

Univerzita Karlova

Filozofická fakulta

Ústav pro klasickou archeologii

Teze disertační práce

Mgr. Miloš Roháček

Kovové nálezy v Západní Anatolii ve druhém tisíciletí př. n. l.

Metal Finds in Western Anatolia in Second Millennium B.C.

Vedoucí práce: prof. PhDr. Peter Pavúk, Ph.D.

2023

The objective of this dissertation is to provide a comprehensive overview of all archaeological evidence of metal finds and archaeological proof of secondary metallurgy in Western Anatolia in 2nd millennium BC. The motivation behind this topic was the lack of research on metal finds from this region in the 2nd millennium BCE. So far, in the context of metallurgy and metal objects in western Anatolia during the 2nd Millennium BC, there has been a lack of comprehensive work that summarizes all the finds and typologically sort them. Current knowledge is primarily derived from published reports of archaeological excavations, alongside a handful of smaller studies and articles. There is only a limited number of ongoing research projects in the West Anatolian sites, and the published material is even scarcer. My approach is to provide a comprehensive survey of the published metal finds, shedding light on the evidence of metalworking across all regions of Western Anatolia. To provide a new perspective on the entire region in terms of metal finds. The purpose is to provide a new broader understanding of the region, not only known by pottery, settlement pattern, burial practices and so on. This aim is also encouraged by the assumption that Western Anatolia in 2nd Millennium BC had a highly developed metallurgical production based on a rich metallurgical tradition in previous periods. Early Bronze Age and Late Chalcolithic showed evidence of significant metallurgical innovations at several sites, along with the utilization of local abundant resources. The initial idea stemmed from my diploma thesis where metal objects from western Anatolian coast and Eastern Aegean (so-called East Aegean and West-Anatolian interface) islands were collected, typologically evaluated, and compared with other regions in an attempt to demonstrate their local distinctiveness. The East Aegean and West-Anatolian interface in the 2nd millennium BC is a geographic-cultural concept defined by Penelope Mountjoy in 1998¹, based in particular on the exploration of Mycenaean ceramics in the region of the eastern Greek islands and the adjacent Anatolian coast, where the Minoan and Mycenaean influence meets with the Anatolian, as well as lively maritime contacts with areas far away. With her outcomes, she has proven that ceramics are not identically identical to those on the Greek mainland or Crete, and that there is a local mix of Aegean, Anatolian and other influences. It also divided the area into southern and northern, where the southern part, especially in the Dodecanese and adjacent Anatolian coast, was under the strong Minoan influence in the Middle Bronze Age, and later on the Mycenaean, and the northern part was more under the Anatolia cultural influence. In my diploma research, after overview of published metal finds metal from the Interface area, it appears that some of these items might

¹ Mountjoy 1998.

have been made locally, based on their type and appearance, showing unique mixtures of different cultural influences. Therefore, the author of this work decided to extend this aim to region of Western Anatolia in the same time period. So far there is no archeological work concerning summarization of metal objects in 2nd Millennium BC Western Anatolia that is giving them typological, chronological, and regional analysis. The current state of knowledge is limited only to publications from archaeological excavations and several minor works and papers. Therefore, this thesis is collecting all metal finds published from 2nd Millennium B.C. in Western Anatolia. Main focus is on chapters on types of metals with their typological representatives and subgroups.

The coastline has been fairly well-researched, especially the Dodecanese and Troy, which were undoubtedly important centers in their time. In summary, the further south we go, the stronger the cultural connections to the Minoan and Mycenaean world, and moving north, the connections are more Anatolian in nature. As we will see later, the coastline and its immediate surroundings also have their own unique forms of certain metal objects, with their distribution almost exclusively limited to the coastal area. It is worth mentioning that the coastline is also part of the theory of the eastern Aegean and western Anatolian interface proposed by Penelope Mountjoy, which was addressed in a previous thesis that examined metals, attempting to characterize them typologically and identify any differences from other regions, such as the mainland. It appears that there is regional diversity and unique local types of metal objects. It was collected and catalogized up to 1286 metal pieces of all categories (weapons, working tools, jewellery). In terms of typology, it was shown that some metals evidence for possible local production and no similar parallels from Aegean or Anatolia. The significant example is the group of metals, named Siana, consisting of swords and knives with typological unique mixture of Aegean and Anatolian influences. Similar case would a group of non-canonical Aegean swords, named by the author of this as Interface Swords.²

