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Correspondence
İstanbul Üniversitesi Edebiyat Fakültesi, Tarih Bölümü
Ordu Cad. No: 6, Laleli, Fatih 34459, İstanbul, Türkiye
+90 (212) 455 57 00 / 15947
anadoluarastirmalari@istanbul.edu.tr
https://anar.istanbul.edu.tr/

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Balıklı: On the Edge of Time and Everything

Güneş Duru [1]

[1] Department of Archaeology,Mimar Sinan Fine Arts University, Istanbul, Türkiye

Abstract This paper examines the findings from recent excavations at Balıklı, a lesser-known Neolithic settlement located on the Central Anatolian Plateau, with the aim of questioning established models of Neolithization in the region. In contrast to long-term and architecturally stable settlements like Aşıklı Höyük, Balıklı represents a shorter-term and more flexible occupation. This contrast reflected in differences in architecture, duration of occupation, and modes of subsistence, suggests that Neolithization in Central Anatolia did not follow a singular, linear trajectory but instead involved multiple strategies, timings, and social organizations. The study contributes to a reassessment of the geographic and cultural diversity of the Neolithization process in Central Anatolia.

Keywords Central Anatolia · Neolithic · Epipaleolithic · Cultural Diversity · Interaction

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Corresponding author: Güneş Duru gunes.duru@msgsu.edu.tr

Introduction

Archaeological research at Balıklı, an Early Neolithic settlement located on the Central Anatolian Plateau, has uncovered a community that does not conform to established sedentary models. Unlike other well-documented Central Anatolian settlements such as Aşıklı, which exhibit slow and gradual architectural developments, craft specialization, and uninterrupted occupation over the long durée, evidence suggests that Balıklı was inhabited over a much shorter period. The data suggest that this was a more flexible community, one that practiced more Epipaleolithic-like lifeways than Aşıklı.

This paper aims to reassess the diversity of early Neolithic lifeways in Central Anatolia by considering Balıklı specifically. A comparative perspective with Aşıklı suggests that Neolithization in this region did not follow a homogeneous and linear trajectory toward an agricultural village in the classic sense. Instead, it involved multiple strategies, distinct chronologies, and varied forms of social organization. The findings not only challenge the widely accepted concept of the "sedentary village" commonly associated with the Neolithic but also raise new and critical questions about the scale, timing, and variability of early sedentism.

The long-standing "core-periphery" narrative of Neolithization in Southwest Asia often depicts Central Anatolian hunter-gatherer communities as passive recipients of Neolithic lifeways that emerged in Southeastern Anatolia and then spread westward (Kozlowski & Aurenche, 2020; Lev-Yadun et al., 2000; Özdoğan, 2023). While many scholars acknowledge considerable variability in the pace at which Neolithic communities emerged, recent studies (Baird et al., 2018; During, 2006; Özdoğan, 2022, 2023; Peters et al., 2017) continue to emphasize a model of diffusion from Southeastern Anatolia. Nevertheless, the findings from Aşıklı support a multi-centered model of Neolithization beyond the proposed "core zone" (Özbaşaran et al., 2018; Stiner, et al., 2022; Stiner, et al., 2022).

What exactly constitutes the Neolithic (Bar-Yosef & Belfer-Cohen, 1992; Belfer-Cohen & Goring-Morris, 2011; Goring-Morris & Belfer-Cohen, 2011; Cauvin, 2000; Zeder, 2011) and where and how Neolithic communities emerged and spread, are ongoing and likely never-ending debates. Rather than striving to deeply understand these communities, grand narratives emphasizing similarities, "packages," conceptual typologies, and homogenous material culture at the settlement or culture-scale are often prioritized (Perles, 2001; Çilingiroğlu, 2005). These frameworks overlook the variable and localized developments of the Early Neolithic, and the possibility that human groups made diverse choices related to behavioural, ideological, or linguistic differences. This is true, despite the wealth of anthropological and ethnographic research showing that no period of the past was ever as homogeneous as we may wish or believe it to be. The transition from semi-nomadic hunter-gatherer groups to sedentary communities and food production remains one of the most transformative processes in human history (Asouti, 2006; Belfer-Cohen & Goring-Morris, 2020; Duru, 2018a, Duru et al., 2021; Kuijt & Goring-Morris, 2002; Watkins, 2023).

While questions remain unanswered about the local processes that shaped the transition of mobile hunter-gatherer communities to sedentary life and agricultural economies in Central Anatolia, the connection of these processes to other human communities and events across Southwest Asia also remains unclear. Importantly, research at Aşıklı has offered new scenarios for the emergence of Neolithic lifeways and clearly demonstrated the need to test these scenarios across different settlements (Duru, 2018b; Özbaşaran & Duru, 2020; Stiner et al., 2022; Duru & Özbaşaran, 2024). In this context, Balıklı, which is distinct from Aşıklı in several significant ways, offers a novel opportunity to define the unique social and cultural fabric of Central Anatolia. The unexpectedly high diversity and relative isolation of Neolithization in this region make this modest settlement critical not only for understanding the area but also for characterizing this period and its variability more broadly.

Research History and Background

Over the past five decades, archaeological research on Neolithic Central Anatolia has undergone significant transformations. In the early phases of Neolithic studies, the region was largely interpreted within a diffusionist paradigm that emphasized unidirectional cultural movement from the Levant and Southeastern Anatolia. Çatalhöyük, excavated by James Mellaart in the early 1960s, was presented not only as an advanced Neolithic village in terms of settlement and lifeways, but in terms of its iconographic wealth (Mellaart, 1962, 1964). However, the fact that Çatalhöyük was settled several millennia after the "core area", reinforced the perception that the Central Anatolian Neolithic was a delayed echo of earlier developments to the southeast.

This narrative began to erode with the initiation of excavations at Aşıklı Höyük in the early 1990s (Esin & Harmankaya, 2007). The results of the second phase of excavation under the direction of Mihriban Özbaşaran not only pushed the earliest dates of the settlement back to around 8400 BCE, but also revealed a self-constructed Neolithic community with local roots and innovative strategies—especially in terms of architecture, lifeways, and subsistence economy (Özbaşaran, 2011; Duru et al., 2021; Özbaşaran & Duru, 2020).

Although Aşıklı predates Çatalhöyük by approximately one thousand years, it still dates 1,000–1,500 years later than the emergence of the first Neolithic villages in Levant. Thus, the notion that Central Anatolia was a secondary Neolithization zone or a recipient of Neolithic practices from the east, retained its appeal. Importantly, the early layers at Aşıklı revealed not only gradual architectural development and continuity but also a unique, local and gradual process of plant and animal domestication. For instance, it is now clear that the domestication of sheep and goats did not arrive as a pre-defined "package" from elsewhere, but rather developed *in situ*, and then likely spread from there to other regions (Daly et al., 2025). Later discoveries such as at Boncuklu Höyük, Kaletepe, and Pınarbaşı have further clarified the process of Neolithization in Central Anatolia. Boncuklu provided local data on early sedentism (Baird et al., 2022), while Kaletepe demonstrated that obsidian procurement and lithic production connected to long-distance exchange networks predate Aşıklı by several centuries (Binder, 2002). Moreover, analyses from Yabroud II in Syria have shown that obsidian from Kömürcü reached the Middle Euphrates as early as 40,000 years ago (Frahm et al., 2017). The Pınarbaşı rock shelter, dated to around 14,000 years ago, has demonstrated high mobility and inter-group contact during the Epipaleolithic period (Baird et al., 2013).

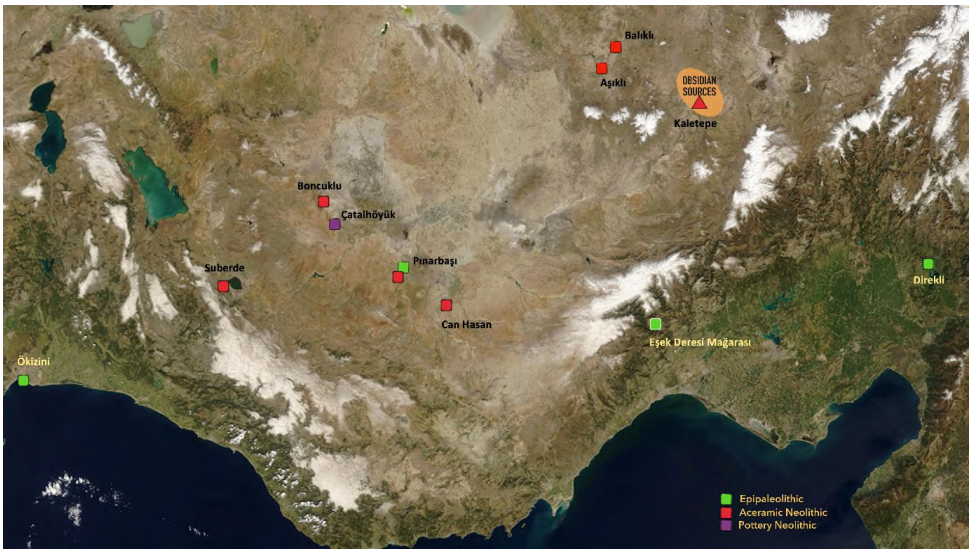
Genomic studies of individuals from the site of Kissonerga-Mylouthkia in Cyprus (c. 7600–6800 BCE) revealed that approximately 80% of their genetic makeup derived from Pre-Pottery Neolithic populations originating in Central Anatolia, especially around the Konya Plain. The remaining 20% was traced to a basal population from the Levant. This admixture is estimated to have occurred between 14,000 and 10,000 BCE, corresponding to the juncture between the Late Epipaleolithic and Pre-Pottery Neolithic A in Cyprus. The findings suggest that the island's first settlers may have been maritime groups originating from Central Anatolia who had previously interacted with Levantine communities (Heraclides et al., 2024). These results emphasize the region's long-standing and complex dynamics.

Our survey work in volcanic Cappadocia, which led to the discovery of Balıklı, has shown that Epipaleolithic communities frequently established their camps on the terraced volcanic slopes of natural rock shelters close to water sources (Goring-Morris et al., 2024). The lithic assemblage from Balıklı is not unique to Cappadocia, but resembles assemblages from sites like Pınarbaşı near Karaman (Figure 1). In this context, high volcanic zones overlooking wide valleys appear to have been preferred settlement areas for both ecological and strategic reasons. The preference for volcanic slopes with panoramic views of valleys mirrors the choices of early Christian communities in Cappadocia (Duru, 2018b). This parallel suggests that the region's natural topography was interpreted similarly in different periods. Unfortunately, the destruction

of early Christian structures and severe erosion in this area over time, have made it difficult to trace the material remains of mobile Epipaleolithic lifeways.

Figure 1

Epipaleolithic and Neolithic settlements of Central Anatolia and its surrounding regions.



Nevertheless, after the late 9th millennium BCE, communities appear to have turned toward more permanent modes of settlement, especially in ecologically favorable locations such as wetlands, lake shores, and riverbanks. Along with Sofular Höyük, (Başoğlu et al., 2018), which is contemporary with the early phases of Aşıklı, many communities chose to locate their sites in similar ecological and topographical conditions along the tributaries of the Melendiz River where Aşıklı is located. These include Acıyer, Bunuş, Damsa, Dededağ, Hantepesi, İnönü, Selime, Yellibelen, Sırçantepe, Taşkesti, Güllüce, İlbiz, and Toparınpınar (Duru & Kayacan, 2018).

Evidence from the lithic production site of Kaletepe located on Göllüdağ (8700 BCE) shows that lithic specialists from the Levant likely travelled to the region to procure and knap obsidian. This indicates that at the beginning of the Neolithic, Central Anatolia was already integrated into a wide interaction network which may have included seasonally mobile populations, resource exchange, and as yet invisible, small sites. Data from around the volcanic zones of Cappadocia further reinforce the presence of a vast geographical network. Sites in the Anatolian part of the network include Direkli Cave, located north of Kahramanmaraş (12,500–8,900 BCE) 350 km away, and Pınarbaşı B near Hotamış in Karaman (13,400–12,900 BCE) which is only 150 km from Cappadocia. Farther south, Karain B (20,000–16,000 BCE) and Öküzini Caves (17,800–7,900 BCE) are located about 350 km distant on the Mediterranean coast, while Eşek Deresi Cave is located in a valley connecting Mersin and Kayseri (11,000 BCE) around 250–300 km away (Taşkıran 2007, Özçelik 2011; Kartal 2002; Carter et al., 2011; Baird et al., 2013; Erek, 2012; Otte et al., 2003, Altınbilek et al., 2023)

Although flint was the dominant lithic material at Öküzini and Karain, small amounts of obsidian originating from Nenezi Dağ and Göllüdağ were also found there (Carter et al., 2011). This flow of obsidian reflects a long-term network of relations beginning in the early phases of the Epipaleolithic. At Pınarbaşı, obsidian constituted up to 27% of the lithics, and obsidian from Göllüdağ was also identified at Direkli Cave (Erek, 2012). In Eşek Deresi, Göllüdağ-sourced obsidian appeared alongside Final Natufian-like (Southern Levant) elements (Altınbilek et al., 2023). These chronological and spatial patterns clearly demonstrate the existence of an obsidian circulation network centered on Cappadocia, that stretched from the southern coastal regions of Turkey to the northeast *via* Karaman. Even if the material did not travel directly across the network but

through intermediaries, the fact that hunter-gatherer communities interacted over distances of 200–400 km, illustrates the high degree of connectivity in the region.

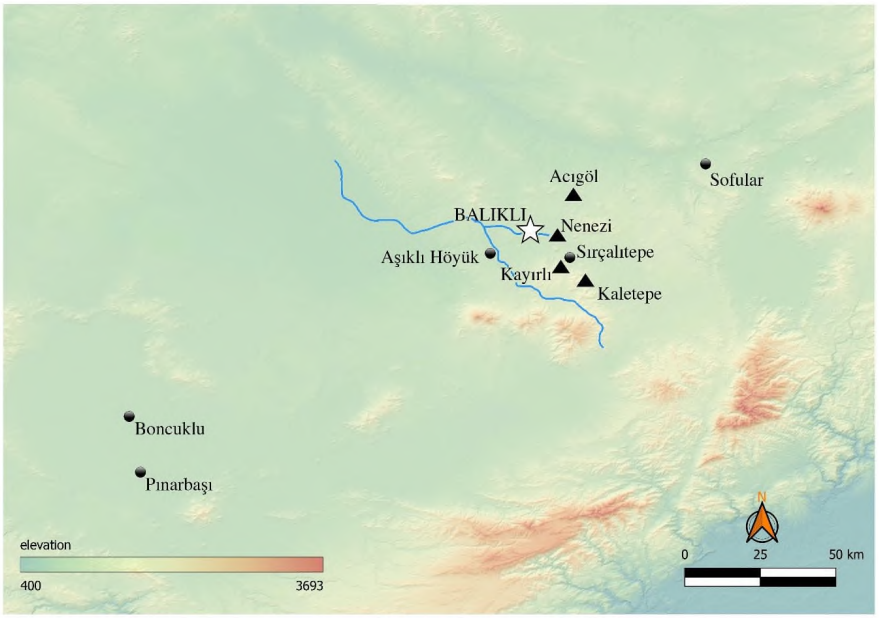
In conclusion, while the Fertile Crescent has long been seen as the core of Neolithic transformation in Southwest Asia, the accumulated archaeological evidence suggests that the Neolithization process covered a much wider and more complex geography. Within this expanded geographical frame, Central Anatolia stands out as a vital region. Once considered marginal in conventional Neolithic narratives, Central Anatolia has emerged as a landscape with considerable local complexity, cultural heterogeneity, and a long-term trajectory of experimentation. Early communities in the region were not passive recipients of Neolithic traits, but instead actively engaged in independent processes of domestication and the transition to sedentism.

Life at Balıklı

Located approximately 15 kilometers from Aşıklı Höyük along the route to the Nenezi obsidian source, Balıklı was first identified during a surface survey conducted in 2015 (Duru & Kayacan, 2018). Measuring 150 by 150 meters and rising to a height of between 2 and 5 meters, the site appears as a small mound on the landscape. These features, along with the radiocarbon dates obtained so far, indicate that the site was inhabited relatively briefly, between 8300 and 7950 BCE (Figure 2). The settlement is situated in a geologically rich landscape. The surrounding environment was shaped by volcanic activities and characterized by mountains, valleys, and plains at varying elevations. The topography supported a diverse range of flora and fauna, providing a favorable ecological setting for hunting, gathering, and early farming. Additionally, the site's proximity to the Nenezi (6 km) and Göllüdağ (20 km) obsidian sources offered a significant advantage for the procurement of raw materials (Figure 3). While 2% of the chipped stone tools originate from the closer Nenezi source, 98% come from the more distant Göllüdağ—also favored by residents of contemporary sites in Central Anatolia such as Aşıklı and Boncuklu (Kayacan et al., 2022).

Figure 2
Balıklı and its surroundings.

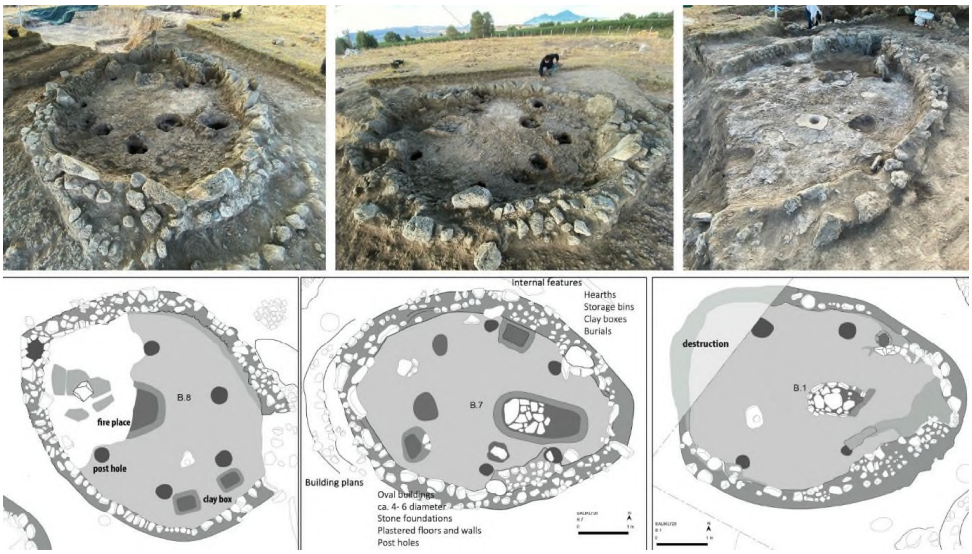
Figure 3
Contemporary Central Anatolian settlements of Balıklı and Aşıklı and obsidian sources



The rich biotic resources and easy access to raw stone materials, provided by Balıklı's natural setting, offered an attractive ecological niche for Neolithic communities. The settlement made effective use of its environment and developed a distinctive order in terms of architecture, economy, and daily life. The settlement location was convenient for hunting-gathering and low-level agricultural subsistence strategies and for provisioning the construction materials for the community's distinct architecture. Dwellings were placed in an almost symmetrical pattern, with a more or less consistent orientation and spacing between buildings. The first inhabitants of Balıklı constructed semi-subterranean buildings using basalt stones and sometimes the natural bedrock. Over time, this evolved into a construction method that began with the excavation of a large pit, which was lined with smaller basalt stones and larger vertically positioned rectangular blocks. These oval or egg-shaped structures, measured between 5 and 7 meters in diameter, and were remarkably similar in shape, size, and internal features (Figure 4). Most of these houses include an apsidal projection on the eastern side. Although this part is often damaged, one well-preserved structure indicates that this feature served as the entrance, through which the building was accessed *via* a few steps. The consistent damage to these entrances may be related to the later removal of the steps for reuse, or destruction caused by the repurposing of this area as a cemetery by a nomadic group from the Caucasus (based on aDNA data; unpublished preliminary report) thousands of years later.

Figure 4

Houses and building features at Balıklı



Recurring architectural elements inside the structures include large, circular or oval hearths built from stone or moulded from plaster. These hearths were typically located close to the entrance. The floors and wall plaster of the houses were made from a natural white clay found near the edge of the settlement. When dried, the material became as hard as concrete. The people of Balıklı frequently repaired their floors using this same material. In contrast, at Aşıklı, floor and wall plastering involved a more sophisticated construction process and often employed clay mixtures of different types and textures reflecting social patterns and practices (Duru, 2018a). At Balıklı, floor renewal appears to have been a functional and repetitive activity. The floors were renewed at regular intervals; one structure preserves at least five successive occupation layers, while another appears to have been rebuilt at least three times in the same spot. Inside the structures, postholes measuring approximately 25 cm in diameter were symmetrically aligned parallel to the building walls. Other internal features in some buildings include mortars and clay boxes that were also often frequently renewed in the same location.

Death at Balıklı

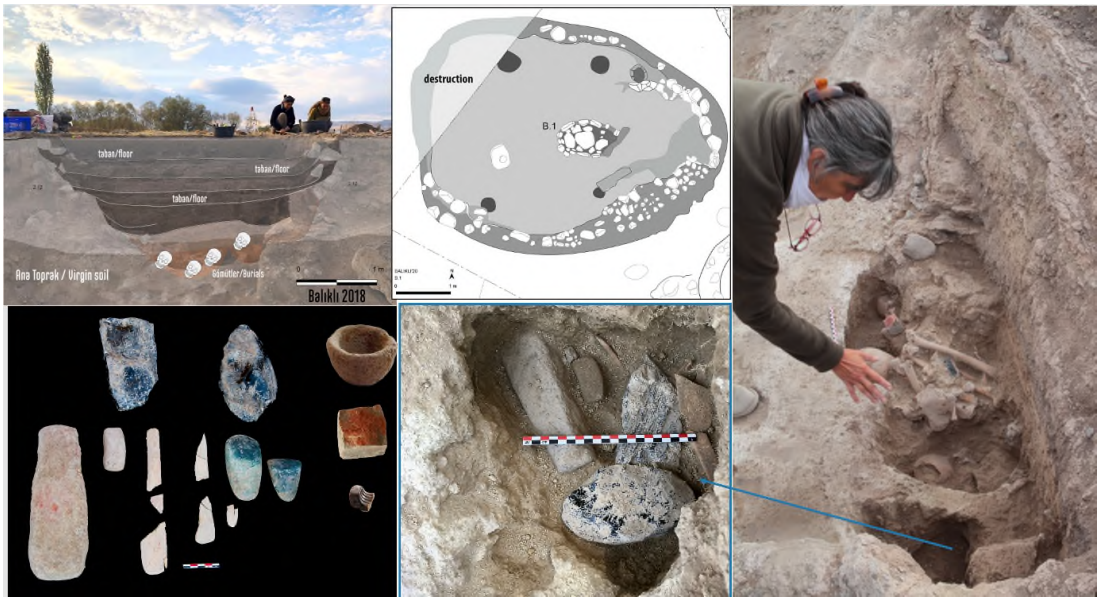
At this time, burials of more than 60 individuals have been exposed within or beneath the structures belonging to the main occupation phase at Balıklı. This number suggests strikingly different mortuary practices than at Aşıklı where only 12 individuals were discovered in contemporaneous deposits within a similarly sized excavation area.

Diverse burial practices are represented at Balıklı. Among the most striking is the interment of the dead within the walls of the buildings. We believe that this practice took place when the buildings were renovated. The deceased were likely temporarily placed elsewhere until it was time to rebuild the structures and then re-interred within the walls. This interpretation is supported by the fact that large numbers of bones were missing from several individuals. Notably, no grave goods have been found with the individuals buried in the walls. A multiple burial was also discovered during cleaning of the section of a large pit made in the site by a bulldozer. This same destruction pit led to the initial discovery of the site. Three individuals were buried in this grave within pits carved into the bedrock beneath the building floor. Grave goods were not placed with the bodies but were deposited in a separate cache in a small pit nearby. Ochre-stained blades, a broken bone spatula, axes, and various personal items were found in the cache. Similar ochre traces on the human bones further support the connection between the cache and the burials (Figure 5). The building

was originally constructed to conform to the bedrock topography. Over time, it was rebuilt at least five times in the same location using stone and mud. The internal features were also subjected to multiple renewals. Other individuals were also buried under floors in several buildings and are currently under investigation.

Figure 5

Finds from the bedrock-cut burial pit and adjacent cache pit in the lowest architectural phase of the building (B 1).



Another building exposed by the bulldozer was built directly on the bedrock and reconstructed several times by slightly shifting its position each time. Although only one quarter of the building survived, we discovered burial pits within the fill of the building in the section. One pit dug beneath the floor contained a neonate and two children. These burial pits differ significantly from those in the other structures. One neonate was buried in a hocker position inside an oval pit measuring 25 x 32 cm. The infant had been placed in a small basket before being interred in the pit. A red stone bead was found on the ribs, and an obsidian blade was placed on top of the bead (Yelözer, 2024).

Another child, aged 2–4 years (SK 11), was buried in a pit dug into the bedrock in the building's earliest phase. A group of shell beads (*Dentalium*) were found around the child's neck, arm, and wrist. A greenstone bead and small, disc-shaped stone beads were found around the child's arm and hand, a black stone bead near the infant's tibia, and an obsidian blade was placed directly above the body. A third child, aged 5–9 years (SK 47), was buried around the same time. This child was interred in a second pit cut into the bedrock immediately beside the previous burial (Figure 6, Figure 7). A necklace was found around the child's neck, and an obsidian blade had been placed in the palm of their hand. Ancient DNA analysis revealed that these two children were siblings. The shells and stone beads indicate interaction between the residents of Balıklı and people from the Middle Euphrates and the Levant. The beads are very worn, suggesting that they were second-hand items brought from distant regions (Figure 8; Yelözer, 2024).

Figure 6
Building phases (B 4 & B 14) largely damaged by bulldozer activity, and locations of some individuals buried beneath the floors.

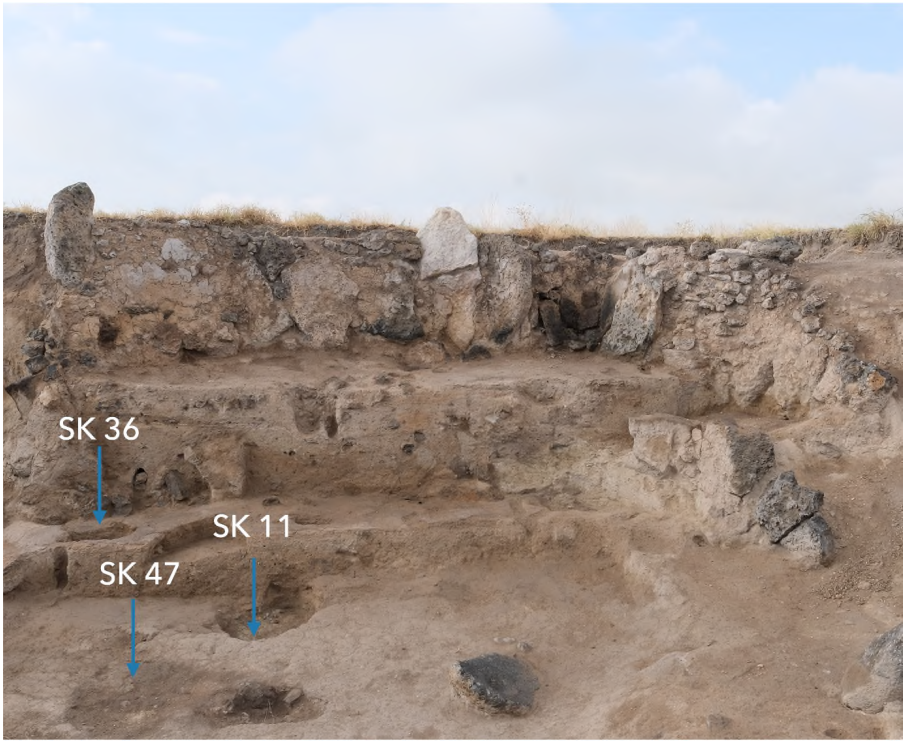
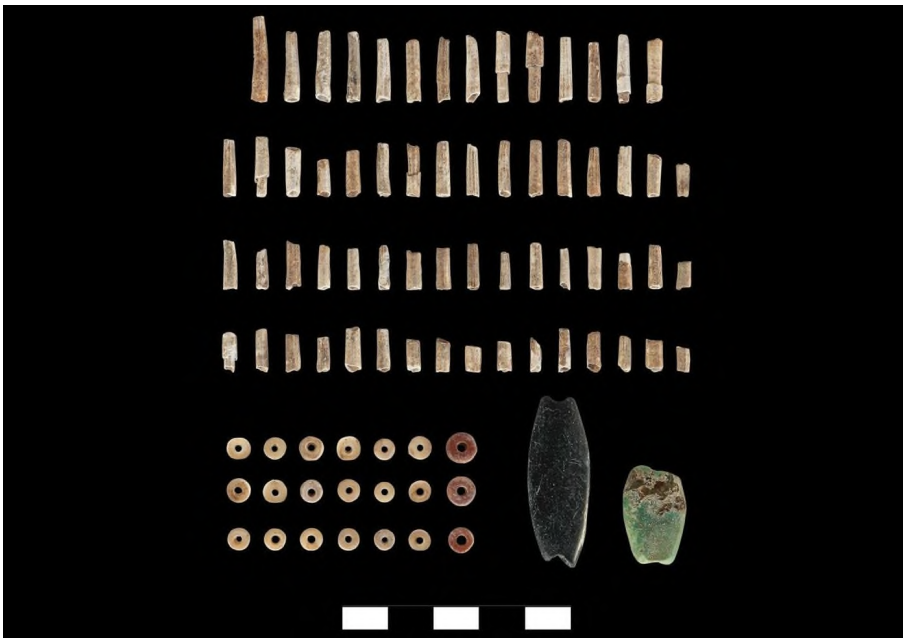


Figure 7
SK 47 and SK 11.

Figure 8
Grave goods found with SK 11.



Source: Yelözer, 2024

Finally, we are currently studying another interesting burial case: five individuals, including an infant, were found directly on the floor of a building, but not in burial pits. The individuals appeared to have been placed directly on the surface of the floor. In the same building, other individuals were buried in pits dug into the floor, suggesting that they were buried while the building was still in use. Whether the five individuals laid on the floor were placed there after the building was abandoned, or whether the building was later repurposed as a grave, is currently under investigation.

So far, we have encountered numerous burials in nearly every building—some are primary, and some are secondary. Except for the case mentioned above, kinship analysis of these burials revealed no evidence of first-degree familial relationships. For example, individuals buried under the same floor or within the same walls were not related (based on aDNA data; unpublished preliminary report). Although the varying burial practices and grave goods pointing to long-distance interactions suggest a culturally diverse community, all individuals excavated at Balıklı so far, like those at Aşıklı, are genetically native to Central Anatolia.

Like the mid-9th millennium burials at Aşıklı, the dead from Balıklı were similarly interred beneath house floors in *hocker* position and without grave goods. However, at Aşıklı, all burials from this period belong exclusively to women and children (Özbaşaran et al., 2018; Figure 9). At Balıklı, there is no such distinction by sex or age. Neonates, infants, adults—individuals of all ages and both sexes—were buried there. It is worth recalling that at Aşıklı, first-degree relationships have been confirmed between individuals buried under the floors of the same house, and also between individuals buried in neighbouring buildings (Yaka et al., 2021). However, more examples are needed to firm up these conclusions.

Figure 9
Houses and subfloor burials at Aşıklı, contemporary with Balıklı.

Subsistence and Social Organization

Subsistence at Balıklı reflects a mixed economy. High proportions of very large game like aurochs and wild ass indicate a continued reliance on hunting. Archaeobotanical remains show that cereals were present, but played a limited role, and currently, there is no strong evidence for intensive agriculture or long-term storage. Lithic analyses complement this picture. The chipped stone assemblage is based on practical production strategies and shows no formal standardization, suggesting flexibility alongside specialization.

The faunal remains recovered from Balıklı are highly diverse, and include large quantities of both small and large game. Hares are the most common small animal, but fish, birds, and turtles are also present. The large game include equal proportions of wild cattle and anatomically wild sheep and goat, and higher proportions of wild ass than are typical of Central Anatolian Neolithic sites (Goring-Morris et al., 2024). Wild boar and deer are present but in smaller numbers. The proportion of sheep and goat at Balıklı contrasts with Level 4 and 5 at Aşıklı, where sheep and goat are the more abundant. This suggests that hunting played a more prominent role at Balıklı than at Aşıklı. While hunting also occurred at Aşıklı, the focus from the outset was clearly on sheep and goats (Stiner et al., 2014). Although sheep and goat are still one of the most common taxa represented at Balıklı and their kill-off patterns shows that more than half the animals were slaughtered before they reached adulthood, more data is needed to determine whether they were hunted or managed.

The preliminary analysis of charred botanical material reflects a local dry-farming regime and a wetland-edge environment. Cereals and legumes are represented only in small quantities; the cereals are mostly represented by chaff bases from hulled wheats, indicating chaff-processing activities. Some of the hulled wheats have been identified as emmer, while others are classified as “tetraploid-type” hulled wheat. The legumes are poorly preserved—only a single seed has been tentatively identified as a possible lentil (Goring-Morris et al., 2024).

At Aşıklı, there is clear evidence that the community gradually intensified agricultural production, with features such as food storage pits and silos reflecting a planned approach to food management and surplus. The presence of designated communal work areas for activities such as obsidian knapping, grinding, basketry, hide processing, food sharing, and cooking pits, point to a collective effort to sustain the community. Such features are more limited at Balıklı. One of the key drivers of Aşıklı’s millennium-long continuous occupation may have been its focus on constructing a collective consciousness. Balıklı, on the other hand, reflects a more mobile, interaction-oriented lifestyle that aligns more closely with Epipaleolithic traditions.

Remoteness Despite Close Proximity

Although Aşıklı and Balıklı are located within the same ecological basin and share an overlapping chronology, the two sites exhibit markedly different social, architectural, and symbolic orientations. Aşıklı, throughout much of its occupation, reflects a relatively inward-looking social structure. In the early phases, material indicators of external interaction are limited; there is only modest evidence for the use of exotic raw materials, exchange networks, or symbolic objects of distant origin. Instead, a strong emphasis on collective production, shared living spaces, and ritually reinforced cohesion suggests an enclosed social organization. Architecturally, this insularity is mirrored in the consistent reproduction of house forms over generations, within which spatial norms and layout remain remarkably stable. This architectural continuity reflects a material commitment to the past and a resistance to structural change. The restricted use of grave goods and the uniformity of mortuary practices in the early and middle phases (Level 5, 4, 3) further reinforce this symbolic closure. Only in the later phases do signs of increased connectivity begin to emerge, such as the appearance of non-local beads, more diverse burial treatments, and the formation of distinct architectural groupings. Thus, Aşıklı's social order appears grounded in ritual normativity, internal continuity, and a materially self-referential worldview.

