmaz 1994: 364–366, Resim 1; Erkanal and Günel 1995: 271–273, Şekil 6, Resim 8). The central complex included two storage areas which yielded many fine ware vessels among which a sherd belong-

Fig. 10: Map showing the location of the newly discovered bastion and Liman Tepe.



ing to a bull rhyton bears exceptional importance (Şahoğlu in press: Fig. 5). A group of phalloi, one with a monkey head have been found in the courtyard indicating probable religious activities within this structure (Şahoğlu 2008: Fig. 6). Other finds like a marble idol and a stone stamp seal (Erkanal – Öktü 2004, 565, 660, Cat. No: 457; Şahoğlu in press: Fig. 3) further supports the administrative and cultic function of this complex (Şahoğlu 2008: 489).

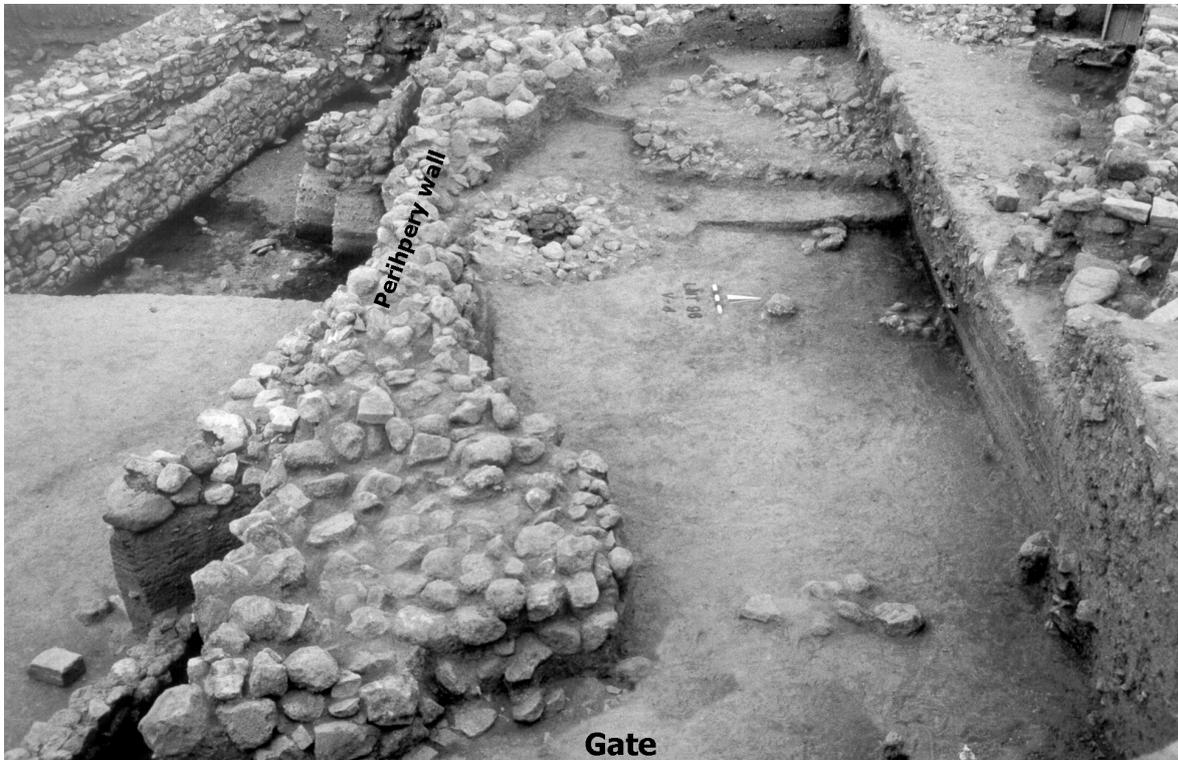
The central complex went through various phases of use and the plan of the structure changed from one phase to another. Sometime during the earlier part of the EBA 3 (LMT IV2), this central complex went through a severe fire and the entire layout of the settlement changed.

Unfortunately not much evidence has survived belonging to this period at the site. The topography of Liman Tepe rises towards the north and architectural remains belonging to this period have been almost entirely destroyed by later activity. Only a strong peripheral wall of a smaller, citadel and a gateway belonging to this period have been uncov-

ered to date (Fig. 11). Various pits have been found outside the peripheral wall containing high quality pottery sherds. A pit with interesting finds included a golden piece and many others yielded turtle remains which may be an indication of some kind of ritual activity taking place outside the citadel area during the earlier part of the EBA 3 at Liman Tepe. (Erkanal et al. 2009: 305–307, Resim 8)

The end of the EBA (LMT IV-1) represents a transitional phase from traditions of the Early Bronze Age to the Middle Bronze Age cultures at Liman Tepe. This phase evidenced weak architectural remains possessing pottery technically reflecting Early Bronze Age traditions but with typical Middle Bronze Age forms. During this transition, Liman Tepe enters a new era and the entire settlement structure changes once more. The following Middle Bronze Age reflects a well organized Liman Tepe with oval structures used as workshops and for domestic purposes. The site continues to be in contact with the Aegean world during this period as evidenced by the presence of Aeginetan matt-painted pottery (Günel 2004).

Fig. 11: Liman Tepe Level IV-2 periphery wall of the citadel and the gate.



Conclusive Remarks

Liman Tepe is one of the major harbour towns of the entire Aegean region during the Early Bronze Age. The site has perfect conditions for anchorage and has a crucial location on the land crossing between the northern and southern seas surrounding the Urla Peninsula. This crossing must have played a major role in the development of the site during all periods. The site yielded monumental architectural features from the beginning of the EBA 1 onwards and transformed into an urban center during the middle of the EBA 2 period. Exceptional finds and the unique settlement model can be interpreted as an indication of intensive long distance contacts and regional importance of Liman Tepe during this period. The site became a key settlement in the Aegean and Anatolian Bronze Ages and the results of ongoing excavations will continue to provide important new data contributing to the study of this era.

Acknowledgements

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Troy has been of outstanding importance for Early Bronze Age archaeology ever since the discovery and excavation of the site by Heinrich Schliemann. Partly due to the paucity of archaeological research on EBA Anatolia, Troy has long been considered as the only key site for Western Anatolia and the Northern Aegean. However, as a result of recent excavations at other contemporary sites, it has become clear that Troy was not the only significant EBA settlement in this region and that its position as a key site is due for a re-examination. To explore the similarities and diversities of EBA cultures across the Northern-Aegean and Western Anatolia, an international conference entitled »Early Bronze Age Troy: Chronology, Cultural Development and Interregional Contacts« was held in early May 2009 at the University of Tübingen. Besides the general aspects of chronology and stratigraphy, it addressed themes such as the emergence of stratified societies, concepts of EBA economy and trade, production and distribution of raw materials and craft specialization with special reference to Troy itself.



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