Culturally, the forms of metal finds in inland Anatolia are close to parallels found throughout Anatolia. However, the region is less explored, and there are not many well-known or published sites across a large area. The northwestern inland Anatolian region has great potential for metallurgy, especially considering the research on the period preceding the MBA. For our period, particularly the MBA, SH plays a significant role with a large number of finds and evidence of casting. The connection to rich deposits in the surrounding area directly contributes to the flourishing of this region. Other sites, including burial grounds and

² Roháček 2019b.

settlements other than Seyitomer Hoyuk, provide fewer pieces of evidence. Beycesultan is genuinely significant for the southwestern inland region, as the quantity of metals and evidence of production indicate. However, other sites in the region have only a few metal finds or are not fully published. The same applies to Kaymakci. The eastern area is more associated with Hittite influence. If we were to generally classify the inland western Anatolia as a whole, despite its regional differences, we can note that, in its own way, the entire western Anatolia has a distinctive character with local peculiarities regarding metal finds, which sets it apart from, for example, central Anatolia and the Aegean region.

To conclude, the metal finds and metallurgy evidence from Western Anatolia suggest that the entire territory of Western Anatolia in 2nd Millennium BC is showing evidence of abundant metal finds and local metallurgical production. The region is large therefore it can be divided into several locally specific areas. It can be stated with certainty that the southwest coast of Anatolia is more connected with the Aegean region and Dodecanese and the north-west coast with an example of Troy is more connected with Anatolia. The coast is different from inland, then inland is specific and can be further divided, and finally sites in Eastern most part of the region are more connected with Central Anatolia. General typological analysis can point to out a strong Anatolian character of metals, yet Western Anatolia can be separated from neighboring regions like Aegean, Central Anatolia or further East, and acts on its own.

Bibliography

- AKYURT I. 1998. *M.Ö. 2. binde Anadolu'da ölü gömme adetleri*, Ankara.
- AVILA R. 1983. *Bronzene Lanzen- und Pfeilspitzen der Griechischen Spätbronzezeit*.
Prähistorische Bronzefunde V:1. München.
- BASEDOW, M. 2000. *Beşik-Tepe, Das Spätbronzezeitliche Gräberfeld*. Mainz am Rhein.
- BENZI, M. 1992. *Rodi e la civiltà micenea*. Roma.
- BILGEN, N. 2005. *Çavlum Eskişehir Alpu Ovası'nda Bir Orta Tunç Çağı Mezarlığı*.
- BILGEN, N. 2011. *Seyitömer Höyük kazisi ön raporu (2006-2010)*. Kütahya.
Eskişehir.
- BILGEN, N. 2013. *Seyitömer Höyük kazisi ön raporu (2011-2012)*. Kütahya.
- BILGEN, N. 2015. *Seyitömer Höyük I*. Istanbul.
- BLACKWELL, N. 2011. *Middle and Late Bronze Age Metal Tools from the Aegean, Eastern Mediterranean, and Anatolia: Implications for Cultural/Regional Interaction and Craftsmanship*, PhD diss. Bryn Mawr.
- BLEGEN, C. 1937. *Prosymna, the Helladic Settlement Preceding the Argive Heraeum*,
- DEDEOĞLU, F. - ABAY, E. 2014. Beycesultan Höyük Excavation Project: New
Archaeological Evidence from Late Bronze Layers. In: *Arkeoloji Dergisi XIX. Ege Üniversitesi Edebiyat Fakültesi Yayınları*: 1-39.
- DIETZ, S. 1984. *Excavations and Surveys in Southern Rhodes. The Mycenaean Period*.
Results of the Carlsberg Foundation Excavations Rhodes 1902–1914. Lindos IV, 1.
Copenhagen.
- EFE, T. – FIDAN, M. 2006. Pre-Middle Bronze Age metal objects from inland Western
Anatolia: A typological and chronological evaluation, *Anatolia Antiqua* 14, 15-43.
- EMRE, K. 1978. *Yanarlar. Afyon Yöresinde bir hittit mezarligi. A Hittite cemetery near Afyon*. Ankara.
- ERDEM, M. 2015. Yeni dönem Beycesultan höyük kazilarinda tespit edilen geç tunç çağ
dönemg metal buluntulari, unpublished master thesis. Izmir.
- ERKANAL, H. 1977. *Die Äxte und Beile des 2. Jahrtausends in Zentralanatolien*.
Prähistorische Bronzefunde IX, 8, München.
- ERKANAL-ÖKTÜ, A. 2018: *Panaztepe I. Die Friedhöfe von Panaztepe*. Ankara.
- ERSOY, Y. 1988. Finds from Menemen/Panaztepe in the Manisa Museum, *The Annual of the British School at Athens* 83, 55-82.