In contrast the findings from Balıklı reveal significant differences from contemporary levels at Aşıklı (Level 5 and 4). The most striking evidence for this is architectural. The construction materials, building plans, ventilation systems, interior spatial arrangements such as outward-opening doors, stepped entrances, plaster types, and wall thicknesses at Balıklı are all distinctly different from those observed at Aşıklı. Whereas at Aşıklı, the management of plant and animal resources was integrated into communal life from the beginning, these resources appear to have been used more sporadically and inconsistently at Balıklı. For instance, thus far, there is no evidence for the on-site animal pens or dung residues which are documented in the early levels of Aşıklı (Uzdurum et al., 2023).

As mentioned above, significant differences are also represented in the burial practices at Balıklı and Aşıklı. But perhaps the most important distinction between the settlements is that Balıklı appears to have been more engaged with the outside world than Aşıklı—or at least to have more openly incorporated external interaction into its social life. One of the most typical tool types at Balıklı, for example, is the obsidian projectile point. When these projectiles were first identified at Cafer Höyük in Malatya/Eastern Anatolia in the 1980s, Marie Claire Cauvin named them "Cafer points." Only two of these points have ever been published, and the total number found at Cafer Höyük remains unknown (Cauvin et al., 1986, 1991). However, almost 100 Cafer points have been recovered so far at Balıklı.

The presence of beads typical of the Middle Euphrates and dentalium deriving from the Eastern Mediterranean in graves in Central Anatolia undoubtedly carried social meaning transmitted through the interaction among genetically related groups. Interaction and long-distance exchange were more intense at Aşıklı prior to the beginning of the 8th millennium BCE (Özbaşaran et al., 2018). Early evidence of exchange includes shells from the Mediterranean (*Nassarius, Columbella fuscata*), emmer wheat, lentils, a flint blade, and examples of bipolar knapping techniques (Duru & Özbaşaran, 2024; Yelözer, 2018; Ergun et al., 2018). One of the strongest indicators of interaction between Aşıklı and Balıklı is the discovery of eight Balıklı-style projectiles found in situ on the floor of a subterranean building at Aşıklı (Figure 10), as well as a bone tool that closely resembles those found at Balıklı. Perhaps the inhabitants of Balıklı functioned as a kind of supplier for Aşıklı during the late 9th millennium BCE, in return for domestic livestock. Interestingly, Balıklı's abandonment coincides with a reduction in Aşıklı's contact with distant regions. How these observations may be correlated is the subject of future investigation.

Figure 10

*The "Cafer-type arrowheads" found at Balıklı were also discovered **in situ** on the floor of a shelter at Aşıklı.*

That Balıklı was more externally engaged than Aşıklı is supported by the presence of Middle Euphrates-style beads and projectile points, but this distinction should be further substantiated when more evidence becomes available. Comparative analysis of material culture and burial gifts suggests that Balıklı maintained stronger material and symbolic links to regions beyond Central Anatolia. In contrast, Aşıklı's emphasis on architectural permanence, shared communal spaces, and demographically restricted burials reaffirms its more inward-looking, self-reinforcing social order. This contrast between the two sites is not absolute, but the cumulative pattern suggests differentiated modes of regional connectivity.

These sharply contrasting spatial, architectural, and mortuary practices between two settlements only 15 kilometers apart underline the role of local symbolic systems in shaping social life. As Ian Hodder has emphasized, material culture is not merely a backdrop to action, but an active medium through which meaning, identity, and social order are constructed and maintained (Hodder, 1982). In this regard, the differing uses of space, burial customs, and architectural choices at Aşıklı and Balıklı may reflect distinct systems of symbolic communication rather than mere ecological or chronological variation.

Thresholds and Ambiguities

The ambiguity manifested in Balıklı's hybrid subsistence strategies, fluid architectural arrangements, and shifting mortuary practices, prompts reconsideration of the idea that cultural transition is a linear process. Instead of viewing the Neolithization process as a straightforward and developmental timeline in which one stage predictably follows another, Balıklı invites us to imagine a mesh composed of overlapping trajectories, entanglements, and in-between lifeways (Figure 11). Within this framework, ambiguity is not caused by a lack of definition or a sign of failure, but is a constitutive element of social life. What we define as "Neolithic" must thus be rethought not as a fixed outcome, but as a process of becoming shaped by uncertainty, contingency, and negotiation.

Figure 11
Semi-subterranean houses identified so far at Balıklı.

The Epipaleolithic period and its way of life seem to have persisted longer in Central Anatolia than in the so-called "core area" to the east. From Epipaleolithic Pınarbaşı to 9th millennium BCE Boncuklu, Aşıklı, and Balıklı, the people of Central Anatolia maintained a semi-mobile lifestyle and an openness to long-distance interaction. The artifacts interred with the Epipaleolithic individual buried at Pınarbaşı and the Cafer Höyük-type projectile points and heavily worn beads from the Middle Euphrates interred in graves at Balıklı demonstrate the complexity of this interaction which could not have been limited to material exchange alone.

Across Central Anatolia, the obsidian sources provide a primary shared axis of interaction. Chipped stone toolmakers at Boncuklu, Balıklı, and Aşıklı likely sourced their obsidian from visible and accessible outcrops on the slopes of Göllüdağ. Nevertheless, differences in the mortuary practices, architectural traditions, subsistence economies, and lifeways of these groups show that these communities did not engage in close techno-cultural interactions with one another. In this sense, Central Anatolian communities do not seem to have pursued either the kind of integration or competitive interaction that we observe in Southeastern Anatolia, where a more homogeneous and shared cultural emerged. The concept and collective memory of Neolithization—and its repeated re-definition—have often been treated as a linear and homogenizing process that progressed uninterrupted from the Epipaleolithic, especially in regions where the process is believed to have emerged and become institutionalized.

The comparison between Balıklı and Aşıklı compels us to rethink long-standing assumptions about the Neolithization process in Central Anatolia. Aşıklı represents a community that transitioned to sedentary life, distanced itself from external interactions, and focused on architectural permanence, food storage, and sustainability—and succeeded. In contrast, the community at Balıklı exhibited a more flexible and limited approach to sustainability, architectural investment, and the organization of daily life. Both settlements draw attention to the importance of local knowledge and regionally specific developmental trajectories. Thus, these two settlements challenge not only interpretations specific to Central Anatolia but the prevailing archaeological models about the Neolithic period more broadly. They underscore the need for an approach that goes beyond typological classifications and center-periphery dichotomies based on formal similarities, and instead embrace plurality and the local scale. Viewing the Neolithic as a period of experimentation shaped by diverse environmental, social, and technical strategies, seems to be a more accurate way to interpret the distinctiveness of these communities.

Balıklı is a powerful example that shows that Neolithization processes cannot be fully understood using singular, linear, or evolutionary narratives. The settlement either lacks or only marginally and ambiguously represents the indicators typically associated with the Neolithic—agricultural intensification, architectural stability, and social permanence. For this reason, Balıklı makes visible the threshold conditions, gray zones, hybridizations, and ambiguities that are often excluded from archaeological interpretation. This community does not fully align with either Epipaleolithic or sedentary Neolithic forms; rather, it reflects a lifeway shaped by mobility, external interaction, and experimental continuity.

In the text, I emphasize the term "flexibility" to describe the community at Balıklı. By flexibility, I mean a more fluid social pattern compared to the rigid, long-term structuring observed at Aşıklı. At Balıklı, architectural arrangements, building materials, the use of space, and subsistence strategies, are more variable and less formalized than at Aşıklı. The combination of large game hunting with limited cereal processing, the lack of infrastructure for the management of sheep and goats, storage, or intensive agriculture highlight this flexibility. Likewise, variability in burial practices including body placement, and associated grave goods, all point to significant differences in how the community related to and remembered the dead. These features should not be viewed as signs of disorder or uncertainty but rather as indications of a more adaptive and flexible approach to social and ecological conditions. In this sense, flexibility does not imply formlessness, but rather a mode of social response that resists rigid norms and embraces variability.

In this context, the phrase "On the Edge of Time and Everything" refers not only to a geographical and chronological position, but also to a process within which social formations had not yet crystallized. Marked by traces of transience, contemporaneity, and multiplicity, Balıklı is a settlement that compels us to rethink current conceptualisations of the Neolithic.

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Author Details Güneş Duru
[1] Department of Archaeology,Mimar Sinan Fine Arts University, Istanbul, Türkiye
0000-0003-1870-0120 gunes.duru@msgsu.edu.tr

References

Asouti, E. (2006). Beyond the Pre-Pottery Neolithic B interaction sphere. *Journal of World Prehistory*, 20(2–4). https://doi.org/10.1007/s10963-007-9008-1

Altınbilek Ç., Kaycı, O., Balcı, S., Tümer, H., Gündüzalp, S., Ünlü, Y., Bala, C. (2023). Eşek Deresi Mağarası 2021 Çalışmaları. *42. Kazı Sonuçları Toplantısı*, 79–89.

Baird, D., Asouti, E., Astruc, L., Baysal, A., Baysal, E., Carruthers, D., Fairbairn, A., Kabukcu, C., Jenkins, E., Lorentz, K., Middleton, C., Pearson, J., & Pirie, A. (2013). Juniper smoke, skulls and wolves' tails. The Epipalaeolithic of the Anatolian plateau in its South-west Asian context; insights from Pinarbaşi. *Levant*, 45(2). https://doi.org/10.1179/0075891413Z.00000000024

Baird, D., Fairbairn, A., Jenkins, E., Martin, L., Middleton, C., Pearson, J., Asouti, E., Edwards, Y., Kabukcu, C., Mustafaoglu, G., Russell, N., Bar-Yosef, O., Jacobsen, G., Wu, X., Baker, A., & Elliott, S. (2018). Agricultural origins on the Anatolian plateau. *Proceedings of the National Academy of Sciences of the United States of America*, 115(14). https://doi.org/10.1073/pnas.1800163115

Baird, D., Fairbairn, A., & Mustafaoğlu, G. (2022). Boncuklu and Pınarbaşı: from forager to farmer in central Anatolia. *Heritage Turkey*, 12. https://doi.org/10.18866/biaa2021.20

Bar-Yosef O. & Belfer-Cohen, A. (1992), From foraging to farming in the Mediterranean Levant. In: A.B. Gebauer and T.D. Price (eds.) *Transitions to Agriculture in Prehistory*. Monographs in World Prehistory No. 4. Prehistory Press: Madison. pp. 21-48

Başoğlu, O., Güngördü, F. V. & Karakoç, M. (2018). Nevşehir'de en erken yerleşim izleri: Sofular Höyük. *Colloquium Anatolicum*, 17, 19–31.

Belfer-Cohen, A., & Goring-Morris, N. (2020). From the Epipalaeolithic into the earliest Neolithic (PPNA) in the South Levant. *Documenta Praehistorica*, 47. https://doi.org/10.4312/DP.47.3

Belfer-Cohen, A., & Goring-Morris, N. (2011). Becoming farmers: The inside story. *Current Anthropology*, 52(SUPPL. 4). https://doi.org/10.1086/658861

Binder, D. (2002). Stones making sense: What obsidian could tell about the origins of the Central Anatolian Neolithic. In F. Gérard & L. Thissen (Eds.), *The Neolithic of Central Anatolia*, 79–90. Ege Yayınları.

Carter, T., Bourdonnec, F., Kartal, M., Pouppeau, G., Calligaro, T., & Moretto, P. (2011). Marginal perspectives: Sourcing Epipaleolithic to Chalcolithic obsidian from the Öküzini Cave (SW Turkey). *Paléorient, 37*(2), 123–149.

Cauvin, J. (2000). *The Birth of The Gods and The Origins of Agriculture* . Cambridge University Press.

Cauvin, M.-C., Anderson-Gerfaud, P., Helmer, D., & Cauvin, J. (1991). Les travaux de 1986-1988 sur le site néolithique précéramique de Cafer Höyük (Malatya, Turquie). *Anatolia Antiqua*, 1(1). https://doi.org/10.3406/anata.1991.1136

Cauvin, M.-C., Balkan, N., Besnus, Y., & Şaroğlu, F. (1986). Origine de l'obsidienne de Cafer Höyük (Turquie): Premiers résultats. *Paléorient*, 12(2). https://doi.org/10.3406/paleo.1986.4411

Çilingiroğlu, Ç. (2005). The concept of "Neolithic package": Considering its meaning and applicability. *Documenta Praehistorica*, 32. https://doi.org/10.4312/dp.32.1

Daly, K., Mullin, V., Hare, A., Halpin, Á., Mattiangeli, V., Teasdale, M., Rossi, C., Geiger, S., Krebs, S. Medugorac, I., Sandoval-Castellanos, E., Özbaşaran, M., Duru, G., Gülçur, S., Pöllath, N., Collins, M., Frantz, L., Vila, E., Zidarov, P. & Bradley, D. (2025). Ancient genomics and the origin, dispersal, and development of domestic sheep. *Science*, 387, 492–497.

During, B. S. (2006). Constructing communities: clustered neighbourhood settlements of the Central Anatolian Neolithic CA. 8500-5500 Cal. BC. Nederlands Instituut Voor Het Nabije Oosten, Leiden, PhD.

Duru, G. (2018a). Sedentism and solitude: Exploring the impact of private space on social cohesion in the Neolithic. I. Hodder (Ed.), *Religion, History, and Place in The Origin of Settled Life* (pp. 162–185) içinde. Colorado: University Press of Colorado.

Duru, G. (2018b). Değişen Zaman, Dönüşen Geçmiş: Volkanik Kapadokya'da Neolitik. *Anadolu*, 0(44), 157 - 179.

Duru, G., & Kayacan, N. (2018). Volkanik Kapadokya'da Epipaleolitik Toplulukların İzinde: İlk Değerlendirmeler. *Süleyman Demirel Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi*, 1(45), 91-104.

Duru, G., & Özbaşaran, M. (2024). Preserving collectivity through continuity. *Archaeological Research in Asia, 40*, 100555. https://doi.org/10.1016/j.ara.2024.100555

Duru, G., Özbaşaran, M., Yelözer, S., Uzdurum, M., & Kuijt, I. (2021). Space making and home making in the world's first villages: Reconsidering the circular to rectangular architectural transition in the Central Anatolian Neolithic. *Journal of Anthropological Archaeology,* 64. https://doi.org/10.1016/j.jaa.2021.101357

Erek, M. C. (2012). Güneybatı Asya ekolojik nişi içinde Direkli Mağarası Epipaleolitik buluntularının değerlendirilmesi. *Anadolu/Anatolia, 38*, 53–66

Ergun, M., Tengberg, M., Willcox, G., & Douché, C. (2018). Plants of Aşıklı Höyük and changes through time: First archaeobotanical results from the 2010–14 excavation seasons. In M. Özbaşaran, G. Duru, & M. Stiner (Eds.), *The early settlement at Aşıklı Höyük: Essays in honor of Ufuk Esin* (pp. 191–218).

Esin, U., & Harmankaya, S. (2007). Aşıklı Höyük. In M. Özdoğan & N. Başgelen (Eds.), *Anadolu'da uygarlığın doğuşu ve Avrupa'da yayılımı, Türkiye'de Neolitik dönem: Yeni kazılar, yeni bulgular* (s. 255–272) içinde. Istanbul: Arkeoloji ve Sanat Yayınları.

Frahm, E., Hauck, T. C., & Tryon, C. A. (2017). Origin of an obsidian scraper at Yabroud Rockshelter II (Syria): Implications for Near Eastern social networks in the early Upper Palaeolithic. *Archaeological Research in Asia, 11*, 1–12. https://doi.org/10.1016/j.ara.2017.03.001

Goring-Morris, A. N., & Belfer-Cohen, A. (2011). Neolithization Processes in the Levant. *Current Anthropology*, 52(S4). https://doi.org/10.1086/658860

Goring-Morris, A. N., Munro, N. D., Özbaşaran, M., Kayacan, N., Ergun, M., Uzdurum, M., F. Kalkan., & Duru, G. (2024). Variation in the development of Neolithic societies atop the Central Anatolian Plateau: recent results from Balıklı. *Antiquity*, 98(401), 1163–1180. https://doi.org/10.15184/aqy.2024.100

Heraclides, A., Aristodemou, A., Georgiou, A. N., Antoniou, M., Ilgner, E., & Davranoglou, L.-R. (2024). Palaeogenomic insights into the origins of early settlers on the island of Cyprus. *Scientific Reports, 14*, 9632. https://doi.org/10.1038/s41598-024-60161-z

Hodder, I. (1982). *Symbols in action: Ethnoarchaeological studies of material culture*. Cambridge University Press.

Kartal, M. (2002). The microliths of Öküzini Cave. In I. Yalçınkaya, M. Otte, J. Kozłowski, & O. Bar-Yosef (Eds.), *La Grotte d'Öküzini: Evolution du Paléolithique final du Sud-Ouest de l'Anatolie / Öküzini: Final Paleolithic evolution in Southwest Anatolia* (pp. 235–252). ERAUL, 96.

Kayacan, N., Goring-Morris, A. N., Duru, G., & Özbaşaran, M., (2022). A Prehistoric Survey in Cappadocia and a New Early Holocene Site, Balıklı. *Tracking the Neolithic in the Near East* (pp.387-396), Leiden: Oxbow Books.

Kozlowski, S. K., & Aurenche, O. (2005). *Territories, Boundaries and Cultures in the Neolithic Near East*. BAR International.

Kuijt, I., & Goring-Morris, N. (2002). Foraging, farming, and social complexity in the Pre-Pottery Neolithic of the southern Levant: A review and synthesis. *Journal of World Prehistory*, 16(4). https://doi.org/10.1023/A:1022973114090

Lev-Yadun, S., Gopher, A., & Abbo, S. (2000). The cradle of agriculture. In *Science* (Vol. 288, Issue 5471). https://doi.org/10.1126/science.288.5471.1602

Mellaart, J. (1962). Excavations at Çatal Hüyük: First Preliminary Report, 1961. *Anatolian Studies*, 12. https://doi.org/10.2307/3642517

Mellaart, J. (1964). A Neolithic City in Turkey. *Scientific American*, 210(4). https://doi.org/10.1038/scientificamerican0464-94

Taşkıran, H. (2007). The supply areas of Karain Cave in Southwest Anatolia. In M. H. Moncel, A. M. Moigne, M. Arzarello, & C. Peretto (Eds.), *Raw material supply areas and food supply areas: Integrated approach of the behaviours* (pp. 207–211). BAR International Series 1725. Proceedings of the XV UISPP World Congress, Lisbon, 4–9 September 2006.

Otte, M., López, I., Bayon, P., Bar-Yosef, O., Yalçınkaya, I., Kartal, M., & Léotard, J. (2003). Sedimentary deposition rates and Carbon-14: The Epipalaeolithic sequence of Öküzini Cave (Southwest Turkey). *Journal of Archaeological Science, 30*(3), 325–341.

Özbaşaran, M. (2011). The Neolithic on the Plateau. S. Steadman & G. McMahon (Eds.), *The Oxford handbook of ancient Anatolia (10,000–323 B.C.E.)* (s. 99–124) içinde. Oxford: Oxford University Press.

Özbaşaran, M., & Duru, G. (2020). The early Sedentary Community of Cappadocia: Aşıklı Höyük. In *La Cappadoce méridionale de la Préhistoire à l'époque Byzantine*. https://doi.org/10.4000/books.ifeagd.3237

Özbaşaran, M., Duru, G., & Stiner, M. C. (2018). *The Early Settlement at Aşıklı Höyük: Essays in Honor of Ufuk Esin. In The Early Settlement at Aşıklı Höyük: Essays in Honor of Ufuk Esin.* Ege Yayınları.

Özçelik, K. (2011). Karain Mağarası B Gözü Epipaleolitik dönem yontmataş endüstrisi. In H. Taşkıran, M. Kartal, B. Kösem, & G. Kartal (Eds.), *Işın Yalçınkaya'ya armağan* (pp. 213–225). Ankara.

Özdoğan, M. (2022). Reconsidering the Early Neolithic of Anatolia. Recent recoveries, some excerpts and generalities. *Anthropologie* (France), 126(3). https://doi.org/10.1016/j.anthro.2022.103033

Özdoğan, M. (2023). Emergence and Dispersal of Neolithic Lifeways: From Core to Peripheries. In *The Epipalaeolithic and Neolithic in the Eastern Fertile Crescent: Revisiting the Hilly Flanks*. https://doi.org/10.4324/9781003335504-4

Pérlès, C. (2001). *The early Neolithic in Greece: The first farming communities in Europe* (S. Wernke, Trans.). Cambridge University Press.

Peters, J., Pöllath, N., & Arbuckle, B. S. (2017). The emergence of livestock husbandry in Early Neolithic Anatolia. In *The Oxford Handbook of Zooarchaeology*.

Stiner, M. C., Buitenhuis, H., Duru, G., Kuhn, S. L., Mentzer, S., Munro, N., Pöllath, N., Quade, J., Tsartsidou, G., & Özbaşaran, M. (2014). A forager-herder trade-off, from broad-spectrum hunting to sheep management at Aşıklı Höyük, Turkey. *Proceedings of the National Academy of Sciences, 111*(23), 8404–8409. https://doi.org/10.1073/pnas.1322723111

Stiner, M. C., Munro, N. D., Buitenhuis, H., Duru, G., & Özbaşaran, M. (2022). An endemic pathway to sheep and goat domestication at Aşikli Hoyuk (Central Anatolia, Turkey). *Proceedings of the National Academy of Sciences of the United States of America*, 119(4). https://doi.org/10.1073/pnas.2110930119

Stiner, M. C., Özbaşaran, M., & Duru, G. (2022). Aşıklı Höyük: The Generative Evolution of a Central Anatolian PPN Settlement in Regional Context. *Journal of Archaeological Research*, 30(4). https://doi.org/10.1007/s10814-021-09167-z

Watkins, T. (2023). *Becoming Neolithic*: *The Pivot of Human History.* Routledge

Yaka, R., Mapelli, I., Kaptan, D., Doğu, A., Chyleński, M., Erdal, Ö. D., Koptekin, D., Vural, K. B., Bayliss, A., Mazzucato, C., Fer, E., Çokoğlu, S. S., Lagerholm, V. K., Krzewińska, M., Karamurat, C., Gemici, H. C., Sevkar, A., Dağtaş, N. D., Kılınç, G. M., … Somel, M. (2021). Variable kinship patterns in Neolithic Anatolia revealed by ancient genomes. *Current Biology*, 31(11). https://doi.org/10.1016/j.cub.2021.03.050

Yelözer, S. (2018). The beads from Aşıklı Höyük. M. Özbaşaran, G. Duru ve M. Stiner (Eds.), *The early settlement at Aşıklı Höyük: Essays in honor of Ufuk Esin* (pp. 383–404) içinde. Istanbul: Ege Yayınları.

Yelözer, S. (2024). More than just 'pretty things': Body adornment and identity construction in prehistoric Anatolia. *Paper presented at the ARWA Lecture Series*: Anatolian Identities, 01.02.2024.

Uzdurum, M., Mentzer, S. M., Duru, G., Kuzucuoğlu, C., & Özbaşaran, M. (2023). Kerpiç production and environmental dynamics in an early sedentary community: Micromorphological evidence from Aşıklı Höyük, Central Anatolia (Turkey). *Archaeological and Anthropological Sciences*, 15, 204. https://doi.org/10.1007/s12520-023-01904-3

Zeder, M. A. (2011). The origins of agriculture in the Near East. *Current Anthropology*, 52(SUPPL. 4). https://doi.org/10.1086/659307

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Research Article

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The Architecture and Village-Spatial Organization of the Middle PPNB Period at Boncuklu Tarla: Some Observations on the Domestic and Public Areas

Ergül Kodaş [1], Yunus Çiftçi [2], Charlotte Labedan Kodaş [3] & Rüstem Cin [4]

[1] Mardin Artuklu University, Department of Archaeology, Mardin, Türkiye
[2] Bitlis Eren University, Faculty of Sciences and Letters, Bitlis, Türkiye
[3] Non-affiliated, Mardin, Türkiye
[4] Dicle University, Faculty of Sciences and Letters, Diyarbakır, Türkiye

Abstract Boncuklu Tarla is a settlement located within the borders of the village of Ilısu in the Dargeçit district of Mardin. The settlement provides important information on the architecture of the PPNA and PPNB periods, in particular the architectural traditions of the Middle PPNB, the focus of this article. In addition, these remain to allow the evaluation of village-space organization. The architectural remains found at Boncuklu Tarla also provide the opportunity to compare the Middle PPNB period architecture unearthed at various settlements such as Çayönü, Nevali Çori, Gritille, Tell Halula, Akarçay Tepe, Gre Fılla and Cafer Höyük in a regional context. This study aims to present and discuss new information on how village spatial organization changed within the PPNB period, following on from previous discussions on the PPNA period data. Especially within the Middle PPNB period, it is thought that the village spatial organization model of being centered around public buildings was abandoned at Boncuklu Tarla. It is believed that with this change the public buildings were separated from the dwellings but still influenced their spatial organization.

Keywords Pre-Pottery Neolithic B · Middle PPNB · Architecture · Boncuklu Tarla · Anatolia · Upper Tigris Basin

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Corresponding author: Ergül Kodaş ergulkodas@gmail.com

Introduction

Among the architectural remains dating to the Early Neolithic Period (10th-8th millennium BC) in South-eastern Anatolia and Northern Mesopotamia, public buildings have a special place in the architecture of this period with their distinctive plans, architectural features and interior arrangements (Figure 1). Although there are many studies on the subject, unfortunately, a common terminology has not yet been established (Schmidt, 2012; Finlayson, 2014; Hodder, 2016; Özdoğan, 2018; Karul, 2022). In this context, it is seen that the buildings in question are categorized under different definitions such as public building, monumental building, temple, collective building, etc., depending on their plans, interior arrangements and the finds found within the buildings (Banning and Byrd, 1987; Özdoğan & Erim-Özdoğan, 1998; Özdoğan, 1999; Aurenche & Kozlowski, 2010; Kuijt, 2000; Kinzel & Clare, 2020; Finlayson, 2014; Stordeur, 2015; Hodder, 2016; Özdoğan, 2018; Hodder & Pels, 2020; Watkins, 2020; Özdoğan & Karul, 2011; Kodaş & Çiftçi, 2021; Karul, 2022; Hodder, 2022). This complexity of definition is undoubtedly related to the interpretation of the buildings in question. However, in all interpretations, public buildings are seen as a completely different area from other buildings that may be dwellings. In other words, the common point in all studies on the subject is that pubic buildings are not a domestic space. However, there are also some views that suggest that public buildings can be residential (Banning, 2011; 2023). As a general definition, the term 'public building' is used to refer to buildings that are considered to be more collective, not used as dwellings, and they exhibit significant differences in terms of their architectural plans and interior arrangements as well as their finds (Özdoğan, 2005; 2018). These differences may be due to regional as well as chronological variations. At this point, it is possible to analyse the public/special building found in Northern Mesopotamia typologically through at least four different regions. For example, the public buildings unearthed in the Şanlıurfa region have some characteristic features specific to the area. At this point, T-shaped pillar, anthropomorphic pillar, or in some cases human or animal statues or reliefs are characteristic of all the private buildings found in settlements such as Göbekli Tepe, Karahan Tepe, Çakmak Tepe and Sayburç (Clair et al., 2019; Özdoğan & Uludağ 2022 ; Karul, 2022; Şahin & Uludağ, 2023).

Such building elements and finds are regional in general appearance. In addition, banquettes, benches, stone windows or niches are also characteristic for these buildings. In many examples, it is observed that the floors were made by chiselling the bedrock. On the other hand, the special buildings known from settlements in the Upper Tigris Valley such as Çayönü, Çemka Höyük, Boncuklu Tarla, Hallan Çemi, Hasankeyf Höyük, Gusir Höyük and Gre Fılla exhibit some regional characteristics as well as some differences among themselves (Erim-Özdoğan, 2011; Kodaş & Çiftçi, 2021; Rosenberg, 2011; Karul, 2011; Ökse, 2021; Ekinbaş-Can 2022). There are no T-shaped or anthropomorphic pillar in this region, but simple stone pillar and buttresses are characteristic. In addition, stone pillars leaning against the wall were found at Çemka Höyük and Gre Fılla (Kodaş et al. 2020; Çiftçi 2022; Ekinbaş-Can 2022). The radial-plan buildings found at Çemka Höyük and Boncuklu Tarla settlements are more similar to contemporary structures found in north Syria (Kodaş et al., 2020). The examples from Nemrik 9 and Qermez Dere in East Jazira, just south of this region, show some differences within themselves, but point to a more localised tradition (Kozlowski & Kempisty, 1990; Watkins, 2020). The structures uncovered in these settlements are fully buried and mostly built of clay materials in architecture. Although stone pillar and buttresses are absent, compressed clay-soil pillar were occasionally used. The structures unearthed at settlements such as Jerf El Ahmar, Mureybet, Tell Abr 3 in the Northern Syria Region are generally represented by radial-plan examples (Cauvin, 1997; Yartah, 2013; Stordeur, 2015). However, some examples unearthed at Jerf el Ahmar and Tell Abr 3 indicate the presence of buildings with beams and wooden posts (Stordeur, 2015; Yartah, 2013). Buildings with simple stone masonry walls were generally built fully buried. The buttressed building unearthed at the settlement of Dja'de exhibits

similarities with the architecture of the Upper Tigris Valley. In general, despite the regional variations, it can be said that public buildings were constructed throughout the region in Northern Mesopotamia. In addition, it is observed that the buildings in question had round plans in the early phase, but in the later phases of the period they experienced a transition towards a rectangular plan. However, in addition to these chronological and regional variations, another point that stands out is that public buildings had an important place in the settlement order and organisation in the Early Neolithic Period. It can be said that public/special buildings were in a position to direct the village-spatial organisation of the Early Neolithic period. At this point, recent archaeological studies conducted in Southeastern Anatolia provide new and more detailed information on the place of public buildings in village-spatial organisation. These new studies provide a different perspective on many issues such as the spatial relationship between public buildings and other buildings and the position/importance of public buildings in village-spatial organisation. This study aims to develop a new perspective on village spatial organisation in the Middle PPNB Period (Figure 1, represented also to a lesser extent by Çayönü, Özdoğan 2005; Özdoğan 2018) through the Boncuklu Tarla data.

Figure 1

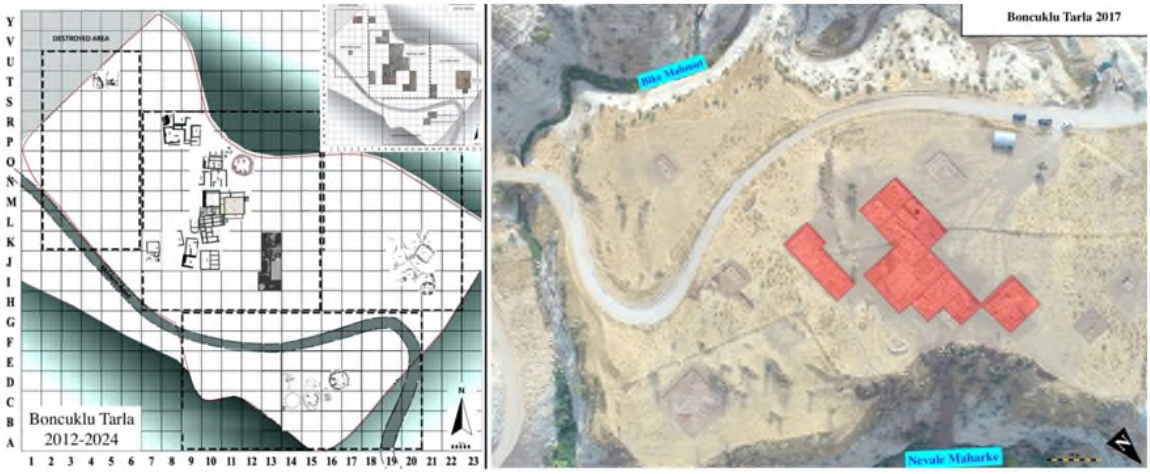
Contemporary settlements in Northern Mesopotamia.

Boncuklu Tarla excavation

Boncuklu Tarla is located approximately 2 km west of the Tigris River, south of the Nevala Maherk stream, and north of the Bike Mahmut stream (Figure 2). The settlement site was first identified and examined in 2008 during surface surveys conducted as part of the documentation and rescue efforts for cultural assets within the interaction area of the Ilısu Dam and HES Project by two different teams. Dr. Tuba Ökse identified Boncuklu Tarla as a settlement representing the Pre-Pottery Neolithic (PPN) Period within the scope of the *Ilısu Dam Construction Area Surface Survey*. Prof. Dr. Harun Taşkıran and Prof. Dr. Metin Kartal collected and evaluated a significant number of obsidian and flint artifacts dating to the PPN during their surface survey conducted as part of the same project (Ökse et al., 2010: 334, 341, Taşkıran & Kartal, 2010: 239–41). Rescue excavations were carried out at Boncuklu Tarla within the scope of the Ilısu Dam and HES Project under the auspices between 2012 (Kodaş, 2018; 2023). Excavation work conducted between 2012 and 2022 took place in 42 separate trenches, covering an area of approximately 4,000 square meters. Layers dating back to the PPNB were identified especially during excavations carried out in 2012, 2017, and 2019–2022 in the central area of the mound and on an approximate area of 2,300 square meters (Figure 2)[1].

Figure 2

Boncuklu Tarla drone photograph and areas where Middle PPNB Period layers were identified.



Middle PPNB Period Architecture: Stratigraphy and Dating

Based on the findings and evidence obtained from intermittent archaeological excavations at the site, it has been determined that the settlement was continuously inhabited from the Late Epipaleolithic to the Late PPNB periods, between 11,000 and 8,000 BC. The identified layers are as follows: Layer 1: Late PPNB; Layer 2: Middle PPNB; Layer 3: Early PPNB; Layer 4a–b: PPNA–PPNB transition; Layers 5a, 5b, and 6a: PPNA; Layers 6b and 7: Late Epipaleolithic/Proto-Neolithic. Additionally, radiocarbon (C14) analyses have provided dates corresponding to this chronological development (8,235 to 7,522 BC, Figure 3, Table 1 - Table 2, Kodaş 2019).

[1]The 2012 rescue excavations were carried out under the scientific supervision of Prof. Dr. Tuba Ökse and Prof. Dr. Harun Taşkıran, while the 2017 excavations were conducted under the scientific supervision of Assoc. Prof. Dr. Ergül Kodaş.

Figure 3
Chronological and typological development of PPN Period architecture at Boncuklu Tarla.

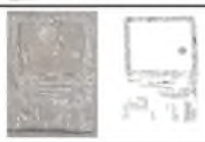
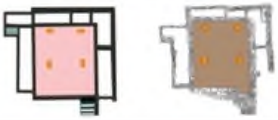
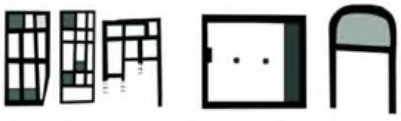
Period	Level	Domestic	Public
	7		?
Late Epipaleolithic	6a	?	
PPNA 1	6b		
PPNA 2	5a 5b		
PPNA-B trans	4a		
Early PPNB	4b		
Early PPNB	3		?
Middle PPNB	2		
Late PPNB	1		

Table 1
Dimensions of Middle PPNB Period dwellings.

Building No	Surface (M²)	Room/Cell number	Surface of the central/principal room (M²)
B 1.1.	195	8	77,90
B 2.1.	64,6	1	*
B 4.1.	90	4	56
B 5.1	80	3	49,60
B 6.1.	29,25	2	*
B 7	61,75	3	*
B 8	39	1	*
B 9	88,35	5	47,5

Table 2
Boncuklu Tarla C14 analysis results and chronological development.

Level	Period	Lab. code	^{14}C age BP ± 1SD	13C (‰) ± 1SD	BC (95.4% confidence)	Context/Level	Material
I	Late PPNB	-	-	-	-	-	-
II	Middle PPNB	Tübitak-0200	8900 ± 27 8508 ± 37	-26.2±0.3 -25.1±0.8	8297-8235 (96.3%) 7592-7522 (95.4%)	Level 2/Middle PPNB	Indeterminate carbon
III	Early PPNB	Tübitak-0199	9207±39	-25.1±0.8	8546-8502 (12.0%) 8496-8302 (83.4%)	Level 3/Early PPNB	Indeterminate carbon
IVa-IVb	PPNA-PPNB Transition	-	-	-	-	-	-
Va-Vb-VIa	PPNA	-	-	-	-	-	-
VIb-VII	Late Epi-Palaeo/Proto Neolithic	Tübitak-0201	10389 ± 41	-26.4±0.6	10471-10109 (95.4%)	Level 6b-7/ late Epipalaeolithic/Proto Neolithic	Indeterminate carbon

From an architectural perspective, it is observed that the majority of the architectural remains uncovered during the investigations at the settlement site belong to the MPPNB period. However, dwellings, storage units, and public buildings dating back to the Proto-Neolithic, PPNA, PPNA–PPNB transition, EPPNB, and LPPNB have also been revealed. Furthermore, it is understood that some structures initially constructed during the MPPNB period continued to be used with certain modifications during the LPPNB period. The architectural remains of the MPPNB period, identified only in the Central Area of the settlement, cover an area of approximately 2,300 square meters. So far, at least 17 structures dating to the MPPNB period have been excavated and can be classified in three distinct architectural types: 1) special/public buildings, 2) domestic/residential buildings, and 3) storage facilities.

Public/Special Building

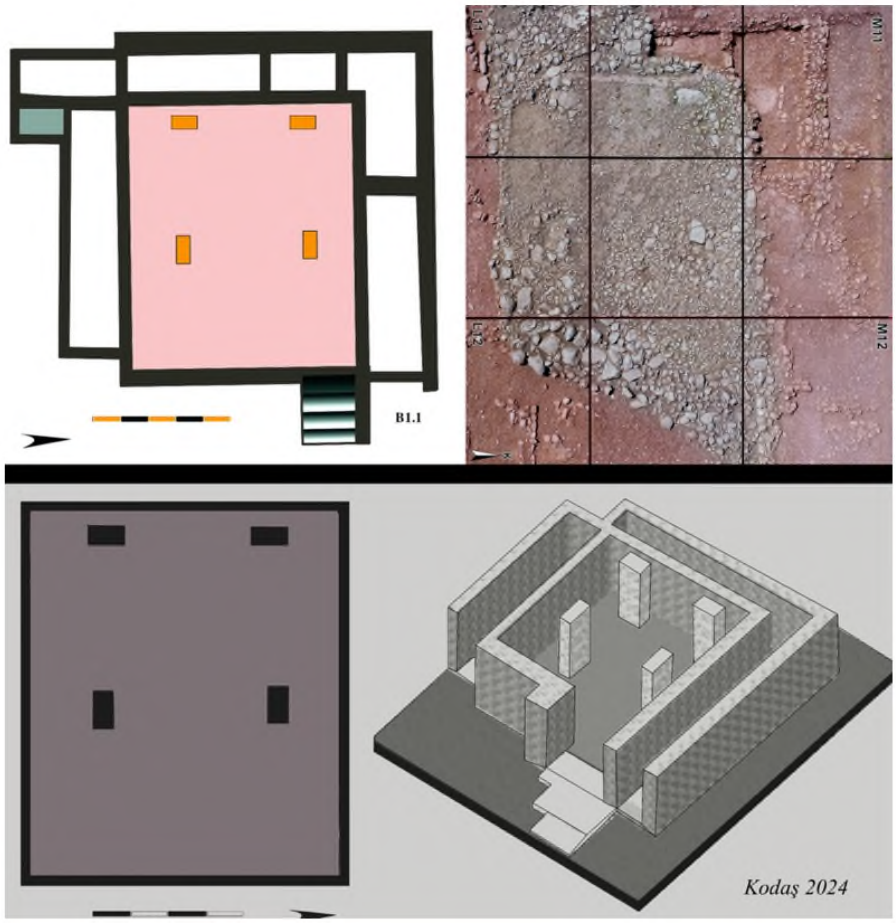
Building 1.1. is the most distinctive community building of the middle MPPNB period, Building 2.1. and Building 8 also have certain features that can be considered non-domestic. Overall, these three buildings are very different from the domestic buildings uncovered on the site.

Building 1.1

Among the architectural structures of the MPPNB period the most prominent building, both in terms of construction style and dimensions, as well as its position within the village space organization, is undoubtedly Building 1.1(Figure 4). Although this building was obviously renovated and used still during the LPPNB period, it was initially constructed during the MPPNB period. The building's dimensions are approximately 15 x 13 meters. The main space of the structure is surrounded by five cells of varying sizes to the west and north of the building. To the south is a rectangular space that extends in the east–west direction (1.60 m x 9.50 m = 15.20 m²). The foundations of Building 1.1 were constructed either with three or four rows of small limestone blocks or with two rows of large limestone blocks. The central space of the structure features a terrazzo floor. For this the space was first filled with rubble stones and then leveled with pebble stones to create a smooth surface (Figure 5c). On top of this surface, a terrazzo floor was laid. The central space measures 8.20 meters in north–south direction and 9.50 meters in east–west direction. Covering an area of 77.90 m², in total (Figure 4).

Figure 4

Drawing and photograph of the Terrazzo Building (Building 1.1)



The floor is covered with a red-colored lime plaster (Figure 5a-b). Symmetrically placed pillars were built on pedestals by stacking flat limestone blocks on top of each other. Two courses of these stone slabs have been found *in situ* at the southwestern corner of the building (Figure 6)[2]. It is observed that access to the building is provided by steps located in the northeastern corner of the building. Four separate units have been identified in total. The room cells along the northern and western sides, and the rectangular space to the south, are not accessed from the main space (Cell 7) but by a separate entrance located to the east.

Figure 5

Details of the floor surface in the Terrazzo Building (Building 1.1).

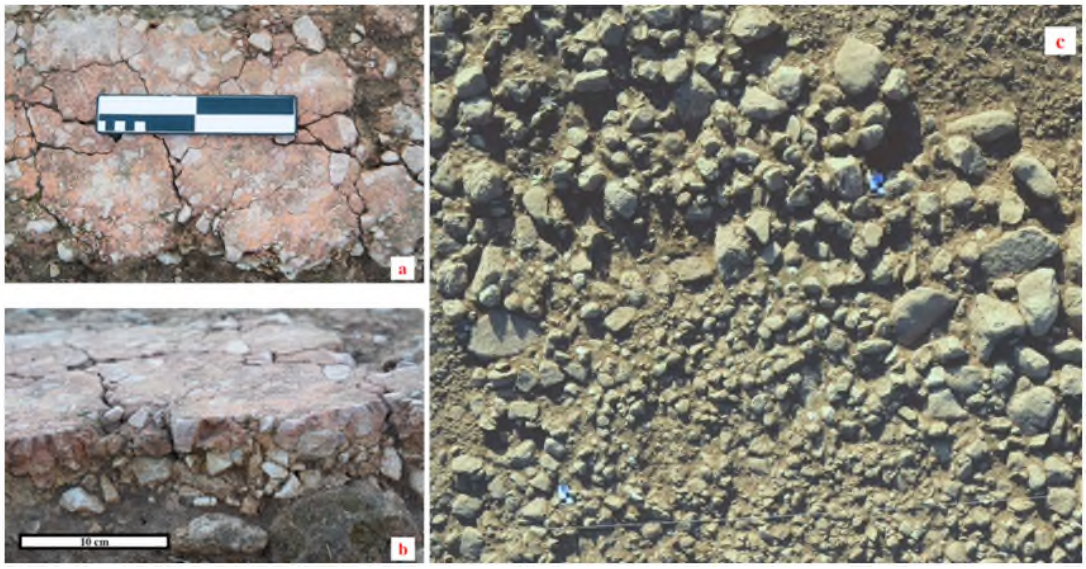
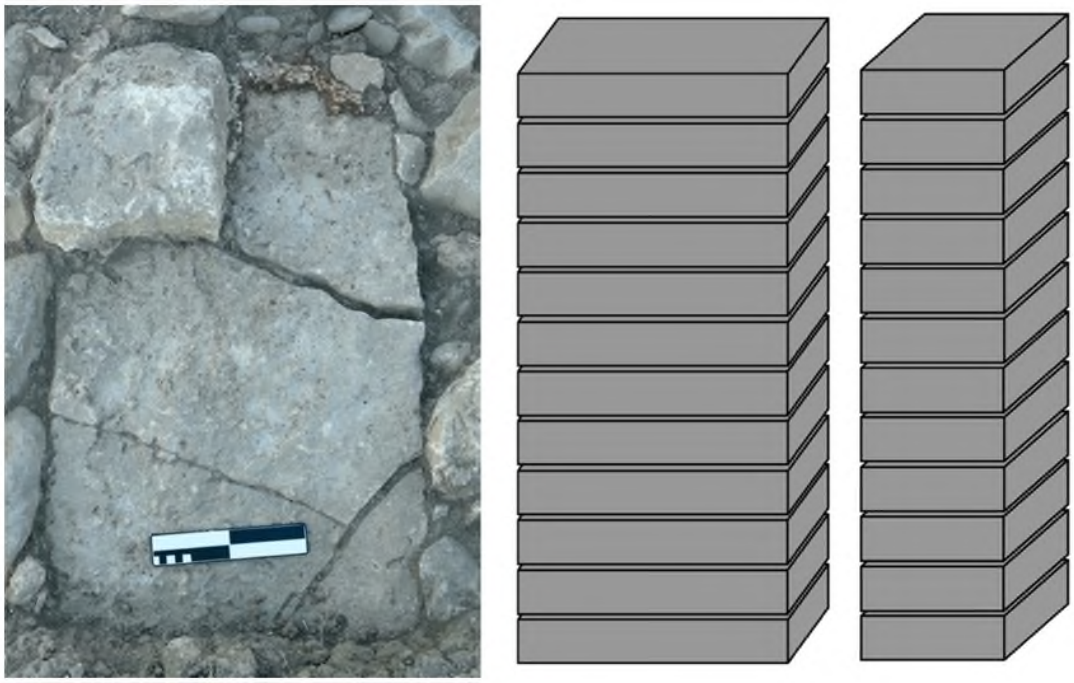


Figure 6

Restitution of the pillars in the Terrazzo Building (Building 1.1).



[2]The others have been damaged owing to agricultural activities. This damage is also evident on the terrazzo floor.

Building 2.1

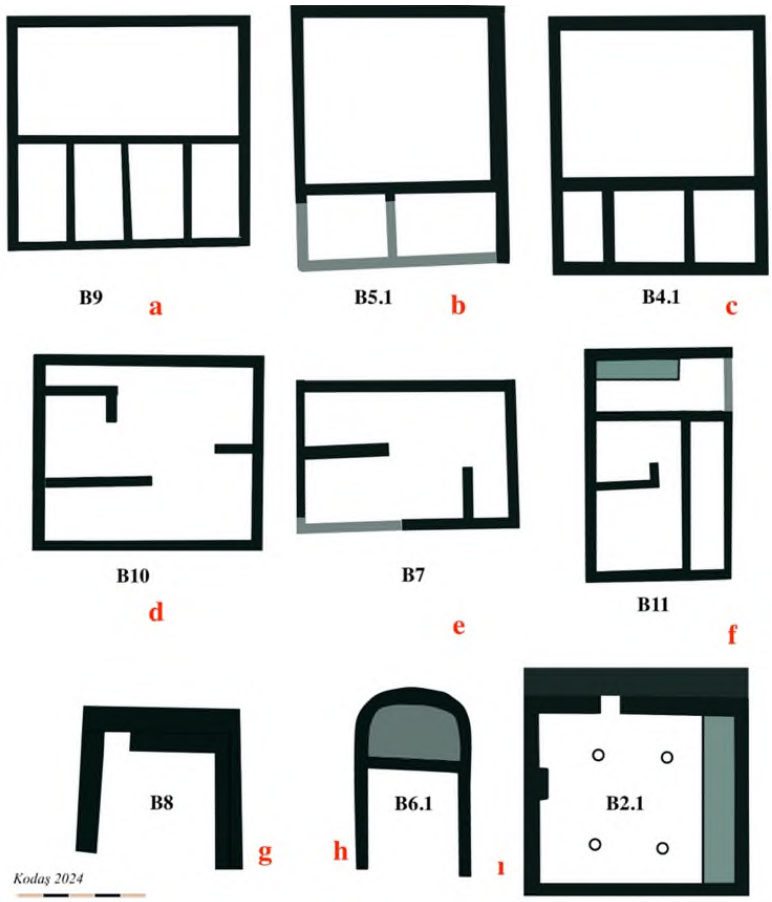
Building 2.1 is constructed adjacent to and immediately northwest of the Building 1.1 (Figure 8ı). Due to its unusual ground plan configuration, we identified this as also a special or public building of the MMPNB settlement. It is a single-room structure measuring 7.60 m in the east–west direction and 8.50 cm in the north–south direction. At the southern wall, a substantial buttress is located. Along the northern wall is a bench, which is approximately 1.40 m wide. The entrance to the building is located on the western side, and there is a stone-paved exterior floor approximately 1.20 m wide in the north–south direction in front of the entrance.

Figure 7
Architecture of the Middle PPNB Period.

Building 8

This building has a distinctive plan among the identified MPPNB period structures in the settlement and can therefore be counted as special/public building. It measures 6.50 meters in the north–south direction and 6 meters in the east–west direction (Figure 8g). The walls are up to one meter thick. It is a single-spaced structure. On the eastern limits no wall was found. It is unclear if the building was lacking an eastern wall originally or if it is just not preserved. Additionally, the western and northern walls show traces of rebuilding on the interior. The northern wall is shared with Building 7.

Figure 8
Residential architectural and public/special buildings of the Middle PPNB Period.



Domestic Structures

So far, we have identified 17 dwellings dating to the MPPNB period. The majority of these dwellings have been fully excavated, and their floor plans have been determined. All of these dwellings were constructed just west of the Terrazzo Building (Figure 7). The dwellings, which vary in size and number of rooms, exhibit significant differences among themselves. All of the dwellings show stone foundations. The stone foundations are preserved in some places with up to two to four courses of stones. The recovered fragments of mudbrick (*kerpiç*) indicate that the walls were made of mudbrick.

2.1. Building 4.1

This building is located immediately southwest of Building 1.1. It is approximately 10 m long and 9 m wide (Figure 8c). The building comprises of four spaces. Space 4.1.1 is 9 x 6 m and dominates the western part of the building. To the east there are smaller rooms with varying widths spanning a length of 4 meters each. The floor surface of the building is made of pebbles, small fragments of marble, and of clay.

2.2. Building 5.1

This structure is located immediately to the south of Building 4.1 and shares a common wall with Building 4.1. It comprises of at least three spaces. The building is not fully excavated due to the presence of an oak tree in the eastern parts of the building. The preserved and exposed parts of this building suggest that

it could have been 8 meters wide and 10 meters long (Figure 8b). Similar to Building 4.1 there is on the western side of the building a space approximately 8 meters in length and 6.20 meters in width along the northwest–southeast axis. In field observations during excavation indicate the presence of at least two small compartments to the east of this building.

2.3. Building 6.1

Building 6.1 is located west of Buildings 4.1 and 5.1. The building extends in the north–south direction and has apse facing south (Figure 8h). The building is 6.5 meters long and 4.5 meters wide, and no wall is preserved on the north side. The space is divided into two separate compartments by an internal partition wall (about 20 cm high) located toward the north, which also forms the northern boundary of the apse. The apsidal section is 3.5 meters deep in north–south direction. The floor of the apse is paved with stone, while the floor of the northern compartment is covered with plaster made of marl and clay.

2.4. Building 7

This building has a rectangular shape and measures 9.50 meters in the north–south direction by 6.50 meters in the east–west direction (Figure 8e). It is located immediately south of Building 6.1. The interior of the building is divided by two internal wall segments, one added perpendicular to the southern wall and the other perpendicular to the eastern wall, creating at least three compartments. The southern part of the eastern wall is poorly preserved.

2.5. Building 9

This structure, located east of Buildings 7 and 8 and south of Building 5.1, has approximate measurements of 9.50 x 9.30 meters (Figure 8a). On the western side of the building there is a space that is measuring 5 x 9.50 meters. On the eastern side there are four small rectangular compartments in a cell-like form, each extending in the east–west direction and measuring 4.20 meters in length. The floor of the building is plastered with hard compacted mud except for the northernmost compartment which is covered with a mix of marl and pebble stones.

2.6. Building 10

Located northwest of building 1.1, this structure has measurements of 7.90 meters in the east–west direction and 9.30 meters in the north–south direction (Figure 8d). It is divided into at least three compartments with independent walls of varying dimensions.

2.7. Building 11

Situated northwest of Building 10, this structure measures 9.50 x 5 meters, extends in the east–west direction and has a rectangular plan. The building consists of at least four spaces and there is a large compartment divided into two sections in the south. On the northern side of the building there is a narrow rectangular compartment measuring c. 7 meters by 1.60 meters. On the western side, there is another compartment measuring 2.50 meters in width and 5 meters in length.

2.8. Building 12

Building 12 is located west of building 10. Only a small portion of it has been uncovered so far. The walls indicate that it is a multi-room building with at least two separate spaces. The excavated area of the building measures around 7 meters in the north–south direction and about 5 meters in the east–west direction.

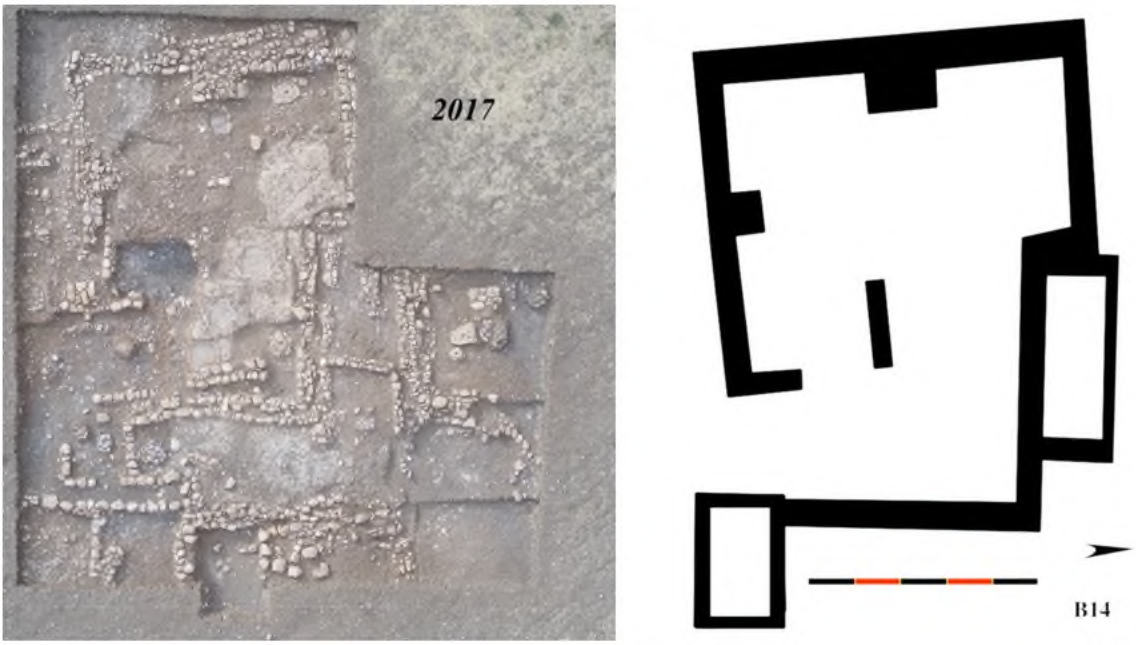
2.9. Building 13

Positioned just north of Building 11, this structure measures 6 meters in the east–west direction. Only a part of it has been excavated until now. The exposed part measures 3 meters in the north–south direction.

2.10. Building 14

This building has a main space measuring approximately 7.25 meters in the north–south direction, 6.50 meters on the eastern side and 8 meters on the western side, and 10 meters in the east–west direction (Figure 9). In the southeastern corner of the main space there is a rectangular room measuring 2-3 meters. To the northeast of the main space, between Building 14 and Building 15, there is another room measuring approximately 1.50 x 4 meters. Additional walls found to the south of the main space suggest the presence of other small rooms. The building is constructed on stone foundations, and its floor is covered with reddish clay soil and small pebbles. There are three supporting buttresses of varying sizes in front of the northern, southern, and western walls of the central space. They are most probably late addition, which have nothing to do with the original function or use of B14. The standout feature of this building is its plan, which consists of a central large space surrounded by scattered, small rooms, in contrast to the more symmetrical form seen in the other structures.

Figure 9
Kitchen building dated to the Middle PPNB Period.



2.11. Building 15

Located northeast of Building 14, it is only partially exposed, with a total of 6 meters in the east–west direction and 5 meters in the north–south direction. Along the southern wall there is a stone-paved bench 6 meters long and approximately 80 cm wide.

2.12. Building 16

Located northwest of Building 14 and west of Building 15, only a small portion of this structure has been uncovered (measuring 4.50 m x 3.50 m). It is represented by parts of a wall and some plaster floor fragments, including a slightly elliptical curving wall in the northeastern direction and three parallel walls, partially,

stretching in the northwest–southeast direction. Currently, it is impossible to provide full information about the size and plan of this building. Its slightly elliptical plan, points towards similarities with Building 6.1. However, the overall arrangement seems to be different. This additional oval area indicates that this building may also have an apsidal plan. Further investigations would be needed to provide additional information.

2.13. Building 17

This building is located west of Buildings 7 and 6.1. Only the eastern part of the building has been excavated. It has a length of 7.30 m. No further information is available at this point.

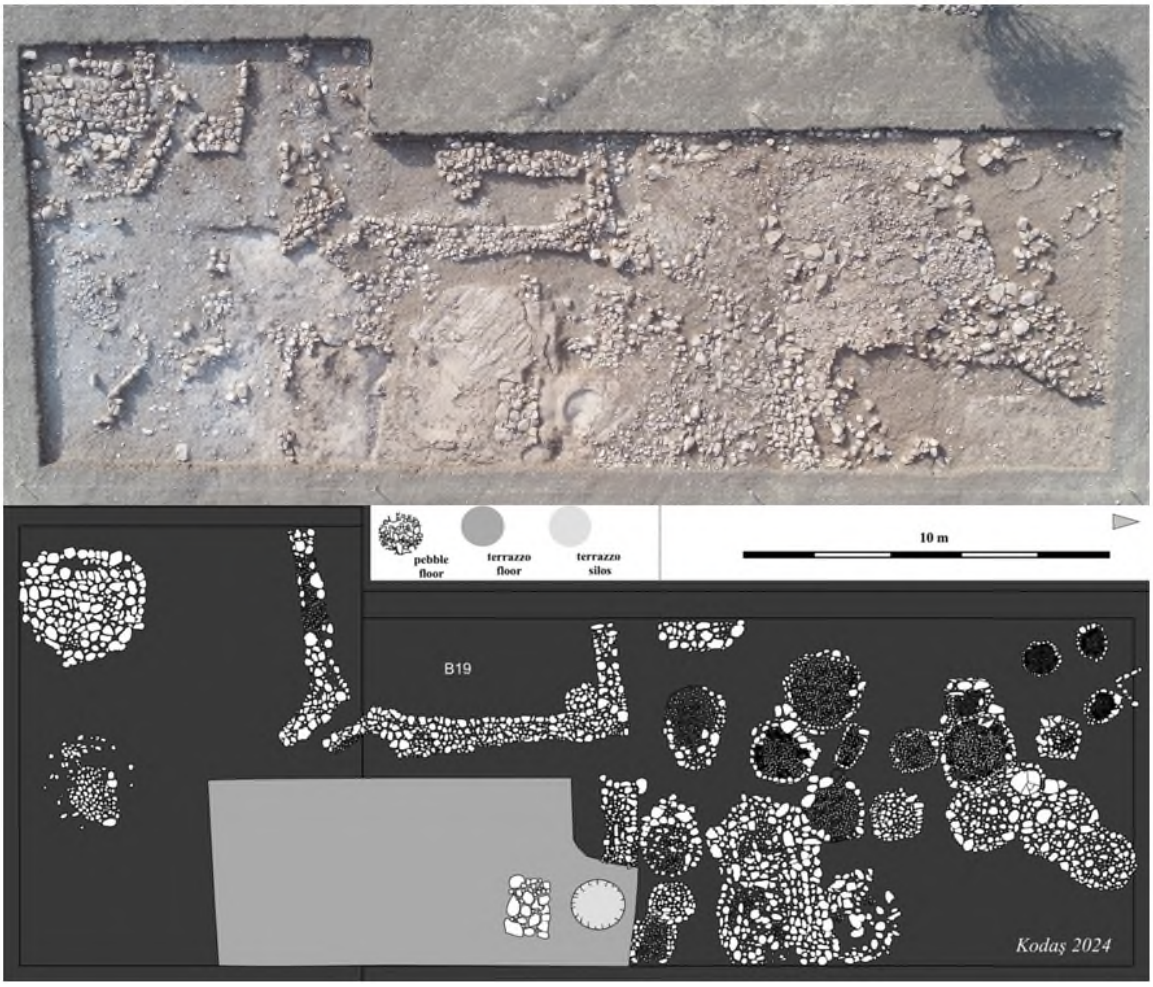
2.14. Building 18

This building is located to the east of Building 14 and there is no common wall between the two buildings. This building measures approximately 11 meters in the north-south direction by x 5.5 meters in the east-west direction. The space to the north is approximately 6.40 meters long and 5.5 meters wide. The structure to the south is 5.10 meters wide and 5.5 meters long. This space is divided into two by a short wall.

Storage area

We identified an area of about 350 m² in the central area of archaeological site of Boncuklu Tarla, showing the remains of 29 circular silo bases, possiblement contemporary with the MPPNB architecture (Figure 10). The radii of these silo bases range from 0.50 to 2.20 m. The outer walls of these silos are constructed with a single row of small-sized pebbles since these are not linear; the floors of the silos are covered with compacted clay plaster, small limestone rocks, or pebbles. Within this part of the site, some areas have terrazzo floors and angular plans but we have not uncovered any associated walls. Here, the excavations also exposed a circular silo base with a terrazzo floor. While we have found remains of grain inside these storage units, the numerous animal bones and fish vertebrae that occur in the area suggest that they were used to store a variety of products, including both plant and animal ones. Additionally, a significant portion of a building (B19) approximately 8.40 m wide, has been excavated in the southwest of this excavation area. The building is constructed on a stone foundation. Access to it is provided via a long porch located in the south-eastern corner. This building is probably an animal pen or a place to process cereals. However, the analyses planned to be carried out in the following years will provide clearer information about the function of the structure.

Figure 10
Storage units of the Middle PPNB Period.



Village-Space Organization (Spatial Organization)

Boncuklu Tarla residential architecture can generally be classified into three types of spaces, exhibiting variations in size, floor plans, and spatial organization: single-spaced structures, multi-room structures, and apsidal plan structures. This indicates that there may be less complex special/public buildings that may have less sophisticated plans or alterations (similar to domestic buildings). Consequently, it can be said that there is no monotype in terms of plan or size. Furthermore, significant differences can be observed among the multi-room units themselves. Some buildings (B14, B15, and B18) are characterized by a larger central space surrounded by smaller units. On the other hand, the interior spaces of buildings B7, B10, and B11 have been constructed in a more complex and different way. Buildings B4.1, B5.1, and B9 are observed to have compartments in the eastern direction. Structures B6.1, and probably B16, feature apsidal plans. The single-room structure B8 is poorly preserved. Structure B2.1, however, is more of a special rather than a residential structure, given its relationship with Building 1.1 and its interior arrangement. The village spatial organization underwent significant changes during the PPN in the Near East and can be followed at Boncuklu Tarla (Figure 11).

Figure 11
Village-space organization of the Middle PPNB Period.

Upon close examination of the spatial organization in the MPPNB layers at Boncuklu Tarla, it can be observed that buildings identified as "residential" or domestic are located west of Building 1.1. But "storage area," or "storage facilities" which could be understood as special/public (collective/communal), are situated east of Building 1.1. This observation is significant as it supports the notion that Building 1.1 is at the center of the settlement arrangement. Furthermore, the storage area east of Building 1.1 indicates that all these features were constructed independently from the dwellings and have a special/public (collective/communal) rather than individual nature. In this context, the spaces surrounding the main area on the west and north of Building 1.1 can be considered as collectively constructed storage units. It is unclear if they were already built together with the central space or added later. The fact that these cells have dimensions of 1 meter in width and 2–3 meters in length and contain four pestles stored together within them also indicates communal storage of shared tools. Noteworthy is the absence of graves in Building 1.1 and in the area to its east with the communal storage storage facilities.

Most of the MPPNB period structures contain burials. Consequently, it can be assumed that during the MPPNB period at Boncuklu Tarla, individuals were generally buried within residential units, and not in areas

considered as special/public (collective/communal). Another piece of important information regarding the MPPNB layers at Boncuklu Tarla stems from Building 14: here numerous hearths, grinding stones, and silo bases were uncovered. This building, belonging to a different neighborhood from Building 1.1, is distinct from the other dwellings of this period both in terms of its plan layout and internal organization: on the floor 14 hearths and five grinding stones, as well as several pestles and 5 silos with plaster floors, mostly concentrated around the hearths, were found. Furthermore, two stone containers dating as well to the MPPNB period were found within this building.

The residential units are found on the (flat) top of the plateau of Boncuklu Tarla. At the moment it is hard to say how far the MPPNB occupation stretched. Building 1.1. is located on the fringes of the residential quarters – outside the living quarters. East of the special/public building – downhill – an activity zone is attested, as well the community's storage area. The residential units form clusters which could be understood as neighborhoods or quarters.

Discussion

Numerous architectural remains from the Middle PPNB period have been uncovered in various settlements in Northern Mesopotamia, such as Çayönü (Erim-Özdoğan & Özdoğan, 1989; Erim-Özdoğan, 2011), Cafer Höyük (Cauvin et al., 2011), Gre Fılla (Ökse, 2021), Nevali Çori (Hauptmann, 2012), Göbekli Tepe (Schmidt, 2012; Kinzel, 2019; Kinzel & Clare, 2020), Sefer Tepe (Güldoğan & Uludağ, 2022), Akarçay Tepe (Özbaşaran & Molist, 2007; Özbaşaran & Duru, 2011), Tell Halula (Molist, 2007; 2015), and Tell Abu Hureyra (Moore et al., 2000; Aurenche, 1981; Banning, 2000, Figure 1). For example, Çayönü in the Upper Tigris Valley is represented by stone-paved or channeled structures in the MPPNB period. The architectural features at Çayönü differ significantly from those at Boncuklu Tarla during the MPPNB period. But at both sites comparable special/public buildings are present during the MPPNB period. At Cayönü the so-called terrazzo building dates to the LPPNB period or the so-called cell-plan building phase (Erim-Özdoğan, 2011). At Boncuklu Tarla Building 1.1 was already constructed during the MPPNB period and stayed in use as well in the LPPNB period. At both sites the special/public buildings were built separated from the domestic structures, just outside the living quarters. A similar approach is also known from Nevali Çori (Hauptmann, 2011). At Boncuklu Tarla cell-plan structures were built west of Building1.1, which stayed in use during the LPPNB period, and demonstrates some similarities with LPPNB period architecture known from Çayönü (Schirmer, 1998), Nevali Çori (Hauptmann, 2011) and Gre Fılla (Ökse, 2021). In particular, some of the rectangular, multi-roomed structures at Gre Fılla feature larger main spaces surrounded by smaller interconnected rooms (Ökse, 2021). These resemble features known from e.g. Building 4.1, Building 5.1, and Building 9 at Boncuklu Tarla. Additionally, both sites feature numerous buildings with small-scale buttresses. However, at Gre Fılla, for special/public buildings circular ground plans are continued to be used during the MPPNB period onwards. (Ökse, 2021). The three special/public buildings at Gre Fılla are located at the northern edge of the site, but partially with domestic structures built in between them. In this context, the village-space organizations at Gre Fılla and Boncuklu Tarla show some individuality in the settlement organization.

In the Upper Euphrates Basin, at the settlement of Nevali Çori, the MPPNB period architecture (Layers 4–5) is represented by rectangular structures (Hauptmann, 2012). The architecture of Layer 4 at the site shows similarities to cell-plan buildings at Çayönü. However, Building 1, uncovered in Layer 5, is divided into rooms by short internal walls, with a larger space to the southeast (Hauptmann, 2012). This building, therefore, exhibits some architectural similarities to Building 7, Building 10, and Building 11 uncovered at Boncuklu Tarla. An activity area, similar to the one exposed at Boncuklu Tarla was as well found at Nevali Çori along the creek in front of the residential buildings. Multi-roomed structures have also been revealed in Akarçay Tepe (Layers 11–9), located further south in the banks of river Euphrates (Özbaşaran & Molist, 2007; Özbaşaran &

Duru, 2011). The single-spaced structures at Akarçay Tepe exhibit some similarities with dwellings identified at Gre Fılla (Ökse, 2021) and Gürcütepe (Beile-Bohn et al., 1998), rather than Boncuklu Tarla. Cafer Höyük, located farther north, reveals domestic MPPNB period (Layers 8–5) structures that, despite having a rectangular plan, can be described as other types due to the internal partition walls (Cauvin et al., 2011).