- GENÇER, N. 2006. Sarımsese Tepe Madeni Buluntuları. In: A. Erkanal-Öktü et al. (eds.): *Hayat Erkanal'a Armağan. Kültürlerin Yansıması (Studies in Honor of Hayat Erkanal: Cultural Reflections)*, 373–378, Istanbul.
- GIRELLA, L. – PAVÚK, P. 2015. Minoanisation, Acculturation, Hybridisation. The Evidence of the Minoan Presence in Northeastern Aegean between Middle and Late Bronze Age. In: N. Stampolidis – Ç. Maner – K. Kopanias (eds.): *NOSTOI. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*. Istanbul, 387–420.
- GÜNEL, S. 2015a. Ein Zentrum mit interregionalen Beziehungen in Westanatolien in der Bronzezeit: Çine-Tepecik, *Anschnitt 27*, 205-216.
- GÜNEL, S. 2015B. Çine-Tepecik: New Contributions on Late Bronze Age Cultures in Western Anatolia. In: N. C. Stampolidis, Ç. Maner and K. Kopanias (eds.). *Nostoi. Indigenous Culture, Migration + Intergration in the Aegean Islands + Western Anatolia during the Late Bronze Age + Early Iron Ages*, 627-646. Istanbul: Koç University Press.
- HARMANKAYA, S. 1995. Kozman Deresi Mevkii (Şarköy, Tekirdağ) Maden Buluntulari. In: *Halet Cambel için Prehistorya Yazilari*, 217-54. Istanbul: Graphis Yaymlan.
- JACOPI, G. 1930–31: ‘Nuovi scavi nella necropoli micenea di Jalisso’, *ASAtene* 13–14, 253–345.
- JOUKOWSKY, M., S. 1986. *Prehistoric Aphrodisias. An Account of the Excavations and Artifact Studies*. Louvain.
- KARANTZALI, E. 2001: *The Mycenaean Cemetery at Pylona on Rhodes, (BAR-IS 988)*, Oxford.
- KILIAN-DIRLMEIER, I. 1993. *Die Schwerter in Griechenland (Ausserhalb der Peloponnes), Bulgarien und Albanien, Prähistorische Bronzefunde IV, 12*. München.
- KORFMANN, M. 1994. *Studia Troica 4*. Mainz am Rhein.
- KORFMANN, M. 1995. *Studia Troica 5*. Mainz am Rhein.
- KORFMANN, M. 1996. *Studia Troica 6*. Mainz am Rhein.
- KORFMANN, M. 1997. *Studia Troica 7*. Mainz am Rhein.
- KORFMANN, M. 2002. *Studia Troica 12*. Mainz am Rhein
- KORFMANN, M. 2003. *Studia Troica 13*. Mainz am Rhein.
- KULL, B. 1988. *Demircihüyük 5, Die mittelbronzezeitliche Siedlung*. Mainz am Rhein.
- LAMB, W. 1936. *Excavation at Thermi in Lesbos*, London.
- LAMB, W. 1936. *Excavations at Kusura near Afyon Karahisar I*. Oxford.