This points to a more local architectural tradition that is specific at Boncuklu Tarla. In the Şanlıurfa region, Göbekli Tepe (Schmidt, 2012; Kinzel & Clare, 2020), Harbetsuvan Tepesi (Çelik, 2019), Sayburç (Özdoğan & Uludağ, 2022), and Sefer Tepe (Güldoğan & Uludağ, 2022) have their own distinctive architecture. The buildings, constructed adjacent to each other, display diversity in terms of size and layout. Additionally, a significant portion of the outer walls of the buildings are shared, and there are T-shaped pillars (Kurapkat, 2015; Kinzel, 2019; Kinzel & Clare, 2020; Çelik, 2019; Özdoğan & Uludağ, 2022). In northern Syria, at Tell Halula, rectangular-planned dwellings are found that feature larger sections that could serve as main spaces with smaller rooms attached (Molist, 2007; 2015). In this regard, MPPNB period architecture at Tell Halula shares some similarities with Boncuklu Tarla's Building 4.1, Building 5.1, and Building 9. It is important to note, however, that structures in Tell Halula were built with pisé (rammed earth) (Molist, 2015), whereas at Boncuklu Tarla they were constructed with mud-brick walls on stone foundations. The MPPNB period architecture uncovered at Tell Abu Hureyra III exhibits similar characteristics to Tell Halula (Moore et al., 2000). However, in this case the buildings have mud-brick walls (Moore et al., 2000).

Although there are some similarities between Southeast Anatolia and Northern Syria, there are many differences between construction methods and village space organizations. Overall, significant differences and similarities are displayed in the architectural remains uncovered at Boncuklu Tarla and other settlements. However, Boncuklu Tarla's MPPNB period “public/special” architecture and village-space organization exhibit closer resemblances to the so-called Terrazzo Building and cell-plan structures of Çayönü’s LPPNB period (Schirmer, 1990; Erim-Özdoğan & Özdoğan, 1998; Erim-Özdoğan, 2011). Additionally, it must be remembered that Building 1.1 in Boncuklu Tarla continued to be used during the LPPNB period, while the residential buildings underwent a transition towards cell-plan structures during this phase (Kodaş, 2019). Thus, all considered, it can be said that the Upper Tigris Valley exhibits significant internal variation but also possesses certain regional traditions both in chronology and regional contexts. Moreover, it is possible to state that the settlement features at least three neighborhood spatial organizations, two of which surround Building 1.1 and one which is located to the northwest of this building around Building 14. At this point, the building can be considered together in the north-south direction B2.1, B4.1, B5.1, B9, B10, B11, B12 and B13. B6.1, B7, B8 and B17, southwest of them, constitute a different area. Finally, B14, B15, B16 and B18 can be interpreted as the last area in the northeast. However, the excavations in this area should continue and the areas in question should be further strengthened and examined.

Conclusion

The Middle PPNB period architecture at Boncuklu Tarla can be defined through four distinct architectural elements: special/public buildings, residential buildings, public open areas, and communal storage areas. The central feature of the village-space organization, the neighborhoods of domestic structures, the (special/public) Building 1.1, and the exterior activity zones exhibits striking similarities to the settlement patterns at Çayönü and Nevali Çori (Özdoğan, 1999; Erim-Özdoğan, 2011; Hauptman, 2021). The main space of building 1.1 resembles —in terms of size, plan, and construction style elements of the Terrazzo Building at Çayönü. However, the spaces surrounding the main room of Building 1.1 at Boncuklu Tarla show a more complex concept. This complex architectural organization could be compared to the T- and HV- complexes at Aşıklı Höyük (Özbaşaran, 2012). The dwellings dating to the MPPNB period can be classified into two distinct groups based on their floor plans: single-spaced and multi-roomed structures. However, both the single-

spaced and multi-roomed structures exhibit significant variations within their respective groups in terms of their floor plans: 1) apsidal-planned buildings, 2) multi-roomed structures, 3) cell-plan structures with a main space, and 4) simple single-spaced structures.

In conclusion, during the MPPNB period, Boncuklu Tarla exhibits a diverse range of architectural concepts with different plans and functions, and the village-space organization indicates a systematic organization around Building 1.1. The houses (B4.1, B5.1, and to a lesser extent B9 and B11) directly adjacent to Building 1.1 are larger and possess a different architectural style compared to other houses. These features suggest, as put forward in Çayönü, that these structures may have had a distinct role compared to others, potentially reflecting the architectural manifestation of social hierarchy. According to Özdoğan, a similar situation is known at Çayönü during the LPPNB Period, where the presence of cell-planned structures and the Terrazzo Building indicates a comparable pattern (Özdoğan 2018). As a result, it is seen that the village space organization at Boncuklu Tarla during the MPPNB period has a clear organization and there is a connection between the use of the areas between houses and public/special building. This shows that a different village space organization during the Middle PPNB period that has been separated from the houses (especially unlike the public/special building in the central position of PPNA period), has emerged for a new organisation.

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Author Details

Ergül Kodaş
[1] Mardin Artuklu University, Department of Archaeology, Mardin, Türkiye
0000-0001-8340-5828 ergulkodas@gmail.com

Yunus Çiftçi
[2] Bitlis Eren University, Faculty of Sciences and Letters, Bitlis, Türkiye
0000-0001-5547-7613

Charlotte Labedan Kodaş
[3] Non-affiliated, Mardin, Türkiye
0000-0002-4704-2844

Rüstem Cin
[4] Dicle University, Faculty of Sciences and Letters, Diyarbakır, Türkiye
0000-0003-2911-4477

References

Aurenche, O. (1981). *La Maison orientale: l'architecture du Proche Orient ancien des origines au milieu du quatriéme millénaire.* Paris, Paul Geuthner presse.

Aurenche, O. & Kozlowski, S.K. (2010). *Territories, Boundaries and Cultures in The Neolithic Near East,* Bar International Series 1362. Oxford: Archaeopress.

Banning E.B. (2000). Housing first farmers: The development and evolution of built environments in the Neolithic of the Taurus-Zagros Arc. In *ICAANE 2 - International Congress on the Archaeology of the Ancient Near East*, Carsten-Niebuhr Institute, University of Copenhagen, 22-27 May.

Banning, E. B. (2011). So fair a house: Göbekli Tepe and the identification of temples in the Pre-Pottery Neolithic of the Near East. *Current anthropology*, *52*(5), 619-660.

Banning, E. B. (2023). Paradise found or common sense lost? Göbekli Tepe's last decade as a prefarming cult centre. *Open Archaeology*, *9*(1), 20220317.

Banning E.B. & Byrd B.F. (1987), Houses and the Changing Residential Unit. Domestic Architecture at PPNB 'Ain Ghazal, Jordan, *ProcPrehistSoc* 53/1, 309–325

Cauvin, J., (1997). *Naissance des divinités. Naissance de l'agriculture*. Paris: CNRS Éditions,

Cauvin, J., Aurenche, O., Cauvin, M.C.L., & Balkan-Atlı, N., (2011). The pre-pottery Site of Cafer Höyük. In: Özdogan M., Basgelen N., Kuniholm P. (Eds.), *The Neolithic in Turkey, Volume 1,* Archaeology & Art Publications, Istanbul, pp. 1-19.

Clare L. - Ditrich O. & Gresky-Show J. (2019) Ritual Practices and Conflict Mitigation at Early Neolithic Körtik Tepe and Göbekli Tepe, Upper Mesopotamia. *Violence and the Sacred in the Ancient Near East*, 96-128.

Çelik, B., (2019). Neolithic Period Cult Center: Harbetsuvan Tepesi. *Karadeniz Uluslararası Bilimsel Dergisi,* Volume 43, 24-38.

Çiftçi Y. (2022). Çemka Höyük, Late Epipaleolithic and PPNA Phase Housing Architecture: Chronological and Typological Change. *Near Eastern Archeaology* 85/1, 12-23.

Ekinbaş Can Ö. (2022). Preliminary Report on the 2018-2019 Excavations at Gre Fılla, Ambar Valley in the Upper Tigris Basin, Southeastern Turkey. *Anatolica* 48, 75-100.

Erim-Özdoğan, A., (2011). Çayönü. In: Özdogan M., Basgelen N., Kuniholm P. (Eds.), *The Neolithic in Turkey, Volume 1,* Archaeology & Art Publications, Istanbul, pp. 185- 269.

Finlayson B. (2014) Houses of the Holy: The evolution of ritual buildings. İn: Bill Finlayson and Cheryl Makarewicz (ed.) *Settlement, Survey, and Stone. Essays on near eastern prehistory in Honour of Gary Rollefson*. 133-143 Ex Oriente, Berlin.

Güldoğan, E., & Uludağ, C., (2022). Sefertepe, the Eastern Border Settlement of the "Stone Hills" Project: First Results. *Arkeoloji ve Sanat Dergisi*, 177, 13-26

Hauptmann, H., (2012). The Urfa Region. In: Özdogan M., Basgelen N., Kuniholm P. (Eds.), *The Neolithic in Turkey, Volume 2,* Archaeology & Art Publications, Istanbul, pp. 85-138.

Hodder, I. (2016) More on History Houses at Çatalhöyük. *JASc* 67, 1–6.

Hodder, I. (2022) Staying Egalitarian and the Origins of Agriculture in the Middle East. *Cambridge Archaeological Journal* 32/4, 1-24.

Hodder I. & Pels P. (2020) History Houses. A New Interpretation of Architectural Elaboration at Çatalhöyük, in: I. Hodder (ed.), *Religion in the Emergence of Civilization. Çatalhöyük as a Case Study* (Cambridge 2010), 163-183.

Kinzel, M., & Clare, L., (2020). Monumental - compared to what? A perspective from Göbekli Tepe. In: Gebauer A., Sorensen L., Teather A., and De Valera A. (eds) *Monumentalising Life in the Neolithic: Narratives of Change and Continuity,* London, Oxbow Books, pp. 31-50.

Kodaş, E., (2018). A New Pre-Pottery Neolithic Settlement in the Upper Tigris: Boncuklu Tarla Excavations and First Observations. *Arkeoloji ve Sanat Dergisi* 157, 7-20.

Kodaş, E., (2019). Un nouveau site du Néolithique précéramique dans la vallée du Haut Tigre: Résultats préliminaires de Boncuklu Tarla. *Neo-Lithics* 19, 3-15.

Kodaş, E., (2020). Some observations on residental living and storage units in Pre-Pottery Neolithic period in the Near East: samples of Boncuklu Tarla." *Anadolu/Anatolia* 46:123–46.

Kodaş, E., (2023). The younger Dryas layer at Boncuklu Tarla and the beginning of village life in the upper Tigris Basin. *Archeological Research in Asia* 35, 30-44.

Kodaş E. & Çiftçi Y. (2021) Public Buildings and Spatial Organization during the Pre-Pottery Neolithic A Period: the Case of Boncuklu Tarla / SE Turkey: First Report. *Istanbuler Mitteilungen* 71, 43–65.

Karul, N. (2011) Gusir Höyük. In Özdoğan, M., Başgelen, N. & Kuniholm, P. (eds) *The Neolithic in Turkey: New Excavations and New Research: The Tigris Basin*, Arkeoloji ve Sanat Yayinlari, Istanbul, 1–17.

Karul N. (2022). "Karahantepe Çalışmalarına Genel Bir Bakış". *Arkeoloji ve Sanat Dergisi* 169, 1- 8.

Kozlowski, S.K. & Kempisty, A. (1990). Architecture of the Pre-Pottery Neolithic settlement in Nemrik, Iraq. *World Archaeology* 21/3,348-362.

Kuijt, I. (2000). People and Space in Early Agricultural Villages. Exploring Daily Lives, Community Size, and Architecture in the Late Pre-Pottery Neolithic, *Journal of Anthropological Archaeology* 19, 75-102.

Molist, M., (2001). Halula, Village Néolithique en Syrie du Nord. In : Guilaine J. (ed.), *Communautés villegoises du Proche Orient à l'Atlantique (8000–2000 avant notre ère)*, Paris, Editions Errance, pp. 35-52.

Molist, M., (2015) Le processus de consolidation de la Néolithisation au Proche-Orient: apports de l'étude du site de Tell Halula (Vallée de l'Euphrate, Syrie). In : Manen C., Perrin T. & Guilaine J. (eds), *La transition néolithique en Méditerranée* (Actes du colloque Transitions en Méditerranée, ou comment des chasseurs devinrent agriculteurs, Muséum de Toulouse, 14-15 avril 2011). Arles, Archives d'écologie préhistorique, éditions Errance-Actes Sud, pp. 109-121.

Moore, A., Hillman, G., & Legge, A. (2000). *Village on the Euphrates. From foraging to farming at Abu Hureyra*, Oxford-New York, Oxford University Press.

Ökse, A.T., Taşkiran, H., Kartal, M., Atay, E., Görmüş, A., & Erdoğan, N. (2014). Ilısu Dam Construction Site Excavations in 2012. *Kazı Sonuçları Toplantısı 35/1*, 102-112.

Ökse, A.T., (2021). Ambar Dam Salvage Excavations 2018-2020: Ambar Höyük, Gre Filla, and Kendale Hecale. Steadman, S.R. & Gregory, M. (eds). *The Archaeology of Anatolia*, Volum IV, London, pp. 4-20.

Özbaşaran, M. (2012). Aşıklı Höyük." In: Özdogan M., Basgelen N., Kuniholm P. (Eds.), *The Neolithic in Turkey, Volume 3*, Archaeology & Art Publications, Istanbul, pp. 135-158.

Özbaşaran, M., & Duru, G. (2011) Akarçay Tepe, A PPNB and Settlement in Middle Euphrates Urfa. In: Özdogan M., Basgelen N., Kuniholm P. (Eds.), *The Neolithic in Turkey, Volume 1,* Archaeology & Art Publications, Istanbul, pp. 165-202.

Özbaşaran, M., & Molist, M., (2007). Akarçay Tepe, a New Settlement from the Neolithic Period in the Middle Euphrates, (Akarçay Tepe, Orta Fırat'ta Neolitik Döneme Ait Yeni Bir Yerleşme). In: Özdogan M., & Basgelen N., (Eds.), *Türkiye'de Neolitik Dönem, Yeni Kazılar, Yeni Bulgular.* Archaeology & Art Publications, Istanbul, pp.179-187.

Özdoğan E. & Karul N. (2020). Neolitik Teriminin Kavramsal Değişimi ve Güneydoğu Anadolu'da Neolitik Araştırmalarının Dünü-Bugünü. *Arkeoloji ve Sanat Dergisi* 163, 1–28.

Özdoğan, E. & Uludağ, C. (2022). Sayburç. Şanlıurfa'da Yeni Bir Çanak-Çömleksiz Neolitik Dönem Yerleşimi. *Arkeoloji ve Sanat Dergisi* 169, 9-24.

Özdoğan, M., (1999). The Transition from Sedentary Hunter-Gatherers to Agricultural Villages in Anatolia- Some Considerations." In : Dinçol A. (ed.). *Çağlar Boyunca Anadolu'da Yerleşim ve Konut Uluslararası Sempozyumu (Bildiriler).* Archaeology & Art Publications. İstanbul, pp. 311-319.

Özdoğan M. (2005) Yeni Veriler Işığında Anadolu Mimarisinin Dünya Mimarisine Katkıları, In: Fehiman Yurttaş (Ed.) *Geçmişten Geleceğe Anadolu'da Malzeme ve Mimarlık Sempozyum / UIA 2005 XXII. Dünya Mimarlık Kongresi*, TMMOB Mimarlar Odası İstanbul Büyükkent Şubesi Yayınları, İTÜ Taşkışla İstanbul, 145–162.

Özdoğan, M., (2018). Humanization of buildings. The Neolithic ritual of burying the sacred. *Origini* XLI, 7-24.

Özdoğan, M., & Erim-Özdoğan, A., (1998). Buildings of Cult and the Cult of Buildings. In: Arsebük, G., Mellink, G., & Schirmer, W. (eds). *Light on top of the Black Hill. Studies Presented to Halet Çambel*. Ege Yayınları, İstanbul, pp. 581-593.

Rosenberg, M. (2011). Hallan Çemi, In Özdoğan, M., Başgelen, N. & Kuniholm, P. (eds), *Neolithic in Turkey, The Tigris Basin*, Archaeology and Art Publications, Istanbul, 61–78.

Schmidt, K. (2012). *Göbekli Tepe a Stone Age sanctuary in South-Eastern Anatolia*. Berlin, ArchaeNova; First Edition edition.

Stordeur D. (2000). Jerf el Ahmar et l'émergence du Néolithique au Proche Orient. In : Guilaine J. (ed.) *Premiers paysans du Monde,* Errance. Paris, pp. 31-46.

Stordeur, D. (2015) *Le village de Jerf el Ahmar (Syrie, 9500–8700 av. J.-C.): L'architecture, miroir d'une société néolithique complexe.* Paris, CNRS Éditions.

Şahin F. & Uludağ C. (2023). Çakmak Tepe 2021 Excavation. *Excavation Results Meeting* (Çakmak Tepe 2021 Yılı Kazı Çalışmaları. *Kazı Sonuçları Toplantısı*) 43/1: 453–470.

Voigt, M., (1988). Excavations at Neolithic Gritille. *Anatolica XV,* 215-232.

Watkins T. (2020). Monumentality in Neolithic of southwest Asia: making memory in time and Space. In : Gebauer A., Sorensen L., Teather A. & De Valera A. (eds), *Monumentalising Life in the Neolithic: Narratives of Change and Continuity*. Oxbow Books, 19-27.

Yartah, T. (2013). *Vie quotidienne, vie communautaire et symbolique a Tell Abr 3 – Syrie du Nord. Données et Nouvelles reflétions sur l'horizon PPNA au Nord du Levant 10 000-9 000 BP*. Lyon, Université de Lyon 2. Thèse de Doctorat, non publiée (Lyon 2013).

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Research Article

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The Chronology of the Neolithic Settlement at Tepecik-Çiftlik, Central Anatolia (Türkiye), Based on Radiocarbon Dating

Yasin Gökhan Çakan [1]

[1] İstanbul University, Prehistory Department, İstanbul, Türkiye.

Abstract This study uses radiocarbon dating to evaluate the Neolithic occupation sequence of Tepecik-Çiftlik Höyük, located in Central Anatolia. A total of 50 radiocarbon samples, most of which are presented here for the first time, were collected from different archaeological levels of the mound between 2004 and 2024. These results have been analyzed in conjunction with stratigraphic data. The findings demonstrate that the excavated levels of the site were continuously occupied between 7078 and 5989 cal BC. The study also discusses potential causes of inconsistencies observed in some radiocarbon results and proposes strategies for future sampling. Through the case of Tepecik-Çiftlik, this research provides new contributions to the chronological framework of the Neolithic period in Central Anatolia.

Keywords Neolithic · Tepecik-Çiftlik · Radiocarbon Dating · Chronology · Central Anatolia

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Corresponding author: Yasin Gökhan Çakan ygcakan@istanbul.edu.tr

Introduction

Tepecik-Çiftlik is a Neolithic site located in the southeastern part of Central Anatolia, within the Volcanic Cappadocia region. Its proximity to the Melendiz Mountains and the obsidian sources at Göllüdağ has made it an important prehistoric settlement. Excavations carried out since 2000 have uncovered an area of approximately 1,750 square meters and documented a cultural deposit consisting of ten distinct layers. These layers reflect a long and continuous sequence of occupation, extending from the final phases of the Pre-Pottery Neolithic to the beginning of the Chalcolithic period.

Tepecik-Çiftlik Höyük, currently under excavation, provides a detailed reflection of regional cultural development through its uninterrupted stratigraphy. This study aims to evaluate the Neolithic settlement process using absolute dating methods. The research is based on 50 radiocarbon samples collected from different levels between 2004 and 2024, most of which have not been previously published[1].

These data, evaluated in conjunction with stratigraphic information, allow a reassessment of the chronological order of the occupational phases, the continuity of the settlement, and the structural transformations observed at different levels. At the same time, the results contribute to broader discussions on the Neolithic chronology of the region.

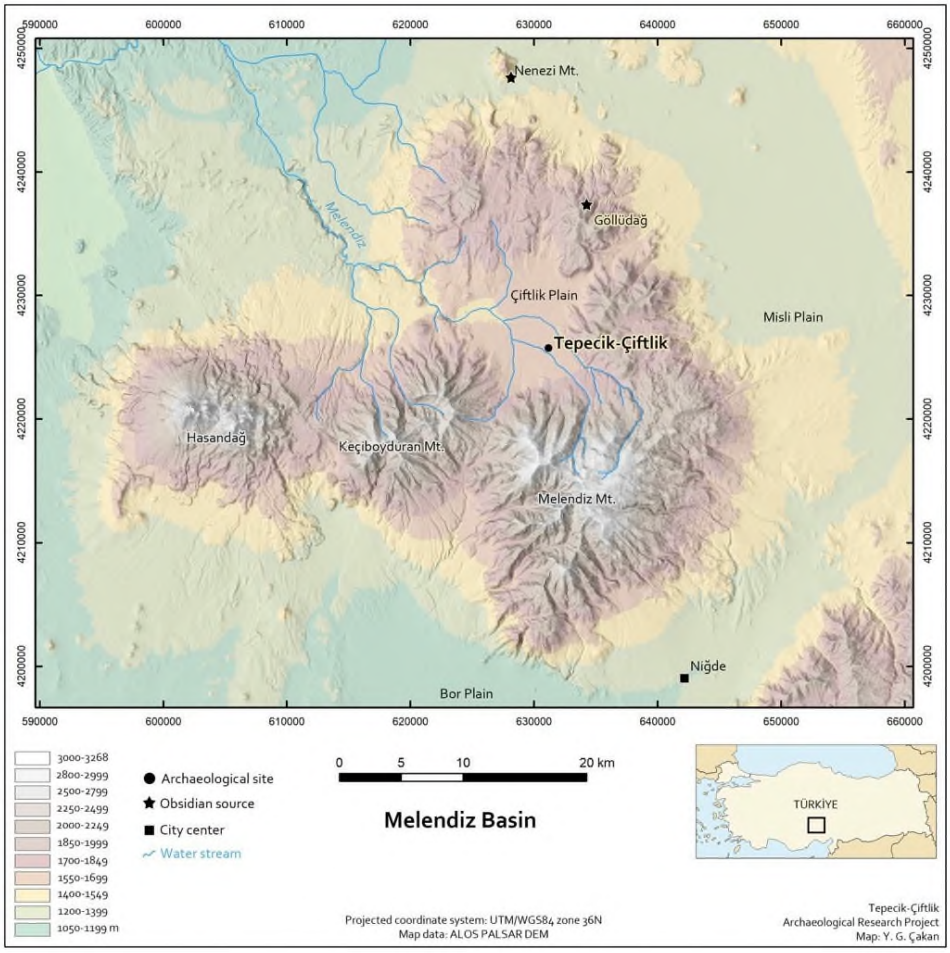
The Site

The Tepecik-Çiftlik mound was discovered during prehistoric surveys conducted by Ian Todd in 1966 in the Central Anatolian region. The mound is situated in the Volcanic Cappadocia Region, south of the Central Anatolia Plateau, within the boundaries of the Çiftlik district of Niğde (Bıçakçı et al., 2012; Todd, 1966: 105). Excavations initiated by E. Bıçakçı in 2000 are still ongoing. The mound is positioned south of the Çiftlik Plain, which is surrounded by volcanic mountains and has an average altitude of 1,400 meters. Rivers originating from the Melendiz Mountains, encircling the plain, flow into the Çiftlik Plain and converge in the west to form the Melendiz River. The mound lies approximately 400 meters north of the Şekiller stream, one of the tributaries of the Melendiz River. This settlement is also significant due to its proximity to Göllüdağ, which contains a large portion of the obsidian deposits found in the Volcanic Cappadocia Region (Bıçakçı, 2022).

The mound covers an area of 300 x 170 meters and consists of an oval-shaped cone with a terrace located to the east-southeast of the cone, its long axis extending in a southeast-northwest direction. In this section, the mound covers an area of 33,300 m2. Surface finds are widely scattered across the area south of the mound and are used for agricultural purposes. Based on the distribution of surface finds, it is estimated that the mound covers an area of approximately 6 hectares, including this southern area. The elevation of the highest point of Tepecik-Çiftlik above the surrounding plain is 9.60 meters (Bıçakçı et al., 2007: 237). As a result of the excavations carried out so far, the deepest level reached is approximately –7.30 meters from the highest point of the mound; the main soil has not yet been reached.

[1] For previously published radiocarbon results for Tepecik-Çiftlik, see: Godon, 2008; Bıçakçı et al., 2012; Clare & Weninger, 2014.

Figure 1
Location of Tepecik-Çiftlik.



Materials and Methods

The cultural deposit at the mound, approximately 7.30 meters high, consists of 10 archaeological levels. Levels 10-7 were identified in the deep trench on the western side of the excavation area. Due to the limited size of the excavation area and the lack of architectural remains, these levels were distinguished based on differences in the color and composition of the deposits. Levels 6-2 were excavated in the widest section. Archaeological remains indicate that Level 10 dates to the end of the Pre-Pottery Neolithic and the beginning of the Pottery Neolithic, Levels 9-3 date to the Pottery Neolithic, and Level 2 dates to the Early Chalcolithic. Levels 10-7 were identified in a very narrow area, which limits the available data. Since no pottery was found in Level 10, it is assumed that this level corresponds to the end of the Pre-Pottery Neolithic. The available data indicate that the settlement process at the mound began in the Pre-Pottery Neolithic and continued uninterrupted until the end of the Early Chalcolithic.

Between 2004 and 2024, 50 samples from various contexts belonging to different levels of the mound were analyzed. Of these, 16 were human bones, 13 were animal bones from sheep, goats, equids, and cattle, 4 were burnt seeds, and 17 were charcoal (see Table 1). The samples were analyzed using the carbon-14 dating method at the University of Cologne-Centre for AMS (Germany), University of Erlangen-Nürnberg Institute of Physics (Germany), Carbon-14 Measurement Laboratory of CEA-CNRS (France), BETA Analytic Testing Laboratory (USA), and TÜBİTAK Marmara Research Center AMS Laboratory (Türkiye). This paper presents the results

in the form of a plot obtained using OxCal v.4.3.2 (Ramsey, 2017) with the IntCal13 atmospheric calibration curve (Reimer et al., 2013).

During the study, each sample related to radiocarbon results was evaluated, considering the layer it belonged to and its archaeological context. The samples were analyzed for stratigraphic compatibility, contextual reliability, and consistency with archaeological data. Using stratigraphically consistent samples, the approximate chronological range of each layer was determined. However, when discrepancies existed between the date and stratigraphy, potential reasons for these discrepancies were discussed. This methodological approach facilitated a reevaluation of the settlement's development process, integrating both radiocarbon results and contextual analysis. The study focuses on establishing the internal chronology of Tepecik-Çiftlik. Interregional comparisons, relationships with contemporary settlements, and the site's significance in Neolithic chronology will be addressed in a separate study.

Table 1

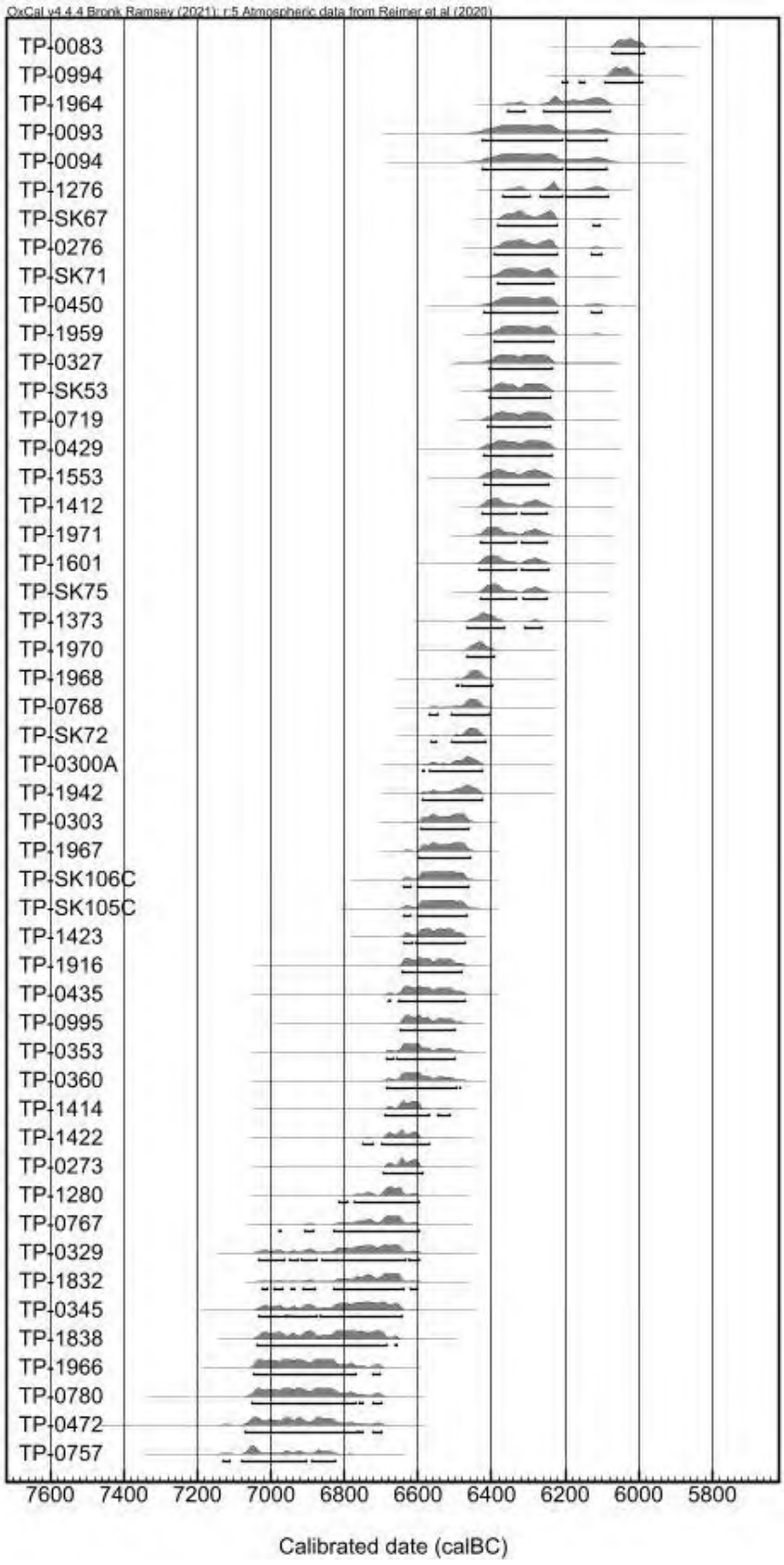
Results of 14C dating of 50 samples from Tepecik-Çiftlik.

Samp. Code	Lab. Code	Estimated 14C Age (BP)	14C Date Range (cal BC 1σ)	Estimated 14C Date (cal BC 1σ)	Level	Material
83	KN-5916	7160±45	6073-5985	6029±44	3-2	Charcoal
994	Beta-373270	7200±30	6091-5989	6040±51	2	Animal bone (*Ovis*)
1964	TÜBİTAK-2492	7349±37	6261-6077	6169±92	3	Animal bone
1276	Beta-410035	7370±30	6269-6209	6239±30	4	Human bone
TP12SK67	TÜBİTAK-3788	7403±30	6386-6222	6304±82	3	Human bone
276	KN-5967	7409±36	6395-6221	6308±87	3	Charcoal
TP12SK71	TÜBİTAK-3789	7423±32	6387-6231	6309±78	3	Human bone
1959	TÜBİTAK-2491	7430±35	6394-6231	6313±82	2	Animal bone (*Ovis/Capra*)
93	KN-5914	7420±80	6427-6207	6317±110	3	Charcoal
94	KN-5915	7454±41	6426-6207	6317±110	3	Charcoal
450	Col-1771	7428±49	6421-6221	6321±100	3	Burnt seed
327	Erl-14833	7451±39	6407-6236	6322±86	3	Burnt seed
TP12SK53	TÜBİTAK-3787	7460±30	6406-6240	6323±83	3	Human bone
719	TÜBİTAK-2489	7457±37	6410-6239	6325±85	4	Burnt seed
429	Col-1769	7460±46	6419-6236	6328±92	3	Charcoal
1553	TÜBİTAK-1677	7476±37	6421-6244	6333±89	3	Animal bone (*Equid*)
1412	Beta-410033	7490±30	6428-6333	6381±48	4	Human bone
1971	TÜBİTAK-3246	7495±32	6431-6334	6383±48	4-3	Animal bone (*Equid*)
1601	TÜBİTAK-0273	7502±38	6437-6331	6384±53	4-3	Burnt seed
TP12SK75	TÜBİTAK-3791	7497±30	6432-6335	6384±48	3	Human bone
1373	TÜBİTAK-696	7545±37	6467-6366	6417±50	5-4	Animal bone (*Ovis/Capra*)
1970	TÜBİTAK-3245	7571±31	6470-6392	6431±39	2	Animal bone (*Capra*)
1968	TÜBİTAK-3244	7597±32	6481-6399	6440±41	3	Animal bone (*Bos*)

Samp. Code	Lab. Code	Estimated 14C Age (BP)	14C Date Range (cal BC 1σ)	Estimated 14C Date (cal BC 1σ)	Level	Material
768	SacA 32317	7615±35	6511-6410	6461±50	4-3	Charcoal
TP12SK72	TÜBİTAK-3790	7618±32	6509-6416	6463±46	3	Human bone
300A	KN-5964	7641±37	6572-6427	6500±72	4	Charcoal
1942	TÜBİTAK-2490	7643±41	6589-6428	6509±81	3	Animal bone
303	KN-5966	7690±30	6594-6462	6528±66	4	Charcoal
1967	TÜBİTAK-3243	7694±32	6596-6459	6528±68	3	Human bone
TP19SK106C	TÜBİTAK-2773	7710±34	6601-6465	6533±68	3	Human bone
TP19SK105C	TÜBİTAK-2772	7712±36	6601-6466	6534±67	3	Human bone
1423	Beta-410032	7730±30	6606-6475	6540±66	6-5	Human bone
1916	TÜBİTAK-1056	7752±37	6646-6480	6563±83	3	Human bone
435	Col-1770	7758±46	6653-6472	6563±89	4	Charcoal
995	Beta-373271	7760±30	6648-6498	6573±75	7/6	Animal bone (*Ovis*)
353	Erl-14832	7778±36	6657-6498	6578±79	4	Charcoal
360	Erl-14831	7779±40	6687-6497	6592±95	4	Charcoal
1414	Beta-410031	7800±30	6691-6568	6630±62	5	Human bone
1422	Beta-410034	7820±30	6701-6571	6636±65	5	Human bone
273	KN-5965	7811±25	6693-6590	6642±51	5	Charcoal
1280	Beta-410030	7850±30	6776-6597	6686±90	5	Human bone
767	SacA 32316	7860±35	6827-6597	6712±115	5	Charcoal
1832	TÜBİTAK-0495	7875±35	6831-6638	6735±96	6	Human bone
329	Col-1773	7880±49	6861-6636	6749±112	6-5	Charcoal
345	Col-1774	7902±50	6865-6644	6755±110	6-5	Charcoal
1838	TÜBİTAK-695	7934±37	7036-6687	6862±174	9-7	Animal bone (*Ovis*/*Capra*)
1966	TÜBİTAK-3242	7986±32	7049-6769	6909±140	10	Animal bone (*Ovis*/*Capra*)
780	TÜBİTAK-694	7994±41	7054-6768	6911±143	10	Animal bone (*Ovis*/*Capra*)
472	Col-1772	8021±50	7072-6767	6920±152	6-5	Charcoal
757	SacA 32318	8050±35	7078-6902	6990±88	10	Charcoal

Figure 2

The calibration results are seen in chronological order.