- LEHNER, J. 2015. *Cooperation, the Craft Economy, and Metal Technology during the Bronze and Iron Ages in Central Anatolia*, unpublished dissertation, Los Angeles.
- MAIURI, A. 1923–24: 'Jalisos – Scavi della missione archeologica italiana a Rodi (Parte I)', *ASAtene* 6–7, 83–287.
- MAIURI, A. 1926: Jalisos – Scavi della Missione Archeologica Italiana e Rodi (Parte I e II), *Annuario della Scuola Archeologica di Atene* 6-7 (1923–1924), 83–340.
- MORRICONE L. 1967. Eleona e Langada: Sepolcreti della tarda età del Bronzo a Coo, *Annuario della Scuola Archeologica di Atene e delle Missioni Italiane in Oriente* 43–44, 1965–1966, 5–311.
- MORRICONE, L. 1975: Coo – Scavi e scoperte nel Serraglio e in localita minori (1963–1943). *Annuario della Scuola Archeologica di Atene* 50-51 (1972–1973), 139–396.
- PAVÚK, P. 2015. Between the Aegeans and the Hittites: Western Anatolia in the 2nd millennium BC. In: C. Stampolidis, Ç. Maner and K. Kopanias (eds.) *Nostoi. Indigenous Culture, Migration + Intergration in the Aegean Islands + Western Anatolia during the Late Bronze Age + Early Iron Age*, 81-114. Istanbul: Koç University Press.
- PRZEWORKSI, S. 1939. *Die Metallindustrie Anatoliens in der Zeit von 1500-700 vor Chr. Rohstoffe, Technik, Produktion*. Leiden.
- ROHÁČEK, M. 2018. Approaching the East Aegean - West Anatolian Interface Through Metal Finds. In: Franković, F., Popović, A., Fileš, M. and Kramberger, J. (eds.), *Through the Eyes of a Stranger - Appropriating the Foreign and Transforming the Local Context. Proceeding of International Graduate and Doctoral Student Conference, Zagreb, 14.-15.10.2016*, Zagreb, pp. 18-29.
- ROHÁČEK, M. 2019a. Between Crete and Anatolia. Metal Finds of the So-Called Lower Interface in the LBA. In: K. Żebrowska - A. Ulanowska - K. Lewartowski (eds.), *Symposium Egejskie. Papers in Aegean Archaeology, vol. 2*, pp. 101-109, Univesrity of Warsaw, Warsaw.
- ROHÁČEK, M. 2019b. 'A Marriage of the Aegean and the Orient'. Bronzes of the Siana Group Reconsidered, *Studia Hercynia* XXII/2, pp.52-82.
- ROOSEVELT, C., H. – LUKE, C. – ÜNLÜSOY, S. – ÇAKIRLAR, C. – MARSTON, J., M. – O'GRADY, C. – PAVÚK, P. – PIENIAŻEK, M. – MOKRIŠOVÁ, J. – SCOTT, C. – SHIN, N. – SLIM, F. 2018.: Exploring Space, Economy, and Interregional Interaction at a Second-Millennium B.C.E. Citadel in Central Western Anatolia. 2014–2017 Research at Kaymakci, *American Journal of Archaeology* 122/4, 645–688.