Results: The Chronology of the Site in Light of Radiocarbon Dating

Each radiocarbon sample was analyzed for its stratigraphic and archaeological context, stratigraphic consistency, material properties, and date correspondence with archaeological data. Based on these evaluations, an approximate absolute date range was proposed for each stratum.

Levels 10-7 (deep trench)

The earliest levels found at the mound belong to a period that is not well known in Central Anatolia. In Cappadocia, this period corresponds to the period immediately after the abandonment of Aşıklı Höyük and Musular, and to the partially uncovered upper levels at Sırçalıtepe (Özbaşaran et al., 2012; Özbaşaran et al., 2018; Balcı et al., 2021). Similarly, in the Konya Plain, it coincides with the poorly researched earliest phases of Çatalhöyük (Hodder, 2014) and the abandonment of Can Hasan III (Fairbairn et al., 2020). This phase, which coincides with the end of the Pre-Pottery Neolithic and the beginning of the Pottery Neolithic in Anatolian prehistoric chronology, has been excavated in a limited area at Tepecik-Çiftlik, but provides important data on this little-known period.

The deep trench is located west of the excavation area, in the central part of the mound. During the excavations in different seasons, the initially wide area was narrowed as it deepened[2]. The deepest level is –7.30 meters relative to the highest point of the mound. Levels 10-7 were identified only in this area. No architectural remains were found in these levels. In Level 10, at least four fills of different colors and compositions separated by horizontal ash bands were identified. Carbonized ashy lines are frequently observed in these fills.

Level 10 yielded no pottery sherds. On the other hand, stone, bone, horn tools, obsidian flakes, and various animal bones were abundant. Although the lack of pottery suggests that this phase may belong to the Pre-Pottery Neolithic, this may also be related to the narrow excavation area. Even if pottery was used during this period, it may not have been found in this narrow area.

With the end of Level 10, the earliest pottery samples of the Volcanic Cappadocia region appear in Levels 9-7. It is understood that these coarse wares made of poorly refined clay were fired in a low-oxidation environment. Within a few centuries after this phase, more robust and well-fired wares appear in the settlement (Godon, 2008; Godon, 2012). The fact that this development can be traced indicates that pottery was produced locally, and its use became widespread.

Four radiocarbon results were obtained from the deep trench (see Tables 1 and Figure 3). A sheep/goat mandible fragment (TP-1966) from the upper level of layer 10 was dated to 7049-6769 BC, and an animal bone fragment (TP-0780) from the lowest level was dated to 7054-6768 BC. When these two samples are evaluated together with their stratigraphic positions, they point to the end of the 8th millennium BC. The burnt plant remains (TP-0757) from the deepest point of the same area were dated to 7078-6902 BC, the earliest date obtained so far at Tepecik-Çiftlik. These three samples seem to be generally consistent with each other.

A sheep/goat bone (TP-1838) from levels 9-7 in the same deep trench area was dated to 7036-6687 BC. Although this date covers a wide range of about 350 years due to the plateau in the calibration curve, considering the context, it is likely to be dated to around 6800 BC.

These radiocarbon data suggest that levels 10-7 can be dated between 7100 and 6800 BC.

[2] Levels 9-7 were excavated in an area of 6.00x3.50 m and Level 10 in an area of approximately 4.00x2.00 m.

Levels 6-5

These levels were investigated in an area of approximately 650 square meters in the central part of the excavation area. This area was mainly used as an open area. Architectural remains are very limited. Ashy fills, pits of various sizes, dumping areas, and different types of burials were identified. The intersection of the pits and the scarcity of building traces make it difficult to understand the stratigraphic relationships clearly.

Level 6 yielded a limited amount of architectural remains. In Level 5, the use of the open area continued, and new structures were added to the northern and southern edges of the area. The buildings were built with mudbrick walls on a stone subbasement, but were largely destroyed. The best preserved example in this level is a small, one-room building (Building-27) built with stone subbasement walls. This building is one of the rare examples with preserved mudbrick walls on a stone subbasement (Çakan, 2024: 102).

Another noteworthy building in Level 5 is a small structure built for burial purposes (Building-28), which contains many human bones belonging to individuals. Repair phases were observed on the walls of the building, and the burial process was repeated multiple times (Çakan, 2024: 104). Other burials from the same period are also in the open area around this building (Büyükkarakaya et al., 2019).

The settlement pattern consists of detached buildings arranged around open spaces. Various fireplaces and waste areas, such as ovens and cooking pits, were found in the open area in the center of the excavation area. These features indicate that the area was used for daily activities and burial rituals. The fact that the burials are intertwined with cooking and food preparation areas suggests that these activities were not separated.

The burnt wooden remains (TP-0767) found in the open area north of Building-27, belonging to Level 5, were dated to 6827-6597 BC. The human bone sample (TP-1832) from the secondary burial, numbered SK-98, in an open area belonging to Levels 6-5 was dated to 6831-6638 BC. Considering the stratigraphic level, it is more likely that this sample belongs to Level 6. To the south of the open area at level 6-5, a sample of burnt wood fragments (TP-0329) was dated to 6861-6636 BC, and another sample of burnt wood (TP-0345) in the fill of Level 5 was dated to 6865-6644 BC. Both samples can be stratigraphically assigned to Level 5.

The dates presented up to this point are generally consistent with the archaeological context in which they were found. On the other hand, a sheep or goat bone with sample number TP-0995 from this area was dated to 6648-6498 BC, although based on the context in which it was found, it was expected to belong to the early phases of Level 6 or Level 7. This date is not consistent with the stratigraphic context.

Although Levels 6 and 5 can be separated in areas where the remains of buildings are relatively more dense, these two levels are stratigraphically mixed in the parts used as open spaces. Therefore, it is not possible to distinguish these strata with precise boundaries. Nevertheless, the available radiocarbon data suggest that Levels 6 and 5 can be dated to approximately 6800-6600 BC.

Level 4

Level 4 is characterized by individual buildings located north and south of an open area extending east-west (Çakan, 2024: 119). These structures were built on the remains of the previous layer. The walls surrounding the open area serve as both a garden boundary and a 4.5-meter-wide corridor between the buildings. The repairs on the walls indicate that this area was used in a planned manner.

In the early phases of the level, new buildings were constructed to the north and south of the area that had been used as an open space in the previous level. The walls of these buildings have been preserved at the stone sub-basement level. Fire traces and debris indicate that some of the buildings were subjected to a significant fire.

One of the best preserved buildings of this level is Building-17, a multi-room complex (Çakan, 2024: 118). Built with thick stone walls, this building yielded many artifacts in its central space, and the rooms were added later to the east, along with traces of intense fire. Among these finds are burnt grains, plant processing areas, figurines, obsidian tools, potsherds, painted plaster fragments, bone, and stone objects. At least 48 graves, most of them belonging to infants, were found under the floor of the building and in the debris fill. This suggests that the building served a crucial function in both daily life and rituals related to death.

Another building with similar characteristics in Level 4 is Building-20, located in the northwest corner of the excavation area (Çakan, 2024: 128). It is understood that this building was also a multi-room complex. Finds such as burnt grains, obsidian, bone tools, figurines, and grinding stones were recovered from the interior. In situ pots and storage units were found in some rooms of the building. These data suggest that both production, storage, and ritual activities may have been carried out in the same building complexes in Level 4.

Level 4 represents a planned and intensive occupation phase that developed around open areas, with multi-roomed dwellings and burial sites. The layout and the artifacts reveal that daily life and death rituals were intertwined in this phase.

Most of the radiocarbon results from Level 4 were obtained from Building-17, located south of the excavation area. The radiocarbon analysis of the burnt wood remains found on the floor of the AK room in this building yielded a date range of 6572-6427 BC (TP-300A). One of the burnt wood fragments (TP-0353) found on the floor of the same room was dated to 6657-6498 BC, and the other (TP-0360) to 6687-6497 BC. Both samples were consistent with the other radiocarbon samples found in the room.

The burnt grain remains found on the floor of the AK were dated to 6410-6239 BC (TP-0719). This date range is slightly later than that obtained from the charcoal, but more in line with the results from the human bones in Room AY, which will be discussed below.

The human bone fragment belonging to an adult individual recovered from burial TP10-SK-37 under the floor of Room AY in the northeast room of Building-17 has been dated to 6428-6333 BC (TP-1412). It is more likely to be dated to approximately 6400 BC, based on the archaeological context in which it was found. Another sample from the AY is a bone fragment belonging to a child in burial TP10-SK21 and dated to 6269-6209 BC (TP-1276). The date obtained from the context in which it was found is much later than expected and, therefore, interpreted as incompatible with the context in which it was found. A 30 cm long and 6 cm wide burnt wood fragment (TP-0435) found in the room's northwest corner was dated to 6653-6472 BC. This result is consistent with the other burnt wood remains analyzed in Building-17.

The date range obtained from the burnt wood remains found in another room (BA) of Building-17 is 6594-6462 BC (TP-0303). This is consistent with the results of burnt wood remains in the AK and AY rooms. Some radiocarbon samples found in Building-17 (TP-300A, TP-0303, TP-0435, TP-0353, TP-0360) belong to the burnt wood remains discovered inside the building. Considering that these woods may have been used as building material, the possibility of "old wood effect" in these samples should be taken into consideration. Since there may be a time difference between when the trees were felled and when they were used in the building, it is possible that such samples may yield dates earlier than the actual time of use.

The radiocarbon dates of the short-lived organic materials recovered from Building-17 (e.g., the burnt grain remains numbered TP-0719 and the human bones in the AY space) indicate a later period than the timbers. This suggests that the construction and use of Building-17 was concentrated around 6500 BC.

Apart from the radiocarbon samples obtained from Building-17, results were also obtained from the open areas of the settlement. A sheep or goat bone fragment found in the open area belonging to Level 4 in the

central part of the excavation area was dated to 6467-6366 BC (TP-1373). The burnt plant remains in the same area were dated 6511-6410 BC (TP-0768).

When all these data are evaluated together, it appears more consistent to date Level 4 to approximately 6600-6400 BC and Building-17 to the middle of this period, circa 6500 BC.

Level 3

Level 3 at Tepecik-Çiftlik indicates a dynamic settlement process. The construction of new buildings, the addition of new spaces to existing buildings, and the repair phases observed in the buildings reflect this transformation. This Late Neolithic level is divided into two phases: Level 3.2 and 3.1.

In the first phase (3.2), there are individual buildings with open spaces between them. These open spaces are occupied by newly constructed buildings and rooms added to existing structures. After the large, multi-room buildings seen in Layer 4, a distinct building type emerges in Level 3.2. These buildings are typically single-space dwellings, with sizes ranging from 25 to 45 m². Small rooms (alcoves) opening to the main space were used for oven or storage purposes, and this plan type, defined as "building with oven", is unique to Level 3.2 (Çakan, 2014, 2019). The buildings were constructed with mudbrick walls on a stone sub-basement. Features such as ovens and storage areas are frequently found in these buildings. The floors are usually plastered. The mudbrick walls were elevated above the ground, and for this purpose, sub-bases made of volcanic stones such as andesite, rhyolite, and basalt were used. The stones were generally unprocessed and placed in double rows with smooth edges facing outwards. The width of the sub-base varies between 0.50 and 0.70 m in this level (Çakan, 2024: 175).

In this phase, the settlement pattern developed irregularly. New rooms were added to the buildings, gaps between buildings were closed, and passages were narrowed. It is believed that these arrangements were designed to regulate access to the southern common courtyard (Çakan, 2024: 205). The building group, consisting of four buildings arranged around the courtyard, looks like a settlement pattern shaped around a common area.

In this open area at Level 3.2, there are two burials with plastered skulls (Büyükkarakaya et al., 2024). A human bone fragment recovered from one of these burials was dated to 6646-6480 BC (TP-1916). On the other hand, a sample taken directly from one of the plastered skulls was dated to 6596-6459 BC (TP-1967). A skull from grave SK106, where the plastered skulls were found, was dated to 6601-6465 BC, while another skull from SK105 was dated to 6601-6466 BC. These data suggest that the plastered skulls belong to an earlier period than the Level 3 in which they were found, probably to Level 4.

To clarify the dating of the plastered skulls, samples taken from five different burials in the vicinity of the burial where the plastered skulls were found were analyzed and the following dates were obtained: 6386-6222 BC (TP-SK67), 6387-6231 BC (TP-SK71), 6406-6240 BC (TP-SK53), 6432-6335 BC (TP-SK75) and 6509-6416 BC (TP-SK72). These dates indicate that the burials belong to Level 3 and confirm that the plastered skulls date back to an earlier period than these burials.

In an area thought to represent the transition period between Level 4 and 3.2, a metacarpus bone of an equid found among the demolished stones was dated to 6431-6334 BC (TP-1971). This date indicates that this material belongs to the early phases of Level 3. Similarly, a bovine tibia found in the BO room of Building-16 was dated to 6481-6399 BC (TP-1968). This result suggests that Building-16 may be one of the earliest structures of Level 3 (for detailed information on Building-16 see Çakan, 2024). An animal bone found in the CZ space in Building-7 of Level 3.2 has also been dated to 6589-6428 BC (TP-1942). This sample provides a reliable date range for both this building and Level 3.2.

An equid bone found in the open area associated with Building-20 in the northern part of the excavation area was dated to 6421-6244 BC (TP-1553). Burnt grains stored in the AA of Building-20 were also dated to 6437-6331 BC (TP-1601). However, it is not certain whether this building belongs to Level 3.2 or Level 4; unfortunately, the date obtained is not decisive, as it covers both levels.

In the final phase (Level 3.1), the buildings are less well-preserved, and the settlement layout is not fully understood. However, some well-preserved buildings also reveal the presence of single-place buildings and building complexes developed around a central space. The construction techniques are similar to those of the previous phase; however, the building type with an oven/alcove disappears in this phase (Çakan, 2024: 137).

The new buildings constructed on Level 3.1 changed the previous settlement pattern. The open area in the central part of the excavation area, which was used for a long time, fell out of use with the construction of Building-2 in this phase. The buildings were generally constructed with a single room; some had rooms added later. It is observed that the use of ovens decreased and their sizes were reduced during this phase. Slab stone pavement was used for the first time on the floors of the building spaces.

The burnt grain remains taken from the silos in the AW space in Building-5 of Level 3.1 were dated to 6421-6221 BC (TP-0450), while the burnt wood fragment found in the same area was dated to 6419-6236 BC (TP-0429). Both samples are consistent with their context and dated to ca. 6200 BC. Burnt grain remains found around an in situ necked jar in an area associated with Building-5 were dated to 6395-6221 BC (TP-0276). Considering the context in which it was found, the date of this sample is estimated to be around 6200 BC. Other burnt grains in the same area were similarly dated to 6407-6236 BC (TP-0327).

The animal bone found near a hearth in the AD room of Building-2 was dated 6261-6077 BC (TP-1964). This date coincides with Level 3.1 to which Building-2 belongs. Two burnt wood samples found in the transitional fill between Levels 3.1 and 3.2 were dated to 6427-6207 BC (TP-0093) and 6426-6207 BC (TP-0094). These samples are consistent with the transitional fills and date to ca. 6300 BC.

When all these radiocarbon data are evaluated together, it can be concluded that Level 3 was occupied between 6400 and 6200 BC. The dates from Level 3.1 correspond to the later part of this interval, while the data from Level 3.2 correspond to the earlier phases. The plateau in the calibration curve around 6300 BC caused the spread of dates to be relatively wide. Moreover, the radiocarbon analysis of the plastered skulls recovered from Level 3 indicates that these finds date to an earlier period than the level in which they were found. These plastered skulls may have been kept for a long time, passed down through generations, or used for ritual purposes. In the last stage, it is understood that they were buried during the Level 3 period.

Level 2

The remains of Level 2, located west of the excavation area at the highest point of the mound, are divided into two phases. Level 2.1 is close to the surface, and its fills are largely destroyed. There are very few architectural remains in this phase. In Level 2.2, the earlier phase, relatively well-preserved structures were uncovered. These buildings were constructed at least twice above the structures in Level 3. This indicates that a new construction process started at the beginning of the 6th millennium BC (Çakan, 2024: 207).

The buildings were built adjacent to each other and leaned against their neighbors' walls in some places. During this period, the importance of ovens decreased, and storage activities increased. Stone-walled storage units became an essential part of the buildings and were generally used for storing grain. Some rooms have features such as ovens and benches.

The stone walls of the buildings in this phase are preserved up to 7-8 rows high. One of the buildings has a storage unit with two cells and the other with four cells. The interior surface of one of these storage units

is plastered. In addition to the storage units, the BY room, a special space used for storage purposes, was unearthed in Building-23. There are three cylindrical silos in this area, one of which is poorly preserved and two of which are well preserved. A rich assemblage of over twenty pots and bowls of various sizes was found next to the silos. Most of the pots are almost complete and were found in the position they were placed. Some of the pots are decorated with reliefs of human, animal, and plant figures. The BY room and the two-cell storage unit next to it suggest that this part of the building was used as a cellar (Çakan, 2024: 165-166). This is clear evidence that storage gained importance in this phase.

After the end of Level 2.2, the mound was inhabited for a short period of time. However, the architectural remains from this phase are very limited, consisting of a few wall fragments, hearths, and stone pavements. This phase stands out as a period of cultural change. This change is particularly evident in the pottery. The sudden appearance of dark-surfaced, incise-decorated Gelveri-type sherds at Level 2.1, along with the presence of paint-decorated sherds known from Can Hasan I and the settlements of Hacılar, Bademağacı, and Kuruçay in the Lakes Region, indicates that extensive cultural interactions began during this period (Çakan, 2024: 231).

There are four radiocarbon dates from Level 2. A sample from the early phase of Level 2 (TP-0083) was dated between 6073 and 5985 BC. The stratigraphic relationships are unclear in the area where the sample was taken, as the fills of Level 2 cut through the fills of Levels 3 and 4, and the stratigraphic positions of the archaeological layers are not well-defined. Although stratigraphically belonging to the early phase of Level 2, the date of this sample is later than expected. On the other hand, an animal bone (TP-0994) from the late phase of Level 2, found near the surface of the mound, was dated to between 6091 and 5989 BC. Although both samples were found at stratigraphically very different levels, the dates are very close to each other. For this reason, it is not possible to accept both results as reliable.

To resolve this uncertainty, a sheep or goat bone found in the BY space of Building-23, Level 2.2, was analyzed (TP-1959). However, this sample was also dated much earlier than expected: 6394-6231 BC. To date the abandonment of the settlement, another sheep or goat bone (TP-1970) found near an oven belonging to Level 2.1 was analyzed. Although this sample was found in a context related to the abandonment of the settlement, it was dated between 6470 and 6392 BC. The result is clearly incompatible with the context in which it was found.

In conclusion, although we have four radiocarbon dates for Level 2, the absolute dating of this level is still problematic. Moreover, it is unclear when Level 3 ended, as there are insufficient absolute dates from the late phases of Level 3. Therefore, the transition between Levels 3 and 2 remains chronologically uncertain. However, stratigraphic observations indicate that there was continuity between these two levels, rather than an interruption.

Considering the available dates TP-0083, TP-0994, and TP-1959, Level 2 dates to the end of the 7th millennium BC and the beginning of the 6th millennium BC. Sample TP-1970, obtained from the fills thought to belong to the abandonment of the settlement, cannot be considered due to its inconsistency. However, the archaeological context suggests that this phase may also date to the early 6th millennium BC, probably around 5800 BC.

Figure 3

Results of calibration for individual levels. The summed probability distribution for a particular level is marked at the top of each group.

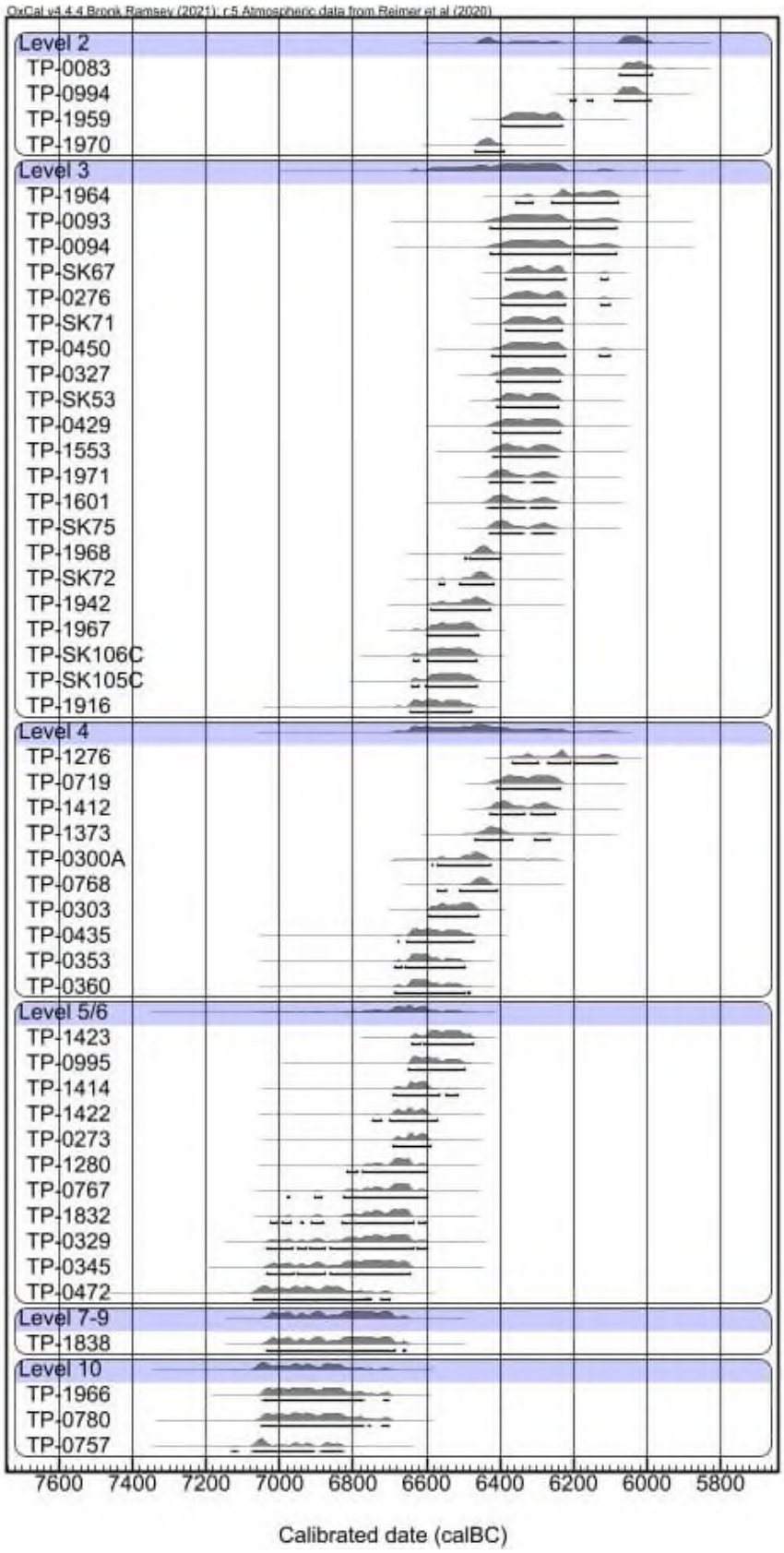


Table 2
General periodisation of Tepecik-Çiftlik, based on absolute dating.

Level	Period	Date (cal BC)
2	Late Neolithic/Early Chalcolithic	6100-5800
3	Late Neolithic	6400-6100
4	Late Neolithic	6650-6400
5	Late Neolithic	6800-6650
6		
9-7	Late Neolithic	7000-6800
10	Early/Late Neolithic transition	7100-7000

Conclusion

The excavations at Tepecik-Çiftlik indicate that the settlement was inhabited mainly during the Neolithic period. According to radiocarbon data, the site was occupied between 7078 BC and 5989 BC. Although no direct radiocarbon data exists for the period after 5989 BC, architectural remains and stratigraphic observations indicate that the settlement continued shortly after this date. It should be noted that the above date range is based on the archaeological deposits excavated so far. The earliest levels of the mound have not yet been excavated, and the bedrock has not yet been reached. This suggests that occupation of the mound began earlier than 7078 BC.

Both archaeological findings and radiocarbon dating indicate that the settlement was continuously occupied for over a thousand years (Table 2). Although there are differences in architectural form and settlement pattern in almost every settlement layer, stratigraphic continuity is preserved. This indicates that people continued to reside in the same area without abandoning it, despite changes in the settlement over time. From this perspective, the site serves as an essential example of not only chronological but also cultural continuity.

On the other hand, some dates in the radiocarbon data do not exactly match the stratigraphic context. There may be several reasons for these discrepancies, including contamination of the samples, the "old wood" effect, movement of archaeological material between different layers, or the use of various types of material (such as charcoal, burnt seed or grain, human or animal bone), which can yield different results. Additionally, the samples were analyzed in different laboratories, which may have caused minor discrepancies; however, the consistency of results across laboratories also provided a significant advantage in terms of cross-validation of the dates.

A more systematic sampling strategy is planned for future research, with the aim of minimizing inconsistencies and constructing a more robust chronological framework. In particular, the aim is to better understand all phases of the settlement by taking samples from levels with few or no dates.

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AI Note I used the AI-powered Grammarly app to translate the article into English.

Author Details Yasin Gökhan Çakan

[1] İstanbul University, Prehistory Department, İstanbul, Türkiye.

0000-0002-4919-7129 ygcakan@istanbul.edu.tr

References

Balcı, S., Altınbilek-Algül, Ç., Mouralis, D., Kayci, O. H., Büyükkarakaya, Açıkgöz, F. (2021). A New Aceramic Neolithic Site Nearby the Obsidian Sources: Preliminary Insights from Sırçalıtepe. *Anatolian Research*, 24, 67-92. https://doi.org/10.26650/anar.2021.24.936778

Bıçakçı, E. (2022). A Conspectus on the Status of Tepecik-Çiftlik Excavation (Cappadocia): Intersite and Regional Outcomes and Prospects. In P. F. Biehl & E. Rosenstock (Eds.), *6000 BC Transformation and Change in the Near East and Europe* (pp. 83-103). Cambridge University Press.

Bıçakçı, E., Godon, M., Çakan, Y. G. (2012). Tepecik-Çiftlik. In M. Özdoğan, N. Başgelen, P. Kuniholm (Eds.), *The Neolithic in Turkey* (pp. 89-134), Vol. 3, Archaeology and Art Publications, İstanbul.

Bıçakçı, E., Altınbilek-Algül, Ç., Balcı, S., Godon, M. (2007). Tepecik-Çiftlik. In M. Özdoğan, N. Başgelen (Eds.), *Türkiye'de Neolitik Dönem. Anadolu'da Uygarlığın Doğuşu ve Avrupa'ya Yayılımı. Yeni kazılar, Yeni Bulgular* (pp. 237-253), Archaeology and Art Publications, İstanbul.

Büyükkarakaya, A. M., Çakan, Y. G., Godon, M., Erdal, Y. S., Bıçakçı, E. (2019). Handling dead bodies: Investigating the formation process of a collective burial from Neolithic Tepecik-Çiftlik, Central Anatolia (Turkey). *Journal of Anthropological Archaeology*, Vol. 56, 101118. https://doi.org/10.1016/j.jaa.2019.101118

Büyükkarakaya, A. M., Cavalli, F., Çakan, Y. G., Canol, H. S., Falay, B., Ormancı, Ö. (2024). Multi-dimensional analyses of the plastered skulls from Neolithic Tepecik-Çiftlik, Central Anatolia (Türkiye). *Journal of Archaeological Science: Reports*, Volume 53, 104388. https://doi.org/10.1016/j.jasrep.2024.104388

Clare, L., Weninger, B. (2014). The Dispersal of Neolithic Lifeways: Absolute Chronology and Rapid Climate Change in Central and West Anatolia. In M. Özdoğan, N. Başgelen, P. Kuniholm (Eds.), *The Neolithic in Turkey* (pp. 1-65), Vol. 6, Archaeology and Art Publications, İstanbul.

Çakan, Y. G. (2014). *Tepecik-Çiftlik Son Neolitik Dönem Mimarisi*, Unpublished MA Thesis, İstanbul University, Institute of Social Sciences, İstanbul.

Çakan, Y. G. (2019). Neolitik Dönemde Yeni Bir Yapı Tipi: Tepecik-Çiftlik'te "Fırınlı Yapılar". In P. Çaylı, I. Demirtaş, B. Eser (Eds.), *Arkeolojiyle Geçen Yarım Asır: Sevil Gülçur Armağanı* (pp. 659-672), Bilgin Kültür Sanat Yayınları: Ankara.

Çakan, Y. G. (2024). *Orta Anadolu Volkanik Kapadokya Bölgesi'nde MÖ 7. Binyıl: Tepecik-Çiftlik Höyük'te Mimari ve Yerleşim Düzeninde Kültürel Değişim Süreci*, Unpublished PhD Thesis, İstanbul University, Institute of Social Sciences, İstanbul.

Fairbairn, A., Jacobsson, P., Baird, D., Jacobsen, G., & Stroud, E. (2020). Settlement change on the western Konya Plain: refining Neolithic and Chalcolithic chronologies at Canhasan, Turkey. *Antiquity*, *94*(374), 342–360. https://doi.org/10.15184/aqy.2020.13

Godon, M. (2008). *Les Productions Ceramiques d'Anatolia Centrale Developpements Culturels et Phenomenes d'Expansion du Neolithique Ceramique Entre 7000 et 5500 BC Cal.*, Unpublished PhD Thesis, Université Paris X-Nanterre, Paris.

Godon, M. (2012). Cappadocia's First Pottery Production, Tepecik-Çiftlik Neolithic Earliest Levels. *Araştırma Sonuçları Toplantısı*, 29(3), 317-339.

Hodder, I. (2014). Çatalhöyük: The Leopard Changes Its Spots. A Summary of Recent Works. *Anatolian Studies*,64, 1-22.

Todd, I. (1966). Preliminary Report on a Survey of Neolithic Sites in Central Anatolia. *Türk Arkeoloji Dergisi*, 15.2, 103-107.

Özbaşaran, M., Duru, G., Kayacan, N., Erdoğu, B., Buitenhuis, H. (2012). Musular The 8th Millennium cal. BC Satellite Site Of Aşıklı. In M. Özdoğan, N. Başgelen, P. Kuniholm (Eds.), *The Neolithic in Turkey* (pp. 159-1180), Vol. 3, Archaeology and Art Publications, İstanbul.

Ramsey, C. B. (2017). Methods for Summarizing Radiocarbon Datasets. *Radiocarbon*, *59*(6), 1809–1833. https://doi.org/10.1017/RDC.2017.108

Reimer, P. J., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Ramsey, C. B., ... van der Plicht, J. (2013). IntCal13 and marine13 radiocarbon age calibration curves 0–50,000 Years cal BP. *Radiocarbon*, *55*(4), 1869–1887. https://doi.org/10.2458/azu_js_rc.55.16947

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Research Article

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"Nu GIŠERIN Ì.NUN LÀL ḫu-u-uš-za-ʿšaʾ? ša-me-ši-ia-zi": Representations of Incense on Cylinder Seals Impressions of the Kārum II Period

Nejla Alper [1] & Rainer M. Czichon [2]

[1] Uşak University, Graduate School/Department of Archaeology, Uşak, Türkiye
[2] Uşak University, Faculty of Humanities and Social Sciences/Department of Archaeology, Uşak, Türkiye

Abstract The fragrant smoke produced by burning the bark, leaves, branches, resins, flowers and perfumed oils of fragrant plants has been used from past to present to bring people closer to the gods, thus alleviating their fears and calming them. Fragrant smoke, i.e. incense, has a purifying effect thanks to the chemical properties of aromatics. It has become a magical element that helps to cure diseases and to convey news from the gods to people with the different shapes it takes. By this means, it was included into everyday life, military matters, royal ceremonies, medical practices, festival celebrations, and religious matters such as funeral rites and rituals of penance. With regard to the effects of incense on human life in the Bronze Age various types of incense vessels, that may have been used in Anatolia in the 2nd millennium BC, were investigated. For this reason, vessel representations on seal impressions from the Kārum II Period, Hittite cuneiform texts, especially the *Ḫantitaššu* Ritual, and a lipid analysis of a Late Bronze Age chalice from Beycesultan were evaluated together.

Keywords Incense · Bronze Age · Ritual of *Ḫantitaššu* · Kārum Period Cylinder Seal Impressions · Lipid Analysis

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Corresponding author: Nejla Alper nejlaalper64@gmail.com

Introduction

Incense is the fragrant smoke produced by burning fragrant tree species, medicinal plants, resins and essential oils individually or together. It also refers to the substances that make up the source of the fragrant smoke.[1] "Incense" is derived from the Latin word *incensum*, which means *"set on fire or inflame"* (Ørberg, 1998: 18).

Incense is used to remove bad odors, transform negative energy into positive energy (Yadav et al., 2020: 1421), cure physical or psychological illnesses and repel insects (Yılmaz Çalışkan, 2022: 172, 173). It plays a role in the worship of God in early Islamic mosques such as the Dome of the Rock, the Kaaba, the Masjid al-Nabawi (Bursi, 2020: 206), in Catholic and Orthodox churches (Kenna, 2005: 6) and in the temples of Confucianism, Buddhism and Taoism (Staub et al., 2011: 1, 2). As it is believed to ennoble the body with its pleasant scent (Tatomir, 2016: 683), it became an integral part of rituals in polytheistic and monotheistic religions from past cultures up to the present.

In some regions of present-day Anatolia, the traditional custom of incense is still alive, e.g. when people burn wild rue (lat. *peganum harmala*) at noon on Fridays (Akkuş Mutlu, 2021: 222). At any time of the day important parts of human life like houses, barns, animals and even cars are incensed to protect them against the evil eye or the devil. The same applies to special celebrations, i.e. weddings or circumcisions, when the bride and groom or the circumcised child are protected from the evil eye by incense. But if someone is affected by the evil eye, the person is incensed with wild rue to heal her or him.

Holy writings prove that incense was used extensively throughout antiquity. Exodus 30:1-10 describes an altar of incense made of acacia wood for the Temple of Solomon in great detail. In Exodus 30:34-37, Moses is directly instructed by God to mix aromatics and burn them for incense.[2] According to Matthew 2:11, Jesus was given gold, frankincense and myrrh at birth (Herrera, 2012: 2). Luke 1:5-14 tells us that Zechariah prayed to God for a child by burning incense in the temple.[3] In other words, it is believed that prayers reach heaven through the smoke of incense. In the Orthodox and Catholic church, people and objects are incensed with thuribles (Yadav et al. 2020: 1430). The fact that the Holy Qur'an describes paradise as being scented with musk and camphora, and that Muhammad, according to the hadiths, requested that incense be burned in places of worship, has led to the use of fragrances being accepted as a sunnah in Islam (Can, 2020: 77). Amulets written in Arabic letters and numbers (Ebced Calculus), worn on clothing, dissolved in water and drunk or burned as incense (Alper & Czichon, 2019: 57) document the use of incense in magic and treatments.

Incense in Cuneiform Sources

The earliest written information on incense comes from Sumerian and Akkadian texts. To express "incense, to make an incense offering, fumigate, incense to billow, to smoke of fire, burn incense" *qatāru/ qutturu* was used (Brinkmann et al., 1995: 166-168; Black et al., 2000: 286). The words *rīqu* (Sum. *šim) and ḫīlu* (Sum. *a-kal*) are translated with "aromatic plant - aromatic substance" and "exudation of plant, resin" (Middeke-Conlin, 2014: 7). ^{DUG}*níg.na* and *nignakku* mean "censer or incense-burner". According to their type they were classified as *ša tēlilti*, small and portable, or *šēḫtu*, long and fixed (Neumann, 2023: 54). In

[1] Incense, (2024, 12 May). https://www.newworldencyclopedia.org/entry/Incense

[2] **(Exodus 30:1-10)** *"This rectangular altar was made of acacia wood measuring one cubit (about 18") wide, one cubit deep, and two cubits high, with a horn (keranot) on each corner whose top was sheathed in pure cold"*, **(Exodus 30:34-37)** *"Take sweet spices, stacte, and onycha, and galbanum, sweet spices with pure frankincense (of each shall there be an equal part) an make an incense blended as by the perfumer, ..."* (Herrera, 2012: 2, 3).

[3] Luke 1 (2024, 21 June). https://www.biblegateway.com/passage/?search=Luke%201&version=NIV

Hittite texts *tuḫḫuēššar* ("incense" ?)[4], *GIŠluešša̯r* ("bir çeşit tütsü maddesi" Ünal, 2016: 325) and *tahtumar* ("güzel kokulu madde, tütsü, buhurdan", Ünal, 2016: 500) as well as the above mentioned Sumerian and Akkadian loanwords were used.[5]

Incense was used for different purposes, e.g. to deliver prayers to the gods with its smoke (Erdem, 1992: 383) and to invite the gods to food offerings (Jursa, 2006-2008: 228) as well as for religious rituals with their scent[6] and for cultic purification.[7] Early Dynastic spells, which mention cleansing through fire and smoke, suggest, that the cultic purification function is an earlier feature than others (Jursa, 2006-2008: 226). For example, the text below describes a.o. the burning of plants for incense to cure a baby sick at birth. Also, the expression *"Beschwörungswasser"* at the end of the text indicates, that the same plants were probably mixed with water for purification or medicine:

> *"Als ein Kind geboren war, hat er (Enki?) ihm den (kranken) Leib gemacht. ... (Enlil:) 'Die betreffende Angelegenheit des Menschen weiß er/sie nicht. Möge die Leibkrankheit durch das Perienum herausgehen. ^{ĝeš}kiši$_{17}$-Unkraut ist ins Feuer zu legen; Euphratpappel(-Zweige) sind ins Wasser zu legen; in ..... ist ^{ĝeš}kiši$_{17}$-Unkraut zu legen. Nedag, das Kind von Eridu, hat (den Patienten) mit Beschwörungswasser wahrhaftig berührt"* (Rudik, 2011: 120).

In addition to these properties, due to its calming and purifying effects (Nielsen, 1986: 12, 13), incense has been included in medical treatments accompanied by spells and amulets[8] (Scurlock, 2014: 274) and funeral ceremonies.[9] It played a role in the consecration of an object[10], in sacrificial rituals, in hepatoscopy and in libanomancy, in which the shapes of the smoke were interpreted (Maul, 2013: 163, 165). Last not least incense was involved in mythological issues between gods and humans[11] and between gods only.[12]

In Hittite belief, incense was used for cultic purification and invitation of the gods. For example, if a crime was committed in a sacred building inhabited by ancestors, guardian spirits and house gods, the building would be polluted. For this reason, atonement rituals were performed both for the gods living in it and for the great gods of the country. The polluted structure was purified and sanctified with incense burned during the rituals. Attention was also paid to the temple furniture like the sacrificial table, incense pan and incense stand in the ritual area. According to the text of a consecration ritual for the Temple of Tešup, some procedures were first performed in a tent set up in front of the temple gate. Then, a bird was sacrificed to Tešup-ḫamri for atonement, a sheep to Ḫebat-ḫamri and a sheep to the incense altar (Haas, 1994: 258, 264).

Another example underlines the soothing effect of incense. When the gods, e.g. Telipinu, got angry with the humans and moved away from their temples, which resulted in disasters like the disappearance of light,

[4] According to Kloekhorst, the meaning of the word is not clear, but it is translated as "incense" because of its similarity to the word *tuḫḫuu̯ai* - smoke (Kloekhorst, 2008: 892).

[5] Since there is no record of incense in the Kültepe texts (personal communication Prof. Dr. Cécile Michel, Kültepe, 29.07.2023), one has to fall back on Hittite texts, Mesopotamian cuneiform sources and offering scenes on the seal impressions of the Karum II period.

[6] Gudea preparing food for the gods in the temple he built in Girsu and the Eridu priest Nin-duba filling the building with incense (Edzard, 1997: 90, Cylinder B-Column III ve IV).

[7] At the Shebat-Adar Festival, the king ritually cleanses the Temple of Ašur and offerings by waving a censer (Neumann, 2023: 55).

[8] According to the Assyrian Medical Catalogue, *bennu* and AN.TA.ŠUB.BA diseases were treated with amulets, ointments and incense (Steinert, 2018: 203, 249).

[9] In the NAM.BÚR.BI ritual, beer offerings and incense burning were made during the funeral ritual for three days to prevent the evil of the ghost (Scurlock, 2006: 46).

[10] The consecration of salt is mentioned on tablet VI of the Maqlû Ritual (Abusch, 2016: 345, lines 119-126).

[11] Uta-Napištim was burning incense and making offerings to the gods after the flood in the Gilgameš Epic (Abulhad, 2020,10, https://academicworks.cuny.edu/oaa_pubs/17/ [12 June 2024])

[12] In the same epic the goddess Ninsun was burning incense and praying to Šamaš (Dalley, 2000: 65).

order and fertility, incense was burned and various rituals were performed to bring the lost gods back and to return order and peace to the country (Ünal, 2003: 84-86, 173-176).

How incense offerings were practiced in Hittite rituals can be learned best from the *Ḫantitaššu* text, in which the Sun God is intended to free a person from magic (Haas, 2003: 232). An incense burner made of terracotta, with burning charcoal was placed on the floor in front of the offering table. In different stages the aromatics required for the incense were thrown on the embers of the fire:

> *"Vor dem Tisch steht unten auf der Erde ein Tonbecher und Glut ist hineingeschüttet. Und sie räuchert darin Zeder(nspäne/harz), Butter, Honig (und) den (NA4)ḫust-Schwefel (S-Strich). Darüber schüttet sie Emmermehl und Salz und spricht in dieser Weise: 'Wie die Schafe [Sa]lz lecken, so soll der Sonnengott diese Beschwörungen (des Schadenstifters) ebenso auflecken! (KBo 11.14 Vs. I 17-22)"* (Haas, 2003: 233).

Different parts of the cedar tree, butter, honey, minerals like sulfur and salt, and emmer flour were used (Jursa, 2006-2008: 25, 26).

In addition, cuneiform tablets provide answers to various other questions like the quantities and prices of aromatics[13], when and where to make incense[14], what names were given to incense burners and what materials they were made of.[15] Unfortunately there is no description of the vessel forms used for incense. These have to be deduced from visual sources depicting fire or smoke.

Fire and/or smoke in Visual Sources

The representation of fire and/or smoke is a heavily debated topic in Near Eastern archaeology. Özgüç interpreted the lines of different forms and lengths coming out of the vessels depicted on the seals of the Kārum Period, as well as on the Mesopotamian seals, as fire (Özgüç, 1965: 13). In contrast Boehmer argued that on Akkadian seals the nearly straight lines rising from the inside of the vessels on the fire altars represent smoke (Boehmer, 1965: 101). Supporting Özgüç' view Pizzimenti considers the oblique, wavy, scattered stylized or real flame-like lines on the altars of Akkadian seals and of the vessels on Middle Assyrian as depictions of fire and adds that there is no standard in the depictions (Pizzimenti, 2014: 64). For comparison, on the contemporaneous Egyptian wall painting in the Tomb of Nefertari, which shows Queen Nefertari making an incense for Isis and Nephtis, the wavy lines rising from the vessel were characterized as smoke curling upwards (McDonald, 1992: 34). However, a decision between fire and smoke cannot be made on visual sources alone.

Therefore we carried out several experiments based on cuneiform texts, ethnographic information and our own experience in order to clarify some details. We recognized that thin leaves and flowers of linden, laurel and cedar burned in a flaming fire, while resin of salai-boswellia serrata and cedar, bark of cinnamon and seeds of wild rue and black seed burned with difficulty. Odorous smoke was produced after the flames have gone out, not when the flames were visible. But when we used embers as a basis, a method which is mentioned in Mesopotamian and Hittite incense texts[16], the situation changed. Regardless of their consistency the materials burned easily and scented smoke emerged immediately. When sülfür ($^{NA}_{4}$ *ḫust*)

[13] According to the Old Hittite laws, 1 zipattani of Ì.DÙG.GA-perfumed/fine oil (?) cost 2 silver shekels (Vigo, 2014: 27).

[14] In the Maqlû Series, at the Ekur in the underworld, rituals with meals accompanied by incense are held overnight in late July/August (Abusch, 2016: XIV, 345, lines 119-126).

[15] ^{DUG}*aḫrušḫi* vessel made of gold or silver, ^{DUG}*ḫuprušḫi* vessel made of wood, clay, bronze or copper (Çilingir Cesur, 2020: 333; Coşkun, 1979: 20, 28, 33).

[16] For example, the incense recipes recorded in the UGU Series for the treatment of head ailments, for example, specify *"... fumigate him (with it) over coals"* (Scurlock, 2014: 327) or detail the *Ḫantitaššu* ritual *"... und Glut ist hineingeschüttet"* (Haas, 2003: 233).

is sprinkled on the embers, malodorous smoke and blue flames arise at the same time, suggesting that smoke and flame could be depicted together. However, the good results with embers and especially their mentioning in the texts make it very likely that the oblique or wavy lines on the seals are depictions of smoke. Therefore "smoke" will be used hereinafter.

Although incense-related information appear in Hittite cuneiform texts, an incense scene with smoke has not yet been identified in Hittite representations on rock reliefs, orthostats, relief vases and seals. But there are several depictions similar to the Hittite *Ḫantitaššu* ritual in the seal impressions of the Kārum Period.

Incense on Karum II Seal Impressions

From the mid-20th to the late 18th century BC Ashur and Kültepe-Kaneš were – with a break - the economic centers of a wide-ranging network which comprised the entire Ancient Near East. Assyrian and Anatolian merchants lived door to door in *kārum* and *wabartum* called settlements, influencing each other socially, culturally and politically. Writing and cylinder seals were implemented in Anatolia during this period (Michel, 2011: 313, 326, 327). Their different styles, which reflect the wide trading area, were defined as Anatolian, Old Babylonian, Old Assyrian and Old Syrian by Özgüç for the first time.[17]

By comparison with well known Mesopotamian depictions of incense seal impressions from 16 seals[18] (15 from Kültepe, one from Acemhöyük) of Anatolian (10), Old Babylonian (3), Old Syrian Style (2) and Old Assyrian (1) were identified as incense scenes with certainty (fig. 1).

According to the representation style of the incense burners the seal impressions are divided into four groups:

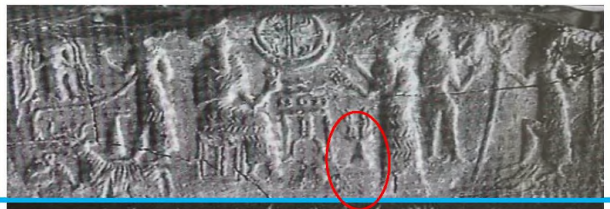
- Incense burners on the ground next to a votive table (seals 1-7)
- Incense burners next to a votive table, but in the hand of a figure (seals 8-10)
- Incense burners on the ground without a votive table (seals 11-13)
- Incense burners in the hand of a figure without a votive table (seals 14-16) Figure 1.

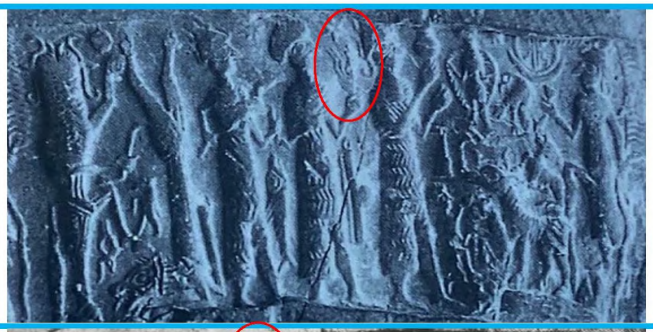
[17] Özgüç 1965 (Anatolian Group); Özgüç 1968 (The other groups)

[18] Due to the possibility that the drawings may have been corrected or completed, only seal impressions with photographs were evaluated. All seal impressions are samples from scientific excavations.

Figure 1

Seal impressions of the Kārum II Period (Alper & Czichon).

Seal No	Inv. No	Refs.	Incense burners on the ground next to a votive table	Style
1	Kt. g/t 22, 23; Kt. m/k 62; Kt. n/k 1779F; Kt. n/k 1804C; Kt. n/k 1825C 7 impressions	Özgüç, 1965: 8; Özgüç, 2006		Anatolian (Karum II)
2	a/k 494 2 impressions	Özgüç, 1965: 36		Anatolian (Karum II)
3	Kt. j/k	Özgüç, 1965: 42, 43		Anatolian (Karum II)
4	Kt. n/k 1816B Kt. n/k 1859B 4 impressions	Özgüç, 2006: 180		Anatolian (Karum II)
5	Kt. n/k 1831A 3 impressions	Özgüç, 2006: 193		Anatolian (Karum II)
6	Kt. c/k 768B	Özgüç & Tunca, 2001: 33, 34		Old Babylonian (Karum II)

7	Kt. n/k1836C Dozens of impressions on 8 envelopes	Özgüç, 2006: 199; Larsen, 2015, fig. 36; Lassen, 2024: 119-121, fig. 9.5		Old Syrian (Karum II)
Seal No	**Inv. No**		**Incense burners next to a votive table, but in the hand of a figure**	**Style**
8	Kt. n/k 1913A 2 impressions	Özgüç, 2006: 259		Anatolian (Karum II)
9	Kt. j/k 397	Özgüç, 1965: 38		Anatolian (Karum II)
10	Kt. j/k 403	Özgüç, 1965: 39; Özgüç, 2006		Anatolian (Karum II)
Seal No	**Inv. No**		**Incense burners on the ground without a votive table**	**Style**
11	Kt. n/k 1765 2 impressions	Özgüç, 2006: 139		Anatolian (Karum II)

12	Kt. n/k 2036 4 impressions	Özgüç, 2006: 312		Anatolian (Karum II)
13	Kt. 93/k 254 Kt. 93/k 255 Kt. 93/k 256 Kt. 93/k 257 7 impressions	Özgüç & Tunca, 2001: 102		Old Babylo-nian (Karum II)
Seal No	**Inv. No**		**Incense burners in the hand of a figure without a votive table**	**Style**
14	Kt. n/k 1702 Kt. n/k 2051 Kt. n/k 2060 15 impressions	Özgüç, 2006: 106; Özgüç & Tunca, 2001: 14		Old Assyrian (Karum II)
15	603	Özgüç & Özgüç, 1953: 99		Old Syrian (Karum II)
16	AC. i-800 4 impressions	Özgüç, 2015: 102		Old Baby-lonian (Karum II)

Incense burners on the ground next to a votive table: There are seven seals in this group, five Anatolian, one Old Babylonian and one Old Syrian. Similar to the *Ḫantitaššu* ritual text, the incense burners are depicted with a table on which offerings are placed.

Seal 1: The main scene of the seal impression Kt. n/k 1804C shows a seated god with his feet resting on a lion and a cup in his left hand opposite of a standing god with raised hands in a worshipping gesture. Both deities are represented in the typical Anatolian style of godly attire, combed with parallel lines to the right and left. However, their headdresses differ from each other. The seated god wears a hairy cap[19], while the praying god is depicted with a horned headdress.[20] Among them is a votive table with various kinds of food, and next to it at the same level, an incense burner. The scene is topped by a huge sun disc in a crescent and a litte star. The main scene is framed by a naked figure with a bird with turned head, a weathergod with the lightning symbol and a spear standing on a lion dragon, another weathergod behind an altar holding the reins of the bull he is standing on and a kneeling naked hero with an aryballos, well known from Akkadian seals (Boehmer, 1965: taf. XXI, fig. 232).

The incense burner consists of a shallow bowl on a high conical foot.[21] Two pairs of parallel wavy lines representing smoke arise vertically from the bowl.

Seal 2: Seal impression a/k 494 depicts a sitting god with a cup in his right hand worshipped by a standing person with raised hands. The antithetically placed goat fishes under the stool and the god's legs may characterize him as the Watergod. Both figures wear the typical Anatolian style dress and the hairy cap. Under the crescent sun, a votive table with animal thighs and food as well as an incense burner can be recognized. The side scenes depict, independently grouped, a naked hero struggling with a lion, a lion attacking a goat, a bull with a cone[22], a crouching monkey and a kneeling hero holding a water gushing vessel a.o. Lots of filling motifs like stars, animal heads, fish and birds complete the scene.

The low incense burner with its wide conical foot is depicted under the votive table, but actually stood next to it. Six lines of varying size and shape emerge from the flat bowl.

Seal 3: This seal is quite similar to the seals mentioned before. Again it shows a worshipping scene, but unlike the other seals, a bird and a bull's head lie on the votive table. A naked hero stepping on the head of the lion, a riding figure holding the reins of an equid, a vertical snake as well as several filling motifs (lions, fish, ungulates, animal heads and eight circles) complete the scene.

Position and size of the incense burner are similar to Seal 2, i.e. it is depicted close to the votive table and quite small. But it has a conical foot with a slightly concave base, which leads to a short vertical section ending up in a deep bowl. The smoke is rendered by three vertical strokes of the same size at the right half of the bowl and by a short and a longer slim stroke on the left half. The short stroke is probably the result of missing space.

Seal 4: The single-scene on the Anatolian Style seal impression Kt. n/k 1816B depicts three gods with horned and hairy caps worshipping the bull with the cone who is standing next to an offering table and an

[19] Özgüç interprets the serrated structure on the figures' heads as a "*takke*" (1965: 36), Collon as "*hair*" (1988: 41). However, this structure is wider and more raised than the head as if another object is resting on the head. For this reason, the name "*hairy cap*" will be used in the following descriptions.

[20] In Mesopotamian iconography, gods are always characterized by horned headdresses from the Early Dynastic to the Achaemenid Period (Boehmer, 1957-1971: 466-469). This does not apply to the Anatolian Style where gods can be depicted with hairy caps like humans (Boehmer, 1980-1983: 207). For a detailed discussion see p. 26.

[21] In contrast to Özgüç' *"meyvelik"* Ökse's expression "*ayaklı çanak*" is preferred (Ökse, 1993: 50.).

[22] Lassen has suggested that the " *bull with the cone*" may represent the god Ashur (Lassen, 2014: 112). B. Hrouda and P.Z. Spanos related the "*bull with the sugarloaf-like symbol*" with zoomorphic vessels, which have a spout on their back (Hrouda & Spanos, 1993: 199ff) An explanation as a humped bull is ruled out, because, the hump is located on the neck, not on the back (Lau, 2018: 160, 161).

incense burner underneath. The scene is complemented by the obligatory filling motifs (a ball-staff[23], two dots and a bird's head).

The incense burner consists of a shallow bowl with a massive almost cylindrical foot. It seems that in this case the piled up incense material consisting of one vertical and two oblique sticks is depicted instead of the usual smoke. An Old Syrian Style seal impression from Tell Suffane (Mazzoni, 2005: 9, fig. 7.3) provides a good comparison.

Seal 5: The Anatolian Style seal impression Kt. n/k 1831A shows the Weather God with a cup standing on a bull and a naked figure with a water gushing vessel as the main figures. Their relationship is not as clear as in the previously described worshipping scenes. Between them are a variation of the crescent sun motif, a votive table with an animal leg, a bird's (?) head and an incense burner flanked by two dots. In the side scene all figures are rendered upside down as if the seal was recut. There is a praying god sitting on a donkey (?), worshipping a god holding a halter, and a lion attacking a horned animal. The empty spaces are filled with birds, fish, animal heads and seven dots, perhaps a representation of the *Sebittu* called demons of the underworld (Black & Green 2004: 162).

The incense burner, which is depicted in a distance from the votive table, has the form of a bowl with a slightly incurved rim on a massive cylindrical foot sharply set off from a thick flat base. Four vertical strokes of different size and height represent smoke.

Seal 6: The Old Babylonian Style seal impression Kt. c/k 768B probably depicts two separate scenes. In the main scene, two antithetical bull-men are fighting with a bull standing in the centre. The side scene depicts an incense burner with a votive table nearby, well-known from the seals of the Anatolian Group. For the first time a plant, may be a stylized tree, appears next to the incense burner. A bird, an animal head and a large footed vessel serve as filling motifs.

The incense burner in the form of a bowl with a high conical foot and two pairs of vertical rising wavy lines reminds very strongly to the Anatolian Style Seal 1.

Seal 7: The Old Syrian Style seal impression depicts a single scene[24], concluded by an inscription, which mentions Iddin-abum, the son of Issu-arik. The seal was used by at least two different persons, and since the name on the first inscription has been erased, only the name of the second user is known (Lassen, 2024: 120).

The scene is divided into two parts by the inscription because the sealer did not pay attention to the motif while unrolling the seal.[25] When considered as a whole, a bearded god with a "*spiked helmet*" (Frankfort, 1939: 269) sitting on a throne and depicted en face (a rare representation!) receives offerings from four gods (?) who approach him from the left and from the right. To the right of the seated god a man in a fringed garment is performing a libation, i.e. pouring a valuable liquid into a high pedestal jar with a globular body. He is flanked by a god with a horned cap and a bowl (?) in his right hand standing on an animal. To the left are standing a god with a hairy cap, a thick bordered garment made of heavy material (Frankfort, 1939: 269), carrying a sacrificed animal in his left hand accompanied by a worshipping god in a pleated garment.

[23]It is a motif frequently encountered on seal impressions of the Kārum Period. Özgüç states that this motif has been given the names of measuring rod and scepter, but it is always depicted upright and next to a god on the seals, so it may be a vessel. She has used the name "*iksir kabı*" in her publications (Özgüç, 1965: 14). Collon called it *"ball-and-staff"* (1988: 44). It is common in Mesopotamian glyptic art with scenes of worship, and on seals of the Old Babylonian, Isin/Larsa and Mitanni Periods. However, the meaning of the motif is unknown (Costas, 2014: 19, 21). In her study, Otto explains that, "*the 'ball-staff' was an instrument like the staff called a strickle today which was used to smooth the contents in capacity measuring vessels*" (Otto, 2024: 45). Due to the shape of the motif, the term *"ball-staff"* will be used in the following descriptions.

[24]There are dozens of impressions on different ten envelopes and eight of them belong to the archive of Šalim-aššur's family (Lassen, 2024: 119). The name on the seal inscription is disputed (see, Özgüç, 2006: 199; Lassen, 2024: 120).

[25]In the seal impression used by Larsen in his article (2015: fig. 36), the entire scene is visible. However the incense burner is more clearly visible in the seal impression Kt. n/k 1836C.

Between the seated god and the god with the sacrifice animal two different kinds of incense burners were placed.

Above is a smaller high footed bowl with three unregular wavy lines rising upwards. At the junction, there seems to be an attachment extending to both sides, similar to the much younger Achaemenid silver example from Uşak-Güre (Inv. no Uşak 1.55.96; Özgen & Öztürk, 1996: 115, fig. 71). Below is a tower model with a high cylindrical foot and three pointed strokes rising up from the tower parapet. Incense burners in the shape of architectural models are known from Akkadian seals (e.g. Boehmer, 1965: fig. 387, 646). Examples of architectural terracotta models dating to the third and second millennium BC have been found at numerous sites in in Iraq, Syria and Anatolia, e.g. in Assur, Nuzi, Tell Munbaqa, Tell Faq'us, Emar, Tell Giricano and Boğazköy (Katz, 2016: 10, 16, 20, 21, 86, figs. 2.47, 2.49, 2.27, 4.35, 2.4 and 2.59). Especially the "Turmmodell Nr. 11 (Mbq 34/22-3)" from Tall Munbaqa seems to be used as an incense burner, because it has a round hole in the domed top which marks the upper end of a pipe leading to the rear wall of the tower (Czichon & Werner 1998: 1, 6, pl. 9-12). One could imagine that smoke produced at the back side of the tower model flowed upwards through the pipe and filled the room with fragrant scent.

Incense burners next to a votive table, but in the hand of a figure: This group includes three seal impressions belonging to the Anatolian Style. As mentioned in the *Ḫantitaššu* ritual text, the incense burner is accompanied by a votive table, but in contrast to the text, it is held by a person.

Seal 8: This seal impression shows an unusual variation of the well known worshipping motif. The Weathergod with a small cup and a snake in his hands standing on a double-peaked mountain with his left and on a bull with his right foot is receiving three worshippers in typical Anatolian dress. They offer him some kind of vessel, an incense burner and a sacrificial animal. In front of the main god where one would expect an offering table under the crescent sun different motifs are grouped in a chaotic manner: the nude goddess with her skirt raised, a bird with its head turned back, a seated animal, an altar (with offerings?) and a small kneeling figure. A side scene shows a bull-man stepping on the head of a defeated lion. Stars, animal heads, monkeys and turtles as well as a long fish and ball-staff, serve as filling motifs.

It cannot be decided with certainty whether the incense burner carried by the deity is footed or not, but due to the posture of the hand a bowl with a small base may be assumed. Due to the small distance to the head of the worshipping god in front, especially to the left horn of his cap and his big lock of hair, the wavy lines which arise from the vessel are not depicted in the symmetric manner as usual. Instead of the expected second pair of parallel wavy lines an undefinable object appears, may be a representation of the embers and aromatics that are in the bowl.

Seal 9: The single-scene seal impression of the Anatolian Style depicts a bull with cone standing on a lion-headed boat carried by a pair of heralded lions and three worshipping gods in front of a votive table filled with food. While the first god is raising his hands in a gesture of prayer the following gods are carrying an incense burner as well as a sacrificed goat. As in seal number 8 the god with the incenser burner appears between the other gods and before the god with the sacrificial animal. Human heads, heads of birds, fish, ball-staffs, monkeys and animals with their heads turned back are filling the empty spaces, leaving no gaps part.

In contrast to Özgüç' interpretation "*içinden kamışlar çıkan bir bardak*" (Özgüç, 1965: 38) the object in the left hand of the second god must surely be defined as an incense burner with rising smoke in the shape of five straight and slightly wavy lines of different size.

Seal 10: In the main scene of the Anatolian Style seal impression a standing god is handing over a spouted pitcher to a seated god, who is holding a goblet-like vessel in his outstretched left hand. Between them, under a sun in a crescent, a small person (servant?) with raised hands next to a high-footed altar with

offerings is filling the empty space. It seems as if he worships the seated god. Divided by a row of six vertical dots a second scene of worship is depicted. A warlike god holding a fenestred axe in his right and a bow in his left hand is standing opposite of the bull with cone standing on a lion-headed boat (compare seal 9) carried by two antithetic bull-men. Who worships whom is not quite clear. Between them a table with offerings and a (kneeling?) person carrying an incense burner are placed. Parallel to the main motif on the left a minor-sized figure is worshipping the vis-à-vis situated god.

The incense burner appears as a cup-shaped vessel with rising smoke in the form of four almost straight lines of the same width and lenght.

Incense vessels standing on the ground without a votive table: This group includes three seal impressions, two Anatolian and one Old Babylonian.

Seal 11: The single-scene seal impression depicts a god seated on a chair and another god with a votive cup in his left hand accompanied by a bullman worshipping him. The garment of the seated god and the thick cushion on which he sits are covered with the characteristic zigzag-pattern of the Anatolian Style. The scene ends with an upside-down monkey and a lion. Between the two gods the obligatory crescent sun as well as an incense burner are placed. Two ball-staff motifs, daggers, upright snakes, animal heads and birds serve as filling motifs.

The incense burner consists of a deep bowl on a high slightly conical foot. Four nearly straight lines of variable lenght arise from the bowl. The lenght of the lines increase from the side to the center of the bowl, probably intended to given the impression of a cloud of smoke tapering towards the top.

Seal 12: The seal impression of the Anatolian Style depicts two separate worship scenes, separated by a ball-staff. In the main scene, as on Seal 12, there is the god seated on a stool worshipped by a standing god with raised hands (on the far right of the seal impression). The side scene depicts a second god with raised hands worshipping a bull with cone standing on a pair of heralded lions. An incense burner is depicted under the right arm amidst the filling motifs. They include an upside-down horned animal, a bird, a monkey, a fish and animal heads.

The incense burner, which resembles the hourglass altars on Akkadian seals (e.g. Boehmer, 1965: 102, Abb. 578, 579, 584) has a concave retracted base. At least four curved lines, whose lenght rise to the center, characterise the smoke.

Seal 13: The Old Babylonian style seal impression (Kt. 93/k 255) depicts two worshipping scenes separated by a bull’s head and an incenser burner (!). In the left scene a standing goddess with a horned headdress is worshipped by a goddess in a long robe. The scene on the right side depicts a god with a long spear-like object in his right hand being worshipped by a short-clothed figure with a hairy-cap and a turban (German: *Breitrandkappe*). The worshipper holds a bucket in his left hand and a conical vessel in his projected right hand.[26]

The incense burner consists of a deep bowl with a rounded bottom on a very high cylindrical foot. Above the bowl, slightly turned to the right, is a rounded oval shaped object with two zip-shaped ends. On another impression of the same seal this unusual structure appears as three or four vertikal lines – the classical representation of smoke.

Incense burners in the hand of a figure, without a votive table: There are three seal impressions in this group, one in Old Assyrian, one in Old Syrian an one Old Babylonian Style.

[26]Among the four impressions of Seal 13, this is the only one in which the incense burner is clearly visible. However, since the objects held in the hands of the figures cannot be distinguished, other copies were used for identification.

Seal 14: The seal impression depicts a procession of worshippers bearing offerings and approaching a bull with cone. Below the bull and separated by a line three smaller worshippers in a row are represented. The front figure is holding an incense burner. A praying goddess is flanking the scene on the right. A rectangular box with a two-line inscription mentions the *laputta* Šu-Anum, son of Anum-Ili. It marks the end and the beginning of the motif. According to Özgüç the seal was used and recut by Hubitum (Özgüç 2006: 106; Özgüç & Tunca 2001: 14). Instead of the bull with cone and the three worshippers below a seated god or goddess has to be assumed. But this assumption is debatable, because there is no visible indication for a recutting, i.e. traces of the former seated figure. And why left Hubitum the inscription untouched? Would it not have been logical to replace the names in the inscription as well? Furthermore the 'fork-like' hands of the figure with the incense burner resemble the left hand of the worshipper bringing an animal. The raised right hand of the middle small figure shows the same style of a hand with three straight fingers as the "DINGIR.LAMA" figures. One won't expect such a similarity in the styles of different periods (see, Özgüç & Tunca, 2006: figs. D3, E1-5). Therefore one should ask whether the recut hypothesis is more convincing or the assumption that the same seal was used by different owners without any changes comparable to the dynastic seals in the Mitanni era.

The incense burner has the form of a shallow bowl or plate resting on a high foot which broadens a little bit to the bottom. The foot is divided in segments by three short horizontal incisions at equal intervals. Three slightly wavy lines, which rise quite high, are meant to depict smoke.

Seal 15: This seal impression, which was attributed to the Old Syrian Style depicts the worshipping of the Sun God, characterized by six wavy rays which emerge from his shoulders. Three figures approach him. A praying god with raised left hand introduces a male figure with a typical Syrian *polos*-like headdress by grasping his left arm. A bullman with an unidentifiable object in his hands is accompanying him. Directly in front of the sungod a crescent sun above a star and a little person holding an incense burner are placed. In ancient Anatolia, rituals were performed by people from different professional groups such as old women, oracles, sorcerers, doctors, midwives, priests of certain gods, temple prostitutes (Ünal, 1996: 37). The small figure may belong to one of these professions and may have been depicted small because of the hierarchy. Monkeys, ball-staffs, cups, birds and circles work as filling motifs.

The incense burner consists of two parts, a cylindrical foot, which broadens to the top and a high necked globular jar with a narrow base. The smoke is represented by three parallel wavy lines which rise up straight first before they turn to the left in the space between the prayers hand and the crescent sun.

Seal 16: The Old Babylonian Style seal with four impressions on a bulla recovered from Acemhöyük depicts a single scene. Unfortunately the roughly cut figures cannot be clearly identified. A man in a long robe is worshipping a bearded warrior god in a slit skirt with a curved sword or scimitar and a mace in his hands. Behind him another figure with the same curve of hair, but a short garment, is depicted. In his right hand he holds an incense burner (not a mace as Özgüç assumed; Özgüç, 2015: 102), in his left hand another long cylindrical object. Özgüç identifies this figure as a lion-headed man, which is far from being clear, not least because of the lock of hair, which is atypical for a lion's head. Moreover lion-men never carry incense burner. The open spaces are filled with a monkey and four dots.

The incenser burner consists of a long cylindrical foot, which narrows to the top, and a deep bowl with a rounded bottom and an incurved rim. In contrast to the other depictions of incense vessels cloud-like smoke rises from the bowl instead of the usual straight or wavy lines.