- SAHİN, N. - TAŞTEMUR, E. – KARAMAN, D. – DALLIK, G. – DOĞAN, E. – TARI, D.
2009. Klaros, 2008, *Kazi Sonuçlari Toplantisi* 33/1, 247-217.
- SANDARS, N. 1955. The Antiquity of the One-edged Bronze Knife in the Aegean, *The Prehistoric Society* 20, 174-197.
- SANDARS, N. 1961. The First Aegean Swords and their Ancestry, *American Journal of Archaeology* 65, 17–29.
- SANDARS, N. 1963. Later Aegean Bronze Swords, *AJA* 67, 117-153.
- SAPOUNA-SAKELLARAKIS, E. 1978: *Die Fibeln die griechischen Inseln*. Prähistorische Bronzefunde XIV, 4. München.
- WEBER, K. 1996. *Die Rasiermesser in Südosteuropa*. Prähistorische Bronzefunde VIII, 5. München.
- YALCIKLI, D. 2006. Zwei Bronzeschwerter aus Westanatolien, *Istanbuler Mitteilungen* 56, 29-41.

Mgr. Miloš Roháček

EDUCATION

- 2015+** Charles University in Prague, Czech Republic, Faculty of arts, Classical archaeology, **PhD.** Programme.
- 2013–2015** Charles University in Prague, Czech Republic, Faculty of arts, Classical archaeology, **MA** Programme.
- 2008–2013** Charles University in Prague, Czech Republic, Faculty of arts, Classical archaeology, **BA** Programme.

GRANTS

- 2016-2018** The Charles University Grant Agency, GAUK project 250172. *Metallurgy of Western Anatolia in 2nd Millenium B.C.* (main investigator).
- 2017+** Czech Science Foundation GA ČR, Project 17-19746S, *Along the Interface. The Eastern Aegean and Western Anatolia in the Second Mill. BCE* (co-investigator, main investigator Peter Pavúk).
- 2018+** Primus Projekt, č. PRIMUS/17/HUM/30, *Technology in pre-classical Greece* (co-investigator, main investigator Marek Verčík).

ACTIVE PARTICIPATION IN CONFERENCES

Metallurgy along the East Aegean-West Anatolian Interface in the Second Mill. B.C. Paper held at *Perspectives of Classical Archaeology 2015*, in Prague 10-11 December 2015.

Between Crete and Anatolia. The Metallurgy of the so Called Lower Interface in the LBA. Paper held at *The 4th Conference in Aegean archaeology*, Adam Mickiewicz University in Poznań, 07-08 April 2016.

Approaching the East Aegean and West Anatolian Interface through Metal Finds. Paper held at *Through the Eyes of a Stranger – Appropriating Foreign Material Culture and Transforming the Local Context*, Univerzity in Zagreb, 14-15 October 2016.

War in Arzawa? Overview of weapons in Western Anatolia in 2nd Millenium BC. Held at *Polémos - Bellum – Archeology of Conflict in the Antiquity*, Univerzita Karlova, Prague, 6-7 December 2018.

PUBLICATIONS

ROHÁČEK, M. 2018. Approaching the East Aegean - West Anatolian Interface through metal finds. In: F. Franković – A. Popović – M. Fileš – J.Kramberger (eds.) *Through the Eyes of a Stranger – Appropriating Foreign Material Culture and Transforming the Local Context. Proceedings of International Graduate and Doctoral Student Conference, Zagreb, 14.-15.10.2016*, pp. 18-29, Zagreb: University of Zagreb.

ROHÁČEK, M. 2019. Between Crete and Anatolia. Metal Finds of the So-Called Lower Interface in the LBA. In: K. Żebrowska - A. Ulanowska - K.Lewartowski (eds.), *Symposium Egejskie. Papers in Aegean Archaeology, vol. 2*, pp. 101-109, Univesrity of Warsaw, Warsaw.

ROHÁČEK, M. 2019. 'A Marriage of the Aegean and the Orient'. Bronzes of the Siana Group Reconsidered," *Studia Hercynia XXII/2*, pp.52-82.