Archaeometry Study

By analyzing the remains on the inner or outer surface of ceramics recovered in archaeological excavations, information such as the origin of those remains can be obtained. These residues can be in the form of visible sediment, charring and encrustation or invisible to the eye (in the pores of unglazed ceramics). Among the residues, resins, waxes and fats are less soluble than carbohydrates and proteins. The remains, especially in the pores of ceramics, have survived to the present day because they are protected from groundwater seepage and microbial spoilage. The analysis of these remains is commonly referred to as *"Organic Residue Analysis (ORA)"*. When the analysis results are supported by sufficient archaeological information, it is possible to gain insight into diet, storage and processing, trade, medical practices, rituals and daily life activities (Hammann et al., 2020: 14688; Irto et al., 2022: 1, 2). However, in the area where ORA is applied to the analyzed archaeological fragments, re-analysis is usually not possible. Or, depending on the scale of the application, the sample is completely destroyed (Hammann et al., 2020: 14692). For this reason, the samples to be determined for analysis should be evaluated from different angles and should be determined considering that they may disappear.

The incense scenes in the visual sources of Ancient Mesopotamia dating to the 3rd-1st millennium BC and in Anatolian Kārum Period seal impressions depict different types of vessels. In the light of these visual and archaeological information, 14 ceramic sherds (Table 1) recovered from the excavations in Boğazköy, Ortaköy, Beycesultan Höyük and Oymaağaç Höyük were identified. The samples dated to the Late Bronze Age and Early Iron Age include goblets, high footed deep bowls, libation arms, plates, perforated lids (?) and miniature vessel fragments. As a result of the lipid analysis (March 2024), only the Late Bronze Age goblet from Beycesultan contained plant remains.

Table 1

List of selected ceramic sherds for lipid analysis (Alper & Czichon).

	Late Bronze Age	**Iron Age**
Beycesultan Höyük	Goblet (1) Dish (1) Deep Bowl with a High Foot (1)	
Boğazköy	Libation Arm (4)	Perforated Lid (2)
Ortaköy	Libation Arm (1) Perforated Lid (1)	
Oymaağaç Höyük		Miniature Vessel (2) Perforated Lid (1)

The Beycesultan sample was recovered during the excavations of Room 63 in plan square O27. It is wheel-made like the other Beycesultan goblets (Dedeoğlu, 2016: fig. 1). It has a reddish paste tempered with stoneware, reddish brown slip and is hard fired. The exterior surface of the vessel is decorated with horizontal groove decoration on the foot near the base and just below the bowl, and with wavy groove decoration below the rim.[27] There are no burn marks on any part of the vessel. Acid-catalysed extraction method was used in the lipid analysis:

> *"A one-step, acid-catalysed, direct extraction-methylation method, which has been successfully applied by many researchers analysing the lipid residues in ancient ceramics, especially from Sout East Europe*

[27] Beycesultan Höyük Excavation Archive. We would like to thank the director of the excavation Prof. Dr. Eşref Abay for the information.

and the Middle East, was employed for the samples under study. Lipid residues were extracted and methylated, following the protocol described by Papakosta et al. (2019) and Correa-Ascencio et al. (2014), with some modifications. According to the method, 2 g of the sample containing 50 µl of n-tetratriacontane (100 mg/l) added as internal standard were heated with 6 ml of a mixture of MeOH and 98% H_2SO_4 (5:1, v:v) at 70°C for 4 h, and then cooled. Lipids were extrcted with n-hexane (3 x 2 ml) and separated off after centrifugation (2500 rpm, 3 x 5 min)" (Tarhan et al., 2023: 837).

Figure 2

Results of ORA analysis (Tarhan).

ORA Results of Beycesultan Goblet

	RT (Min)	CX: Y				RT (Min)	CX: Y	
Nanonal	11.742		0.24		Heptadecanoic acid, methyl ester	33.662	C17:0	0.48
Octanoic acid, methyl ester (CAS); Methyl octanoate; OCTANOIC ACID, METHYL ESTER; Methyl caprylate; Methyl n-octanoate; Caprylic acid methyl ester; Uniphat A20; Methyl ester of octanoic acid; n-Caprylic acid methyl ester; CAPRYLSAEUREMETHYLESTER; Caprylic	12.321	C8:0	0.26		9-Octadecenoic acid (Z)-, methyl ester; Oleic acid, methyl ester; Emery oleic acid ester 2301; Methyl cis-9-octadecenoate; Methyl oleate; (Z)-9-Octadecenoic acid methyl ester; cis-9-Octyldecenoic acid, methyl ester; Emery; Emery, oleic acid ester; Methyl	35.492	C18:1	20.40
2-Nonenal, (E)-; (E)-2-Nonenal; trans-2-Nonen-1-al; trans-2-Nonenal; (2E)-2-Nonenal #	13.330		0.06		Octadecanoic acid, methyl ester (CAS); Methyl stearate; Methyl octadecanoate; Methyl n-octadecanoate; Stearic acid methyl ester; Kemester 9718; Stearic acid, methyl ester; n-Octadecanoic acid methyl ester; Methyl-octadecanoate; Methyl ester of octadecanoi	36.246	C18:0	5.67
2-Octenoic acid, methyl ester (CAS); Methyl 2-octenoate; METHYL 2-OCTENOATE; Methyl (2E)-2-octenoate #; Methyl (2E)-2-octenoate (computer-generated name); Methyl oct-2-enoate	13.612	C8:1	0.03		9,12-Octadecadienoic acid, methyl ester, (E,E)-; CIS-LINOLEIC ACID METHYL ESTER	36.534	C18:2	6.81
Decanal	14.635		0.06		Nonadecanoic acid, methyl ester (CAS); Methyl nonadecanoate; Nonadecanoic acid methyl ester; METHYL N-NONADECANOATE; n-Nonadecanoic acid methyl ester	37.390	C19:0	0.15
Nonanoic acid, methyl ester	15.187	C9:0	0.43					
Decanoic acid, methyl ester (CAS); Methyl caprate; Methyl decanoate; Capric acid methyl ester; Uniphat A30; Metholene 2095; Methyl caprinate; Methyl-n-caprate; Decanoic acid methyl ester; Methyl n-caprate; Methyl n-decanoate; n-Capric acid methyl ester	17.892	C10:0	0.11		11-Eicosenoic acid, methyl ester; Methyl (11E)-11-icosenoate #	38.641		0.90
					Octadecanoic acid, 10-oxo-, methyl ester; Methyl 10-ketostearate; Methyl 10-oxostearate; Methyl 10-oxooctadecanoate #	38.722		0.86
Methyl 8-oxooctanoate	18.201		0.66		Eicosanoic acid, methyl ester	39.112	C20:0	2.34
Heptanedioic acid, dimethyl ester (CAS); Dimethyl pimelate; Dimethyl heptanedioate; Pimelic acid dimethyl ester; Pimelic acid, dimethyl ester; Dimethyl ester of heptanedioic acid; DIMETHYLPIMELATE; methyl heptan-dioate; heptanedioic acid dimethyl ester; D	18.470		0.15		n-Tetracosane	40.148		0.77
					n-Pentacosane	41.706		1.07
					Docosanoic acid, methyl ester	42.242	C22:0	3.09
Nonanoic acid, 4-oxo-, methyl ester (CAS); METHYL 4-OXONONANOATE; Methyl 4-oxononanoate; Methyl 4-ketononanoate	19.183		0.40		Heptadecanedioic acid, 9-oxo-, dimethyl ester, Dimethyl 8-oxoheptadecanedioate #	42.409		0.30
Nonanoic acid, 9-oxo-, methyl ester; Azelaaldehydic acid, methyl ester; Methyl azelaaldehydate; Methyl 8-formyloctanoate; Methyl 9-oxononanoate; 9-Oxononanoic acid methyl ester	21.027		2.89		n-Hexacosane	43.230	C26	0.63
					2(1H)-Naphthalenone, octahydro-4a-methyl-7-(1-methylethyl)-, (4a alpha,7 beta,8a beta)-; 7-Isopropyl-4a-methyloctahydro-2(1H)-naphthalenone #	43.512		0.09
Octanedioic acid, dimethyl ester	21.242		1.10					
Dodecanoic acid, methyl ester (CAS); Methyl laurate; Methyl dodecanoate; Methyl n-dodecanoate; Lauric acid methyl ester; Metholene 2396; Methyl laurinate; Methyl dodecylate; Uniphat A40 IN 511; Lauric acid, methyl ester; Dodecanoic acid methyl ester; Unip	22.951	C12:0	0.06		Tricosanoic acid, methyl ester; Methyl tricosanoate	43.660	C23:0	0.32
					n-Heptacosane	44.683	C27	0.57
Nonanedioic acid (Azelaic), dimethyl ester	23.974	C9	6.14		15-Tetracosenoic acid, methyl ester, (Z)-; Methyl nervonate; Methyl (15Z)-15-tetracosenoate #	44.777		0.05
Decanedioic acid, dimethyl ester (CAS); Sebacic acid dimethyl ester; Methyl sebacate; Dimethyl sebacate; Dimethyldecanedioate; Sebacic acid, dimethyl ester; Dimethyl octane-1,8-dicarboxylate; dimethyl decanedioate; methyl decan-dioate; Decanedioic acid di	25.925		0.48		Tetracosanoic acid, methyl ester (CAS); Methyl lignocerate; Methyl tetracosanoate; Lignoceric acid methyl ester; tetracosanoic (24 : 0) acid methyl ester	45.181	C24:0	1.45
					n-Octacosane	45.517	C28	0.68
Tetradecanoic acid, methyl ester (CAS); Methyl myristate; Methyl tetradecanoate; Methyl n-tetradecanoate; Myristic acid methyl ester; Uniphat A30; Metholenat 2495; Myristic acid, methyl ester; Tetradecanoic acid methyl ester; MYRISTIC ACID-METHYL ESTER	27.567	C14:0	0.54		Pentacosanoic acid, methyl ester; Methyl pentacosanoate #	46.486	C25:0	0.11
					Hexacosanoic acid, methyl ester; Methyl hexacosanoate; Cerotic acid methyl ester	47.485	C26:0	0.14
Undecanedioic acid, dimethyl ester	28.091	C11	0.17		n-Triacontane	48.209	C30	0.55
Pentadecanoic acid, methyl ester; Methyl n-pentadecanoate; Methyl pentadecanoate; n-Pentadecanoic acid methyl ester	29.679	C15:0	0.27		Stigmastan-3,5-diene; Stigmasta-3,5-diene #	50.146		0.06
					Octacosanoic acid, methyl ester	50.429	C28:0	0.07
9-Hexadecenoic acid, methyl ester, (Z)-; Methyl palmitoleate; Methyl palmitoleinate; Palmitoleic acid, methyl ester; Methyl hexadecenoate #	31.267	C16:1	0.48		n-Dotriacontane	51.750	C32	0.25
					Tritriacontane	52.582	C33	0.21
					Stigmasta-3,5-dien-7-one; beta-Sitosterol; Stigmastadien-7-one	Tremulone; 3,5- 54.708		0.06
Hexadecanoic acid, methyl ester (CAS); Methyl palmitate; Methyl hexadecanoate; Methyl n-hexadecanoate; Uniphat A60; Metholene 2216; Palmitic acid methyl ester; Palmitic acid, methyl ester; n-Hexadecanoic acid methyl ester; PALMITIC ACID-METHYL ESTER; METH	32.075	C16:0	11.87		n-Pentatriacontane	55.906	C35	0.10
					SFA	#BAŞVT	#BAŞVT	#BAŞVT
					MUFA			20.88
					PUFA			6.81
					C16:0/C18:0			2.09
					Other			25.49

Among the specimens in Figure 2, lipid residues were detected in two of them, but no interpretation could be made due to the low values of the residues in the libation arm from Boğazköy. Only the results of the Beycesultan goblet could be interpreted (Figure 2): *"Lipid residues, which may belong to coriander, dill, ginger, lemon/lime, sweet oranges, safflower and other plants from the families of these plants, in high concentrations that can be quantified. Residues of fish, cauliflower, citrus fruits, lemongrass, vegetable oil and animal fat were also found. However, their concentrations were too low to be quantified (Figure 2). The lipid concentration of 6255.82 µg/g indicates that this form was used for a long time or was very well preserved".*[28]

Experimental Study

In order to understand the effect of the incense on the people, the incense recipe given in the *Ḫantitaššu* (KBo 11.14) ritual was tested as described in the text. This ritual was chosen as an example since it contains similarities with the depictions on the seals of the Kārum Period. In order for the experiments to be close to Hittite conditions, care was taken to ensure that the incense materials were natural (Figure 3a). The butter is home-made using natural cow's milk. The flour is wheat flour milled in a black mill. The resin is from untreated cedar wood. The resin is from untreated cedar wood. The text of *Ḫantitaššu* does not specify how the sulfur is made. In order to get an idea, both refined sulfur and stone sulfur as found in nature were tried to be burned. The stone sulfur was taken from the Uşak-Kayaağıl sulfur deposit[29] and ground on a grinding stone (Figure 3b). Rock salt from the shop was also crushed in the same way. Refined powdered sulfur was purchased from an agrochemical store.

Experiments according to the *Ḫantitaššu* text were conducted on five different days in two miniature vessels. One of them is made of clay from Oymaağaç Höyük (h: 3.5 cm, d: 7.5 cm), the other of industrial clay (h: 5 cm x d: 9 cm).

Since the text of the ritual specifies the combustible material as embers, the experiments were conducted only with charcoal embers. However, as the embers were extinguished during each experiment as the incense ingredients were added, the embers had to be constantly replenished. This shows that a large amount of embers is needed to complete a ritual without interruption. It is likely that the Hittites either used larger vessels or kept embers in another vessel, such as a brazier, and replaced them when the embers in the incense burner went out. Seal nr. 7, where a seperate vessel with flames (?) is depicted next to an incense burner may proove this hypothesis.

Since *Ḫantitaššu* does not specify the amount of aromatics, about 1 g of each ingredient was used in the first experiment. However, these measurement proved to be too much, and in subsequent trials, a pinch of each ingredient was burned. The embers were first sprinkled with cedar resin in large and small grains. As the tiny grains burned, there was very little smoke and a faint cedar smell. The smoke started as thin straight lines emanating from different points, converged in the center and then began to billow and dissipate (Figure 3c). In another experiment, cedar needles and thin splinters were used, since the translation of the ritual refers to cedar resin or splinters. Unlike the resin, the splinters produced dense smoke that curled up. It even formed cloud-like fluffy shapes after rising a little (Figure 3d). When a piece of butter, about 1 cu cm in size, was added, only the fragrance of the butter was felt. At the same time, as the butter melted and spread over the embers, wavy smoke rose from the larger surface from the first moment (Figure 3e). When a teaspoon of honey was put on it, it didn't burn and the smoke became a very thin line because the

[28]We would like to thank Assoc. Prof. Dr. İsmail Tarhan, faculty member of Selçuk University Faculty of Science, for his contributions in interpreting the ORA analysis results.

[29]Stone sulfur was obtained through Assoc. Prof. Dr. Selahattin Polat, a faculty member of the University of Uşak, Department of Geography, and we thank him for his help.

butter ran out (Figure 3f), and there was no odor other than the smell of butter. Even when one puts the nose very close to the incense burner, the sweet smell of honey was barely perceptible. When the powdered pure sulfur was sprinkled,[30] large blue flames (Figure 3g) suddenly appeared. As the temperature increased, honey and coarse resins started to burn.[31] At the same time, an extremely unpleasant odor appeared, similar to the smell of rotten eggs. When the flame was visible, no smoke was visible, but after the flame was extinguished, gray smoke came out in wavy lines from the surface where the sulfur had spread. As the flame disappeared, the sulfur odor intensified and the embers began to die out. When flour was sprinkled, there was very little smoke and the smell of toast for a short time, but the smell of sulfur could still be felt. When salt was sprinkled, tiny grains exploded, but there was no distinct odor. Soon the embers were completely extinguished before the flour and salt were used up (Figure 3h). At this stage, it is necessary to add more embers to burn the flour and salt. In all our experiments, the dominant odors were flour, butter and sulfur.

It is noteworthy that in the fragrant flour, butter and resin sulfur is extremely foul-smelling.[32] The purpose of the *Ḫantitaššu* ritual is to attract Šamaš to come to the incense burning area to get rid of the disease. In order for the god to come there, it is expected to smell good, because the fragrance of food and incense was used to calm angry gods and summon them to the ritual site (see, Haas, 2003: 257, 258). Therefore, it should be considered that "$^{NA}_{4}$ *ḫust*" may be another substance.

Conclusion

From the past to the present, incense has been used for different purposes in religious rituals and daily life due to its bonding, soothing and purifying properties between gods and humans. Information on incense has been recorded since the early periods of writing. One of these records is the *Ḫantitaššu* text.

According to the *Ḫantitaššu* text, the incense burner is made of clay and stands on the ground next to the offering table. The same scene or similar scenes, where the incense vessel is held in the hands, are found on 16 seals of the Kārum II Period: Nr. 1-5, 8-12 in Anatolian Style, 6, 13, 16 in Old Babylonian Style, 7 and 15 in Old Syrian Style and 14 in Old Assyrian Style. Although the same subject is addressed in all styles during the Kārum II Period, the fact that the incense burner is especially preferred in the Anatolian Style raises the question of whether the incense burner is characteristic of the Anatolian Style. If so, are the owners of the seals in the other styles Anatolian? Could it be that they purchased the seals elsewhere and therefore preferred both the motifs of the place of purchase and their own local motifs at the same time?[33] If the seal owners were not of Anatolian origin, could they have had the Anatolian motif added to their seals due to intensive trade? Or was it preferred because it was a fashionable motif during the Kārum II period? Such questions cannot be answered yet. However, it seems that the incense burner disappeared with the loss of popularity of the Anatolian Style in the Kārum Ib Period.

[30] We tried stone sulfur but it never burned, probably because of the clay content. The powdered sulfur was first poured about 1 g, but it produced an extremely unpleasant smoke and odor. This smoke and odor caused severe coughing and burning in the windpipe 15 minutes after inhalation. In fact, the burn in the windpipe lasted for more than 24 hours. This is because when sulfur burns, sulfur dioxide (SO2) and hydrogen sulfide (H2S) gases are released along with the blue flame (Kükürt (2024, 12 March). https://www.mta.gov.tr/v3.0/bilgi-merkezi/kukurt). Therefore, a smaller amount of sulfur was reduced and sprinkled in subsequent trials, one pinch at a time. There was still an unpleasant odor, although not as much as in the first trial, but no burning was felt.

[31] Haas also suggested that sulfur may have been used as a flammable substance (2003: 238).

[32] Today, in rural Anatolia, sulfur is burned in the courtyards of houses, barns and poultry houses in spring and summer. Refined powdered sulfur is also sprinkled on the door sills and windows of barns and poultry houses. The purpose is to protect the environment from pests such as snakes and mice.

[33] Lassen states that there are examples of all styles among the seals of the Šalim-Aššur family, with Old Syrian seals being particularly common. However, since the connection of the family members with Syria could not be proven, he made a speculative comment on the origin of the seals: They may have been purchased by Iddin-Abum somewhere in Syria and distributed to the family (Lassen, 2024: 127).

Figure 3
The experiment of Ḫantitaššu *ritual (Alper).*

The subject of 14 of the 16 seals of the Kārum II period is worship accompanied by an offering. Seal 5 differs from the other 14 seals in that the figures are independent of each other, while Seal 6 depicts a lion fighting a lion in the main scene. The seals were divided into four groups according to the presence or absence of a votive table and the position of the incense burner. The first group with seals 1-7 show exactly the same scene as described in the story of *Ḫantitaššu*. The incense burner appears in front of a seated god (1-3), a divine bull with a cone (4) or a god standing on a bull (5). On seal 6 the god is missing, because the incense burner and the offering table near by appear in the side scene. On Seal 7 two incense burners are shown next to a seated deity. One of them seems to be a model of a tower (German: Turmmodell), which is known to have been used for both burning incense and making offerings, and the other incense burner is depicted above it. The second group with seals 8-10 show a similar scene, but the incense burner is in the hand of a male figure standing in front of the offering table. The god on a bull (8) or a bull with a cone (9, 10) stand next to him. In the seals of the third and fourth group a votive table does not exist. The only commonality with *Ḫantitaššu* is the incense burner in a worship scene. In the third group (11-13) the incense

burner is on the ground, i.e. in front of the seated god (11), in front of a bull with a cone (12) or two different worship scenes (13). In the last group (14-16) the incense burner is carried by a figure. On seal 14 it is in the hand of the foremost of the small figures below the bull with cone. On seal 15 it is in the hand of the small figure in front of the seated god. On Seal 16, it is in the hand of a short-skirted figure standing in front of a standing figure, which may or may not be a god. Among the scenes in which the incense burner is carried by a person, only Seal 10 shows a single figure. On Seals 14 and 15 the first person carries the incense burner, while on Seals 8, 9 and 16 the second person carries it. The fact that different numbers of figures are depicted indicates that there is no set number of people making the offering. In addition, the incense burner is placed in different places in the sequence of the motifs, indicating that the incense burner does not have a special place during the offering.

Some of the figures on the seals can be identified with certainty as gods. Only six figures can be identified with special gods: DINGIR.LAMA (8, 14), praying with raised hands, well known from Mesopotamia; DINGIR.ALAD (1), the male counterpart of DINGIR.LAMA, praying with raised hands, but with a beard (Black and Green, 2004: 115); the Watergod Ea (2), seated on a throne, which is placed on his sacred animal, the goat-fish; the Sungod Šamaš (15), seated on his throne with the rays of the sun coming out of his shoulders; the Weather God stepping on the back of his sacred animal (1, 5, 8); and the War God holding an axe and a bow (10). While the known gods are normally depicted as standing, Ea and Šamaš are represented as seating, may be as an reminiscence to the representation of Šamaš as the god of justice and sacrifice (Maul, 2013: 165) on the Code of Hammurabi. Nine seals (2-4, 7, 9, 11-13, 15) depict a figure of a prayer, dressed as a god, but with a hairy-cap in the Anatolian style or with a plain head (7, 15) and with both hands raised like DINGIR.LAMA. On seals 4, 7, 9 and 15, the praying figure accompanies the other worshipping figures, while on the other five seals only the praying figure is worshipping alone. On seal 14 DINGIR.LAMA is both the worshipping and the worshipped goddess, i.e. there are two different DINGIR.LAMA representations (Black & Green, 2004: 115) on the same seal. This is the only seal in Old Assyrian style with the depiction of an incense.

It cannot be decided whether the other figures on the seals are gods or humans. In the Mesopotamian style, the gods are separated by clothing and horned headdress, while in the Anatolian style, both the seated figures and the figures facing them are depicted with the same clothing and headdress. Otto suggests that the figures on Anatolian seals from the Kārum Period may be gods, deified kings or ancestors (2024: 33, footnote 2). This could mean that the Anatolian Style does not pay much attention to the distinction between gods and humans. Finally, the figures carrying the incense on Seals 14 and 15 are smaller than the others. May be they are filling motifs, may be they are of a lower rank.

Neither the seals nor the *Ḫantitaššu* text provide any information about the identity of the performer of the ritual. Haas states, that it was a woman (Haas, 1994). Ünal argues, that *Ḫantitaššu* is the name of the god of the city of *Ḫurma*, and therefore the ritualist must have been a man (Ünal, 1996: 78, 79). On the Kārum seals, the incense burner stands between both male and female figures.

The seals (except 6) do not indicate the area where the incense ritual was performed. *Ḫantitaššu* also lacks an explanation. However, it is known from other Hittite rituals that incense was used in temples (the ritual of AN.TAḪ.ŠUM^{ŠAR} Festival; Reyhan, 2016: 102) and burial contexts (mortuary temple rituals; Haas, 1994: 271). Archaeological excavations have yielded incense burners in temples and tombs as well. For example, plastered incense pits were found in Rooms E and F of the Early Bronze Age burial complex at Sanliurfa-Gre Virike (Ökse, 2005: 21, 42). A limestone pedestal of a censer was found among the rubble of another contemporary grave (Ökse, 2006: 21). In Assyria, terracotta incense stands were found in layer G of the Temple of Ishtar (late 3rd millennium BC), along with statues of prayers and house models (Andrae, 1922: 41). The presence of a tree (?) next to an incense burner on Seal 6 suggests that incense rituals may have been

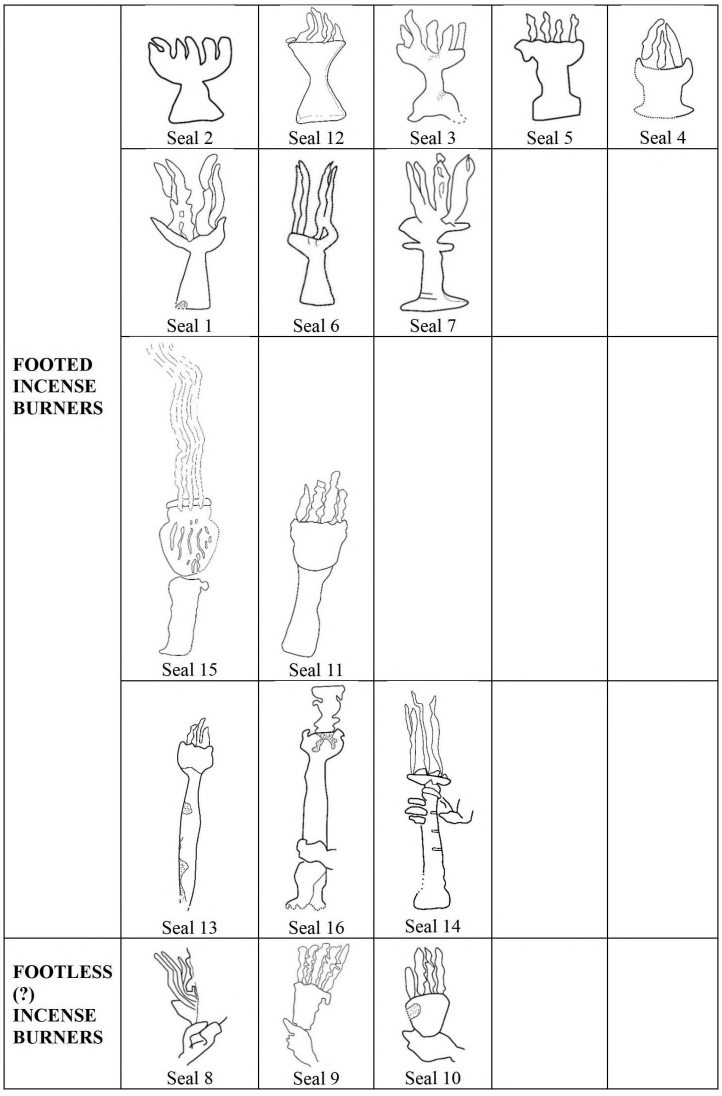
performed in open places as well, e.g. in the open-air sanctuary at Hattuša-Yazılıkaya or at the "Oak of Telipinu" in Nerik, mentioned in the *purulliya* festival (Haas, 1994: 699, 700).

The number of scenes varies on the seals. Seven of them (4, 7-9, 14-16) bear a single scene, while the others have two separate worship scenes. The incense burner is in the main scene on Seals 1-3, 5 and 11, in the side scene on Seals 6, 10 and 12, and between two scenes on Seal 13. On Seal 5, the motifs are independent of each other, but the incense burner stands near the votive table. In Seal 6, the main scene is in the Old Babylonian Style, but the side scene with the incense burner is recognizable from the Anatolian Style (fig. 1).

Incense burners were identified by the depictions of smoke rising from them in the form of short and long lines with nearly straight, wavy and cloud-like fluffy forms. Our experiments have shown that the different shapes and lenghts of smoke depend on the aromatic substance burned. Long wavy lines (Seals 1, 6-8, 14 and 15) may represent the smoke of cedar resin and splinters. The short and wavy lines on the incense burners of seals 9-11 and 13 resembles the powdered flour spread over a large surface. The short and wavy lines in 2, 3, 5 and 12 look similar to smoke, which diminishes when honey or sulfur is added to the ingredients. Seal 16 shows a cloud-like fluffy smoke, which resembles to the dense smoke produced when butter or cedar needles and splinters are burnt.

Figure 4

Form typology of incense burners on seals (Alper & Czichon)



As the typology table shows, the incense burners are of different forms (Figure 4). 13 of them are footed (1-7, 11-16), three are footless or perhaps with a small base (8-10). 15 seals (1-14, 16) depict open forms, one seal (15) a closed form. It is thought that the form on seal 15 does not allow sufficient air to enter the vessel. Unfortunately no other seal impression depicts a similar incense burner. But a supporting form was discovered in the Hittite levels (15th/14th century BC) of the temple area at Oymaağaç Höyük. An unique jar with narrow vertical openings on the entire surface (Czichon et al., 2019: 75, Abb. 19,1-2), resembles the pot with the vertical wavy lines pretty good.

The cup-shaped vessels in the hand on seals 8-10 suggest that they may have had a small base hidden in the palm of the hand. Similar forms have been found throughout Central Anatolia in the Kārum and Old Hittite levels (Türker, 2008: 60, 61). Since the seals depict incense scenes these cup-shaped vessels may be interpreted as incense burners.

The forms on seals 11, 13-16 have very high feet. Seal 14 has a shallow dish on the foot, the others have deep bowls. Except Seal 15 it is not clear whether the feet are separate or united with the vessel above. However, examples of both forms are known from excavations. High footed bowls with S profile were recovered from the Gre Virike Early Bronze Age grave complex (Ökse, 2005: fig. 13). These jointly produced examples are similar to the forms on Seals 13 and 16. At the same time, the feet of the forms on Seals 13 and 16 are very high and slightly widened at the top and bottom, like the incense stands found in the Temple of Ishtar G in Ashur (Andrae, 1922: abb. 18). Similar incense burners with separate stand and bowl are known from some Late Bronze Age-Early Iron Age sites in the Levant such as Tell Qiri, Tell Qasileh, Lachish and Megiddo. Some examples are called “*incense stands*” because they are found with a bowl. Some were named “*pottery stand/pottery model*” due to the supportive function of the legs (Fowler, 1984: 184, 185). The form on Seal 11 shows a horizontal line between the foot and the bowl, extending halfway up the bowl. This line indicates that the form may have been produced separately. It is also similar to the combined forms found in the Old Hittite temple deposit at Inandıktepe. The 34-75,5 cm high forms have deep bowls and high conical feet. Three of them with burnt surfaces are labeled as “*sunak/buhurdanlık*” (Özgüç, 1988: 14, Cat. 8-10). Since there is no trace of separation between the bowl and the foot on the similar, but smaller forms of Seals 1 and 6, they were probably produced in combination, like the examples from Inandıktepe. In Seal 14, the fact that the high footed form with a slightly widened downward leg has a shallow plate, distinguishes it from the others. A parallel was found in Kültepe, in the burial chamber belonging to Level III of the House of Adad-Sululi (see, Kt. a/k 794; Kulakoğlu & Kangal, 2011: fig. 96). Özgüç states that there is a hole covered with soot at the junction of the foot and the shallow plate and that it may have been used for incense (Özgüç, 1950: 65, 66). As in the NAM.BÚR.BI ritual (see footnote 12), it may be indicative of the practice of incense in a funerary context.

Finally, small goblet-like forms are depicted on Seals 2-5, 7 and 12. They are distinguished from each other by the fact that their feet are either completely conical or partially conical. They stand out as the most numerous form type in the incense burner typology of Kārum seals. It is noteworthy that the Beycesultan specimen, in which lipid residues were detected in the ORA analysis, has a goblet form as well.

Figure 5
Goblets from Beycesultan (Dedeoğlu, 2016: fig. 1)

At Beycesultan Höyük, the Late Bronze Age levels 5b (1700-1595 BC) and 5a (1600-1500 BC)[34] were destroyed by fire, resulting in the recovery of many goblets *in situ*. The goblets were found extensively in the living quarters of dwellings, in the storerooms of elite buildings and in buildings associated with local cult. The goblets are wheel-made and hard-fired, and are usually slipped in red, reddish brown, brown and buff colors. They have a shiny appearance thanks to the silver mica mixed into the slip (Figure 5). They are similar to goblets recognized from cult contexts at Late Bronze Age and Iron Age sites in the Levant such as Hazor, Tel Mor, Tell Mevorakh, Lachish, Tell Dan, Megiddo, etc. (Dedeoğlu, 2016: 14-18).

Figure 6
eycesultan chalice (Archive of Beycesultan Höyük), Minnakht Tomb wall painting detail (Winlock & Arnold 2010, fig. 6), Ashkelon Campaign Relief detail (Kletter et al., (Eds.) 2015: fig. 18.19)

Dedeoğlu compared the Beycesultan goblets with their counterparts from the Upper Menderes Basin and the Levant and evaluated them in terms of their functions as "drinking vessels, incense burners and lamps". As there are no traces of soot on their inner surfaces, she suggested that they were probably not used as incense burners or lamps. She also emphasized the idea that these forms may have been drinking vessels associated with banquets since their inner and outer surfaces are generally burnished (Dedeoğlu, 2016: 19). The very high level of inclusions in the sample selected for ORA (Figure 6a) indicates that the form was used for a long period of time. Like other Beycesultan goblets, the well-preserved surface suggests that it may have been a drinking vessel. However, the combination of fragrant herbs and lipid residues of animal and vegetable oils suggests that this vessel may have had a different function. The reason for the well-

[34]The stratigraphy of Beycesultan Höyük has been reconstructed according to the data obtained from the new excavations. Level 5 corresponds to levels II and Ib in the first period excavations carried out by James Mellaart and Seton Lloyd in 1954-1959 (Dedeoğlu & Abay, 2014: tablo 1).

preserved surface of the vessel may be the preservation treatment of the inner surface of the vessel, as suggested by Stockhammer. Today, in the Levant, incense burners are protected from soot or burn marks by first putting sand inside the incense burners (Stockhammer, 2012: 30). Similarly in Somalia, the inner surface of the incense burners is covered with aluminum foil etc. before the incense is burned. In this way, there is no trace on the incense burner and the residues of aromatics do not penetrate into the container, preventing the formation of bad odor during the next incense burning.[35] A similar practice is mentioned in a text from Maşat Höyük. In a ritual performed by Goddess Ḫapantali(ya) for the calming of Telipinu, pebbles are first placed on the hearth and then herbs and incense resin are added (Haas, 1994: 441). This suggests that, as with traditional practices today, incense burners may have been treated in some way to keep them clean:

> *"Die gewichtige Ḫapantali(ya) [brachte vom ...] ... karašaniya-Holz/Frucht; die [groß]e Ḫapantali(ya) nahm [Kieselsteine] von einem [reinen(?)] Ort und schüttete sie auf den Herd. [Es] kochen [die Kräuter]. [ ] Die Königin der Heilmittel [ ] fügt Eichenholz, [Weiß]dorn (und) šamaliya-Kraut hinzu; [sie] schüttet [kalwišn]a-Substanz, Räucherharz und eine Schnur [ ] der Kieselsteine dazu"* (Haas, 1994: 441).

The Yavneh excavations yielded goblet-shaped incense burners with burn marks only on the rim (but not on the interior).[36] For this reason, we conducted experimental studies (in accordance with the Ḫantitaššu text) in order to determine the number of burns after which the soot trace is formed. Although incense was burned in the same vessel five times (the embers were renewed several times in each experiment) without placing any object for protection, no soot or burn marks were observed. Only the heat-melted butter left an oil stain. In addition, if the embers are stirred before the resins are completely burnt, the resin sinks to the bottom of the vessel and sticks there (Figure 3i). If not, the resins burn completely without any trace. It is the fuel that may create soot in the incense burner. If freshly cut branches are used, grey-black stains appear at the bottom of the vessel. Therefore the villagers use dry woods for baking bread to keep the oven clean. Since there are no traces in the incense burner, it is thought that dry wood may have been used like today's bread bakers.

Additionally there are ancient Egyptian wall paintings which support our hypothysis that forms similar to Beycesultan goblets may have been used for incense. In a funeral ritual scene in the wall paintings of the Tomb of Minnakht[37] (Figure 6b) and of the Tomb of Kenamun, as well as in the reliefs of Pharaoh Merneptah's Ashkelon Campaign at Karnak (Figure 6c; Dedeoğlu, 2016: 18), bowl-shaped goblets with cylindrical, downward slightly expanding legs are depicted with curled smoke rising from them. Besides that the incense ritual in the Tomb of Minnakht is performed in front of a votive table, quite similar to the story of *Ḫantitaššu* and the Kārum Period seals 1-7.

The combination of citrus fruits, animal and vegetable oils and fish remains in the ORA results of the Beycesultan goblet is another factor supporting the use of incense burners. *Citrus bergamot* and *coriander* were found in the analysis of vessels recovered from a perfume production area destroyed by an earthquake around 1850 BC during the excavations in Pyrgos, Cyprus (Cousin, 2016: 521). In the Beycesultan chalice *coriander* was detected as well. Lime/lemon[38] and sweet oranges[39] belong to the same family (*Rutaceae*)

[35] Nasteha A. Moallim Ahmed, student at the Department of Archaeology, Uşak University (personal communication, Uşak, 19.04.2024).

[36] The ORA results of the Yavneh goblets revealed a combination of vegetable and animal oils and fragrant plant residues, indicating that Yavneh goblets were used for fragrance production. Since there are no burn marks on the inside of the goblets, It is thought that these chalices were used to burn plants for incense, but vegetable and animal fats were used as fuel (Kletter, 2015: 232; Namdar et al., 2010: 169).

[37] Wilkinson, (2024, 25 May). https://www.metmuseum.org/art/collection/search/544601

[38] Citrus lim group (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10683

[39] Citrus sweet orange group (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10782

as *citrus bergamot*[40]. Therefore the presence of animal fat and vegetable oil remains in addition to citrus fruits suggests the use of perfumed oils described in Mesopotamian and Hittite cuneiform texts. From the 3rd millennium BC, perfumed ointments and oils containing fragrant trees and plants were produced in Mesopotamia and Syria using cold maceration and hot preparation methods. These ointments and fragrant oils are prepared using milk, beer, animal fats, sesame oil and olive oil (Battini, 2018). Hittite texts also mention a type of "perfumed oil(?) / fine oil(?)" named Ì.DÙG.GA. It was presented as a gift to the king at coronation ceremonies, sprinkled on the road during the rituals of summoning Telipinu, and used at different stages of the 14-day funeral rituals. Referring to the burning of fragrant oils in Hittite contexts, Vigo suggests that the scent of Ì.DÙG.GA may have been seen as incense in funerary settings (Vigo, 2014: 27, 29-32). In addition to all these, the discovery of fish among the remains of the Beycesultan chalice suggests prescriptions containing fish oil. In the following example of therapeutic treatments recorded on UGU tablets, an incense recipe for burning head is given. According to the recipe, the ingredients mixed with rancid oil and fish oil should be burned in the embers of thorns and the patient's head should be incensed:

> *"(ii 10-11) [If a person's] ⌜crown of the head⌝ is continually hot, you mix [together] gaṣṣu-gypsum, indar-type (?) uḫḫūlu qarnānu, kibrītu-sulphur, bone, uḫḫūlu qarnānu, rancid oil and fish oil. You fumigate his head (with it) over ašāgu-thorn coals"* (Scurlock, 2014: 322).

In conclusion, the appearance of the ritual context (incense burner near votive table), mentioned in the Hittite Ḫantitaššu text, in the seal impressions of the Kārum II period indicates the existence of an unchanging incense tradition in Anatolia throughout the 2nd millennium BC. This incense tradition receives support through archaeological evidence. A goblet from the Hittite levels of Beycesultan, which resembles the incense burners on the seals very much, was analyzed with ORA and yielded animal fat and fragrant plant remains indeed. By this multidisciplinary approach it is proven that the goblet form was really used for burning incense.

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Author Details

Nejla Alper
[1] Uşak University, Graduate School/Department of Archaeology, Uşak, Türkiye
0000-0003-1172-8518 nejlaalper64@gmail.com

Rainer M. Czichon
[2] Uşak University, Faculty of Humanities and Social Sciences/Department of Archaeology, Uşak, Türkiye
0000-0002-8246-9229

[40] Citrus bergamia (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10698

References

Abulhad, S. D. (2020). Adam and the early Mesopotamian creation mythology. In *Lost in translation, presumption, and interpretation: Adam, Noah, and the Ancient Mesopotamian mythology of the creation and the flood* (7-20). Advance online publication. https://academicworks.cuny.edu/oaa_pubs/17/

Abusch, T. (2016). *The magical ceremony Maqlû: A critical edition.* Brill.

Akkuş Mutlu, S. (2021). Eski Önasya toplumlarında tütsü kullanımı ve kültürümüze yansımaları. *Turkish Studies – Historical Analysis,* 16(2), 215-230. https://dx.doi.org/10.47846/TurkishStudies.50770

Alper, N., & Czichon R. M. (2019). Eski Mezopotamya tıbbı ve günümüz Anadolu’su geleneksel hak tıbbı: Benzer yöntemler ve bu yöntemlerin inançlarla bağlantıları. *Atatürk Üniversitesi Edebiyat Fakültesi Dergisi,* (62), 45-62.

Andrae, W. (1922). *Die Archaischen Ischtar-Tempel in Assur.* J. C. Hinrichs’sche Buchhandlung.

Battini, L. (2018). Le nez en archéologie: une histoire de parfums. *Sociétés humaines du Proche-Orient ancien*. https://doi.org/10.58079/b5k2

Black, J., & Green A. (2004). Lama (Lamassu). In *Gods, demons and symbols of Ancient Mesopotamia: An illustrated dictionary* (4th ed., 115). The British Museum Press.

Black, J., & Green A. (2004). Seven (Gods). In *Gods, demons and symbols of Ancient Mesopotamia: An illustrated dictionary* (4th ed., 162). The British Museum Press.

Black, J., George, A., & Postgate, N. (Eds.). (2000). Qatāru I-II. In *A concise dictionary of Akkadian* (2nd ed., 286). Harrassowitz Verlag.

Boehmer, R. M. (1965). *Die Entwicklung der Glyptik während der Akkad-Zeit, Untersuchungen zur Assyriologie und vorderasiatischen Archäologie*. Walter de Gruyter & Co.

Boehmer, R. M. (1957-1971). Götterdarstellungen in der Bildkunst. In E. Ebeling, B. Meissner, E. Weidner & W. von Soden (Eds.), *Reallexikon der Assyriologie und vorderasiatischen Archäologie* (Band 3, Fabel-Gyges und Nâchtrag, 466-469). Walter de Gruyter.

Boehmer, R. M. (1980-1983). Kopfbedeckung B. In D. O. Edzard (Ed.), *Reallexikon der Assyriologie und vorderasiatischen Archäologie* (Band 6, Klagegesang-Libanon, 203-210). Walter de Gruyter.

Brinkman, J. A., Civil, M., Gelb, I. J., Oppenheim, A. L. & Reiner, E. (Eds.) (1995). Qatāru. *The Assyrian Dictionary of the Oriental Institute of the University of Chicago* (Vol. 13-Q, 2nd ed.). The Oriental Institute.

Bursi, A. (2020). Scents of space: Early Islamic pilgrimage, perfume, and paradise. *Arabica,* 67(2-3), 200-234.

Can, M. (2020). Osmanlı kültüründe tütsü. *Tarih Araştırmaları II,* 75-95.

Collon, D. (1988). *First impressions: Cylinder seals in the Ancient Near East*. The University of Chicago Press.

Costas, H. (2014). *Analysis of the ‘ballstaff’ and ‘cross’ symbols in Mesopotamian glyptic art from the Isin/Larsa to Neo-Babylonian Periods* [Unpublished master’s thesis]. University College London.

Coşkun, Y. (1979). *Boğazköy metinlerinde geçen bazı seçme kap isimleri.* Ankara Üniversitesi Basımevi.

Cousin, L. (2016). Beauty experts: Female perfume-makers in the 1st millennium bc. In B. Lion & C. Michel (Eds.). T*he role of women in work and society in the Ancient Near East* (512-525). Walter de Gruyter.

Czichon, R. M. & Werner, P. (1990). *Tall Munbāqa-Ekalte I: Die bronzezeitlichen Kleinfunde*. Saarbrücken: Saarbrücken Druckerei und Verlag.

Czichon, R. M., Klinger, J., Hnila, P., Mielke, D. P., Behrendt, S., Böhm, H., Breuer, M., Forster, C. Griggs, C., Klein, M., Koch, M., Kunst, G. K., Lehmann, M., Lorentzen, B., Manning, S. W., Marklein, K., Purschwitz, C., Rössner, C., Tappert, C., Gillmeister, M. A. V (2019). Archäologische Forschungen am Oymaağaç Höyük/Nerik 2016–2018. *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin 151*, 37-200.

Çilingir Cesur, S. (2020). *Hititlerde ritüel ve büyü*. Vakıfbank Kültür Yayınları.

Dalley, S. (2000). *Myths from Mesopotamia: Creation, the flood, Gilgamesh and others.* Oxford University Press Inc.

Dedeoğlu, F. (2016). A study on chalices from beycesultan: their function, social meanıng and cultural ınteraction. *Mediterranean Archaeology and Archaeometry,* 16(2), 13-32.

Dedeoğlu, F., & Abay, E. (2014). Beycesultan Höyük excavation project: New archaeological evidence from Late Bronze layers. *Arkeoloji Dergisi,* (XIX), 1-39.

Edzard, D. O. (1997). *Gudea and his dynasty.* University of Toronto Press.

Erdem, S. (1992). Buhur. In *Türkiye Diyanet Vakfı İslam Ansiklopedisi* (6), 383-384). TDV Yayınları.

Frankfort, H. (1939). *Cylinder seals: A documentary essay on the art and religion of the Ancient Near East.* Macmillan and Co.

Fowler, M. D. (1984). “BA” guide to artifacts: Excavated ıncense burners. *Biblical Archaeologist,* 47(3), 183-186.

Haas, V. (1994). *Geschichte der hethitischen Religion.* E. J. Brill.

Haas, V. (2013). *Materia magica et medica hethitica: Ein Beitrag zur Heilkunde im Alten Orient*. Walter de Gruyter.

Hammann, S., Scurr, D. J., Alexander, M. R. & Cramp, L. J. E. (2020). Mechanisms of lipid preservation in archaeological clay ceramics revealed by mass spectrometry imaging. *Proceedings of the National Academy of Sciences of the United States of America*, 117(26), 14688-14693. https://doi.org/10.1073/pnas.1922445117

Herrera, M. D. (2012). *Holy smoke: The use of ıncense in the Catholic Church* (2nd ed.). Tixlini Scriptorium, Inc.

Hrouda B. & Spanos P. Z. (1993). Bemerkungen zum zuckerhutähnlichen Symbol auf altanatolischen Stieren. *Istanbuler Mitteilungen,* (43), 199-330.

Irto, A., Micalizzi, G., Bretti, C., Chiaia, V., Mondello, L., & Cardiano, P. (2022). Lipid in archaeological pottery: A review on their sampling and extraction techniques. *Molecules,* 27(3451), 1-23, https://doi.org/10.3390/molecules27113451

Jursa, M. (2006-2008). Räucherung, Rauchopfer A. In M. P. Streck (Ed.), *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* (Band 11, Prinz, Prinzessin-Samug, 225-229). Walter de Gruyter.

Katz, H. (2016). *Portable shrine models: Ancient architectural clay models from the Levant*. British Archaeological Reports Ltd.

Kenna, M. E. (2005). Why does ıncence smell religious?: The anthropology of smell meets Greek Orthodoxy. *Journal of Mediterranean Studies,* 15(1), 1-20.

Kletter, R. (2015). Conclusions: Yavneh, incense, votive objects and Philistine ethnicity. In R. Kletter, I. Ziffer & W. Zwickel (Eds.), *Yavneh II: The ‘Temple Hill’ repository pit* (224-260). Academic Press-Vandenhoeck Ruprecht.

Kloekhorst, A. (2008). Tuḫḫuēššar. In *Etymological dictionary of the Hittite inherited lexicon* (892-893). Brill.

Kulakoğlu, F., & Kangal, S. (Eds.) (2011). *Anadolu’nun önsözü, Kültepe Kaniş-Karumu, Asurlular İstanbul’da*. Kayseri Büyükşehir Belediyesi Kültür Yayınları.

Larsen, M T. (2015). *Ancient Kanesh: A merchant colony in Bronze Age Anatolia.* Cambridge University Press.

Lassen, A. W. (2014). The Old Assyrian glyptic style: An investigation of a seal style, its owners, and place of production. In L. Atıcı, F. Kulakoglu, A. Fairbairn & G. Barjamovic (Eds.)*, Current resaerch at Kültepe-Kanesh: An interdisciplinary and integrative approach to trade networks, internationalism, and identity* (107-122). Lockwood Press.

Lassen, A. W. (2024). The seals of the Šalim-Aššur Family (94/K). In F. Kulakoğlu & C. Michel (Eds.), *Kültepe at the crossroads between disciplines: Society, settlement and environment from the fourth to the first millennium bc* (117-132). Brepols Publishers n.v.

Lau, D. (2018). Von Assur nach Anatolien und zurück-Gedanken zur Bedeutung eines altassyrischen Motivs (159-170). In K. Kaniuth, D. Lau & D. Wicke (Eds.), *Übergangszeiten. Altorientalische Studien für Reinhard Dittmann anlässlich seines 65.* Geburtstags. Marru 1. Zaphon.

Maul, S. M. (2013). *Die Wahrsagekunst im Alten Orient, Zeichen des Himmels und der Erde*. Verlag C. H. Beck oHG.

Mazzoni, S., Melis, S., D'Amore, P., Guzzo, M. G. A., Soldi, S., Minunno, G., Matermawi, M, Matthiae, G. S., Aletta, G., Virgilio, F., Scigliuzzo, E., Felli, C., Merluzzi, E., Morbidelli, P., Pedrazzi, T., Procacci, G., Chiti, B., Venturi, F., Melchiorri, V., … & Wilkens, B. (2005). Tell Afis (Syria) 2002-2004, *Egitto e Vicino Oriente, 28,* 4-210.

McDonald, J. K. (1992). The conservation of the wall paintings. In R. S. Bianchi, J. K. McDonald, M. I. Bakr & M. A. Corzo (Eds.), *In the tomb of Nefertari: Conservation of the wall paintings* (12-36). The J. Paul Getty Museum and the Getty Conservation Institute.

Michel, C. (2011). The Kārum Period on the plateau. In S. R. Steadman & G. McMahon (Eds.), *The Oxford handbook of Ancient Anatolia* (313-336). Oxford University Press, Inc.

Middeke-Conlin, R. (2014). The scents of Larsa: A study of the aromatics idustry in an Old Babylonian Kingdom, *Cuneiform Digital Library Journal,* (1), 1-53.

Namdar, D., Neumann, R. & Weiner, S. (2010). Residue analysis of chalices from the repository pit. In R. Kletter, I. Ziffer & W. Zwickel (Eds.), *Yavneh I: The excavation of the 'Têmple Hill' repository pit and the cult stands* (167-173). Academic Press-Vandenhoeck Ruprecht.

Nielsen, K. (1986). *Incense in Ancient Israel.* E. J. Brill.

Neumann, K. (2023). ‘I burn as incense for you’: Censers in Assyria and Beyond. In B. Fricke (Ed.), *Holy smoke: Censers across cultures* (51-80). Hirmer Verlag.

Otto, A. (2024). Law and justice in Kaneš and its depiction on cylinder seals: A new interpretation of the motifs ‘ball-staff’ and ‘pot’. In F. Kulakoğlu & C. Michel (Eds.), *Kültepe at the crossroads between disciplines: Society, settlement and environment from the fourth to the first millennium bc* (33-53). Brepols Publishers n.v.

Ørberg, H. H. (1998). in-cendere, -disse -ēnsum. In *Lingua Latina per se Illustrata: Pars II: Latin-English Vocabulary II* (18). Focus Publishing.

Ökse, A. T. (1993). *Önasya arkeolojisi seramik terimleri.* Arkeoloji ve Sanat Yayınları.

Ökse, A. T. (2005). Early Bronze Age chamber tomb complexes at Gre Virike (period IIA) on the Middle Euphrates. *Bulletin of the American Schools of Oriental Research*, (339), 21-46.

Ökse, A. T. (2006). Early Bronze Age graves at Gre Virike (period II B), an extraordinary cemetery on the Middle Euphrates. *Journal of Near Eastern Studies,* 65(1), 1-38.

Özgen, İ. & Öztürk, J. (1996). *Heritage recovered: The Lydian treasure.* Republic of Turkey Ministry of Culture General Directorate of Monuments and Museum.

Özgüç, N. (1965). *Kültepe mühür baskılarında Anadolu grubu.* Türk Tarih Kurumu Basımevi.

Özgüç, N. (1968). *Kaniš Karumu ıb katı mühür baskıları.* Türk Tarih Kurumu Basımevi.

Özgüç, N. (2006). *Kültepe-Kaniš/Neša: yerli Peruwa ve Aššur-ımittī'nin oğlu Assur'lu tüccar Uṣur-ša-Ištar'ın arşivlerine ait kil zarfların mühür baskıları*. Türk Tarih Kurumu Basımevi.

Özgüç, N. (2015). *Acemhöyük-Burushaddum I: Silindir mühürler ve mühür baskılı bullalar*. Türk Tarih Kurumu Basımevi.

Özgüç, N. & Tunca, Ö. (2001). *Kültepe-Kaniš: Mühürlü ve yazıtlı kil bullalar*. Türk Tarih Kurumu Basımevi.

Özgüç, T. (1950). *Türk Tarih Kurumu tarafından yapılan Kültepe kazısı raporu 1948.* Türk Tarih Kurumu Basımevi.

Özgüç, T. (1988). *İnandıktepe: Eski Hitit Çağı'nda önemli bir kült merkezi.* Türk Tarih Kurumu Basımevi.

Özgüç, T., & Özgüç, N. (1953). *Türk Tarih Kurumu tarafından yapılan Kültepe kazısı raporu 1949.* Türk Tarih Kurumu Basımevi.

Piénkowska, A. (2018). Mesopotamian incense burners from the third and second millennia bc: An archaeological approach. In B. Horejs, C. Schwall, V. Müller, M. Luciani, M. Ritter, M. Giudetti, R. B. Salisbury, F. Höflmayer & T. Bürge (Eds.), *Proceedings, of the 10th international congress on the archaeology of the Ancient Near East, 25-29 april 2016, Vienna* (315-327). Harrassowitz Verlag.

Pizzimenti, S. A. (2014). Light in the darkness some hints on fire perception and rituality as represented in 2nd mill. bc Mesopotamian glyptic, In P. Bieliński, M. Gawlikowski, R. Koliński, D. Ławecka, A. Sołtysiak & Z. Wygnańska (Eds.), *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East, 30 april-4 may 2012, University of Warsaw* (61-71). Harrassowitz Verlag.

Reyhan, E. (2016). Hitit kültür dünyasında bayram ritüelleri. *International periodical for the languages, literature and history of Turkish or Turkic,* 11(16), 89-114.

Rudik, N. (2011). *Die Entwicklung der keilschriftlichen sumerischen Beschwörungsliteratur von den Anfängen bis zur Ur III-Zeit* [Unpublished doctoral thesis]. Friedrich-Schiller-Universität Jena.

Scurlock, J. (2006). *Magico-medical means of treating ghost-induced illnesses in Ancient Mesopotamia.* Brill-Styx.

Scurlock, J. (2014). *Sourcebook for Ancient Mesopotamian medicine*. SBL Press.

Staub, P. O., Geck, M. S. & Weckerle, C. S. (2011). Incense and ritual plant use in Soutwest Chine: A case study among the Bai in Shaxi. *Journal of Ethnobiology and Ethnomedicine,* 7(43), 1-16.

Steinert, U. (2018). The Assur Medical Catalogue (AMC), In U. Steinert (Ed.), *Assyrian and Babylonian scholarly text catalogues* (203-291). Walter de Gruyter.

Stockhammer, P. W. (2012). Performing the Practise Turn in Archaeology, *Transcultural Studies 1*, 7-42.

Süel, M. (2015). Ortaköy-Şapinuva 2014 kazı çalışmaları, Ö. Bilgi & R. İbiş (Eds.), *5. Çorum kazı ve araştırmalar sempozyumu, 10 aralık 2015, Çorum.* (169-184). Ankara.

Tarhan, İ., Massa, M., Türkteki, M. & Türkteki, S. (2023). Toward an understanding of the exchange in ancient scented oil through organic residue analysis of Bronze Age Near Eastern ceramic bottles by GC-MS. *Archaeometry,* (65), 833-849.

Tatomir, R. G. (2016). To cause 'to make divine' through smpke: Ancient Egyptian incense and perfume. An inter- and transdisciplinary re-evolution of aromatic biotic materials used by the Ancient Egyptians. In A. Panaite, R. Cîrjan & C. Căpiţă (Eds.), *Meosica et Christiana: Studies in honour of Proffessor Alexandru Barnea* (683-694). Editura Istros a Muzeului Brăilei "Carol I".

Türker, A. (2008). *Assur Ticaret Kolonileri Çağı'nda Acemhöyük çanak çömleği* [Unpublished doctoral thesis]. Ankara Üniversitesi.

Ünal, A. (1996). *The Hittite ritual of Ḫantitaššu from the city of Ḫurma against troublesome years.* Turkish Historical Society Printing House.

Ünal, A. (2003). *Hititler devrinde Anadolu II.* Arkeoloji ve Sanat Yayınları.

Ünal, A. (2016). *Hititçe-Türkçe, Türkçe-Hititçe büyük sözlük: Hattice, Hurrice, hiyeroglif Luvicesi, çivi yazısı Luvicesi ve Palaca sözlük listeleriyle birlikte.* Bilgin, Kültür, Sanat Yayınları.

Vigo, M. (2014). The use of (perfumed) oil in Hittite rituals with particular emphasis on funerary practices. *Journal of Intercultural and Interdisciplinary Archaeology,* (01), 25-37.

Yadav, V. K., Choudhary, N., Khan, S. H. & Khayal, A. (2020). Incense and incense sticks: Types components, origin and their religious beliefs and importance among different religious. *Journal of Bio-Science,* 1420-1439.

Yılmaz Çalışkan, G. (2022). İslamiyet'te buhur geleneği ve İran üretimi seramik buhurdan örnekleri. *ERDEM*, (82), 170-190.

Zwickel, W. (1990). *Räucherkult und Räuchergeräte: Exegetische und archäologische Studien zum Räucheropfer im Alten Testament*. Universitätsverlag-Vandenhoeck Ruprecht.

Electronic References

Citrus bergamia (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10698

Citrus lime group (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10683

Citrus sweet orange group (2024, 25 May). https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomydetail?id=10782

Incense (2024, 12 May). https://www.newworldencyclopedia.org/entry/Incense

Kükürt (2024, 12 March). https://www.mta.gov.tr/v3.0/bilgi-merkezi/kukurt

Luke 1: New international version. (2024, 21 June). https://www.biblegateway.com/passage/?search=Luke%201&version=NIV

Wilkinson, C. K. Funeral ritual in garden, Tomb of Minnakht (2024, 25 May). https://www.metmuseum.org/art/collection/search/544601

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Research Article

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2023–2024 Excavations at Boğaziye Höyüğü: A Recently Discovered Mound Settlement in the Upper Khabur Region

Bülent Genç [1], Muaviye Şahin [2], Senem Işık [3], Ayda Abakay [3], Şemsihan Kaya [4], Erkan Konyar [4] & Armağan Tan [4]

[1] Mardin Artuklu University, Faculty of Letters, Department of Archaeology, Mardin, Türkiye
[2] Republic of Türkiye Ministry of Culture and Tourism, Mardin Museum, Mardin, Türkiye
[3] Istanbul University, Institute of Social Sciences, Postgraduate Program in Archaeology, Istanbul, Türkiye
[4] Istanbul University, Faculty of Letters, Department of Ancient History, Istanbul, Türkiye

Abstract

Boğaziye Höyüğü lies at the northwestern end of the vast and fertile Upper Khabur Region, which stretches along the southern foothills of the Kašiari Mountains. Material culture remains unearthed at the mound by two seasons of excavations (2023-2024) shows significant similarities to assemblages known from other Upper Khabur sites. Our excavations in Trenches BE18–BE17 and BF18 on the northern slope of the mound focused on revealing the stratigraphic sequence in this area. Architectural remains of Building Levels I and II and finds from these contexts in Trench BE18 are dateable to the mid-3rd millennium BC. In Trench BE17, Building Level I also revealed finds that can be dated to the 3rd (especially mid-3rd) millennium BC, and in Trench BF18, ceramic sherds dateable to the 3rd millennium BC were found in Building Level III. This article presents new findings from Boğaziye Höyüğü and discusses their significance in comparison with the results of surveys and excavations in the Upper Khabur Region, which have continued increasingly since the mid-1930s. We evaluate the significance of Boğaziye Höyüğü as a regional center within the Upper Khabur basin, and we elucidate its habitation sequence and building levels in the light of our recent excavations. Based on a comparative evaluation of its material culture remains within a regional perspective, we contextualize Boğaziye Höyüğü in relationship to the cultural horizons of the early and mid-3rd millennium BC in the Upper Khabur Valley.

Keywords Upper Khabur Region · Early Bronze Age · Early Jezirah Period · Early Dynastic III/IV · terracotta chariot models

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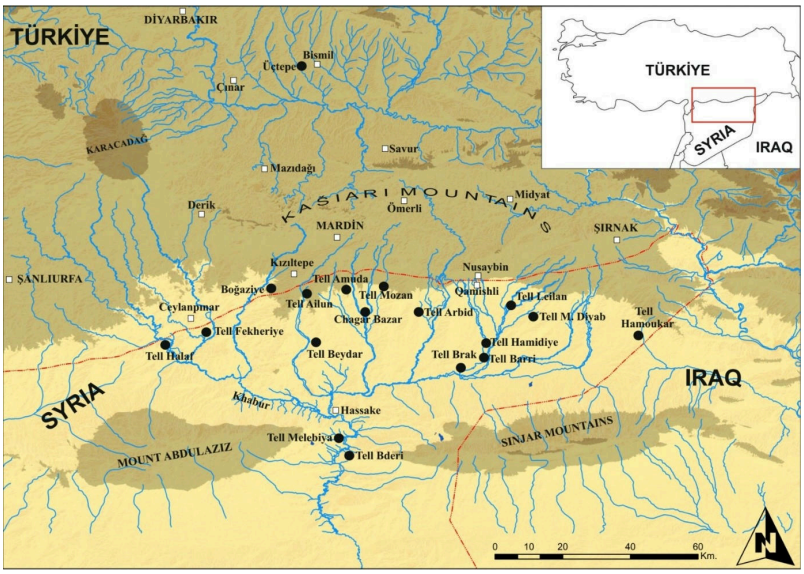
Corresponding author: Bülent Genç bulendgenc@hotmail.com

Introduction

Upper Khabur Region lies at the heart of the vast and fertile northern Mesopotamian plain bordered by the southern foothills of the Kašiari[1] Mountains in the north[2]. The region is roughly defined by the Turkish-Syrian national border in the north, the Syrian-Iraqi national border in the east, the Jebel Sinjar and Jebel 'Abd-al-Aziz' mountains in the south, and the Khabur River in the west[3]. As such, the Upper Khabur Basin that is dissected by several river valleys running north to south constitutes the northeast portion of the Syrian plains. Streams flowing from the highlands to the plains have formed a series of valleys known as (from east to west) Wadi Aweij, Wadi Khanzir, Wadi Jaghjagh (River Çağ Çağ), Wadi Jarrah, Wadi Kuneizir, and Wadi Rumeilan. These streams flow into the Wadi el-Radd River, which forms a major tributary of the Khabur River. Especially since the early stages of the Early Bronze Age, very prominent and affluent settlements flourished in the fertile plains of the Upper Khabur Basin with close cultural ties to Mesopotamian societies. Tell Beydar (Bretschneider & Jans 1995: 5-27), Tell Chagar Bazar (Mallowan, 1936: 1-59), Tell Mozan (Buccellati & Kelly-Buccellati, 1988: 57-64; Kelly-Buccellati, 1990: 119-132), Tell Arbid, (Mallowan, 1937: 117-118, 126; Bieliński, 1997: 203-211), Tell Brak (Mallowan, 1947: 1-80; Oates, Oates & McDonald 1997: 1-37), Tell Barri / Kahat, (Pecorella, 1982; Pecorella, 2003), Tell Hamidiya (Eichler & Wäfler 1985; Wäfler, 1990: 219-228), Gırnavaz (Erkanal, 1983: 131-135), Tell Hamoukar (Gibson, Al-Azm et al. 2002: 11-34; Ur 2010), Tell Leilan / Šubat-enlil-Šehna (Weiss, 1985: 5-34; Ristvet and Weiss 2012), Tell Halaf (Oppenheim, 1933: 1-32), and Tell Fekheriye (Bartl & Bonatz 2013: 263-292) are among the notable archaeological sites of the region, where excavations were conducted between the years 1934-35 and 2010-11 (Map 1).

Map 1

Map of the Khabur Region showing the prominent settlements dating to the mid-3rd millennium BC.



[1] For further details on Kašiari Mountains, the attestation of the toponym "*Kāšiāri/Gāšiāri*" in Hittite sources, and its localization as a geographical area under Hurrian (Mittani) rule, see Radner 2006: 283; RGTC 6-1, 189 and RGTC 6-2, 70f. s.v. "Kašijara".

[2] The mountain range called Kašiari Mountains in ancient texts is known as Tur Abdin Mountains today, and as a geological unit it is identified as the Mardin-Midyat Threshold, which constitutes a natural boundary between the Upper Tigris basin and the northern Mesopotamian, plains. This rugged topography was referred to as *Kašiari* in the 2nd millennium BC texts, attested in the Middle Assyrian period annals (Grayson, 1987: 136, 184; Liverani 1992: 35-36; Genç and MacGinnis 2023: 10-13, Figure 11 - Figure 12). This mountainous region was called Masius in the Classical Period. This hilly region stretches west to east along the foothills of Mount Karacadağ and the administrative border of Mardin province, and it extends north-south from Hasankeyf to Nusaybin district.

[3] This region, also called the Khabur Triangle, lies in the Jezirah Region of northeast Syria, and covers an area of 37,480 km² between the Tigris and the Euphrates (Davies, et al. 2014: 143). The Upper Khabur Region roughly corresponds to the triangular area between Ras al-'Ain, the eastern portion of Nusaybin, and Hasaka.

Boğaziye Höyüğü: The Mound and its Location

Boğaziye Höyüğü, situated at the southwestern end of the Kızıltepe Plain, is comparable in terms of its size and its material culture remains to the previously excavated mounds in other parts of the Upper Khabur basin listed above. Boğaziye Höyüğü lies in Mardin-Kızıltepe district, about 70 km from the city center of Mardin province, just south of Büyük Boğaziye village, and it is partially covered by the modern village settlement. The mound is about 2.5 km away from the Turkish-Syrian national border and 5 km from Cırcıp Steam, which defines the administrative border between the Şanlıurfa and Mardin provinces. Importantly, the mound appears as a large and significant ancient settlement, which was never investigated by teams of archaeologists. Due to its geographical location, the settlement at Boğaziye Höyüğü had particularly strong cultural ties with the key settlements of the southern/southwestern and eastern/southeastern portions of the Upper Khabur Basin[4], as its archaeological assemblages from surface surveys and excavations have shown.

The high mound of Boğaziye covers 24 hectares and the settlement, together with its lower town, is estimated to have spread over about 50 hectares in the lower plain. The stream running through the village curves around the northern and eastern slopes of the mound and continues to flow south, constituting the natural boundaries of the mound in these sectors. The northern slopes of the mound are very steep, while its eastern, southern, and western slopes have a gentler incline. The Boğaziye village that the mound is named after was founded in the mid-1950s, when rural land allotments were re-organized by a national land reform. During the establishment of the village settlement, villagers drew soil from the slopes of the mound for building their houses, which caused archaeological deposits to be severely damaged and mixed. Furthermore, village houses were built trenching into archaeological strata. The northern and eastern sectors of the mound are covered by the modern village settlement (Figure 1).

Figure 1
Aerial view of Boğaziye Höyüğü from east-northeast and Boğaziye Village surrounding the northern and western slopes of the mound

[4]Notable mound settlements accessible by natural routes from Boğaziye Höyüğü include the following (distance from Boğaziye noted in parentheses): Tell Fekheriye (25 km) and Tell Halaf (28 km) to the southwest, Tell Beydar (36 km), Tell Chagar Bazar (55 km), Tell Arbid (66 km), and Tell Mozan (63 km) to the southeast and east; Tell Brak (75 km), Tell Barri (78 km), and Tell Hamidiye (80 km) from south to north along the Wadi Jaghjagh (Çağ Çağ River); and Tell Leilan (110 km) and Tell Hamoukar (150 km) further east.

Systematic archaeological surveys conducted by our team in the province center and the surrounding districts of Mardin identified numerous archaeological sites, among which Boğaziye Höyüğü was recognized as an affluent settlement of the Upper Khabur Region. Based on its promising surface survey assemblage, the Boğaziye Höyüğü was chosen for further investigation by excavations to reveal the nature of this regionally significant center. Excavations were conducted for two field seasons in 2023 and 2024, and investigations concentrated on the northern slope of the mound in an area where modern destruction of archaeological deposits was most severe. Excavation trenches were placed in a sector of the northern slope where removal of soil had exposed tall sections and had caused deposits from various archaeological strata to be mixed. The research goals of these trenches were to reveal the stratigraphy and the settlement sequence of the mound and to document the building levels and their material culture remains in a stratified sequence. To reach these objectives, Trenches BE18, BE17, and BF18 were placed horizontally at the top of the northern slope where the height of the cross-sections reached nearly 10 m (Figure 2).

Figure 2

General view of Boğaziye Höyüğü showing the excavation trenches on the northern slope.

Excavation Results

Trench Be18

Just below surface vegetation, the topsoil deposit in the area marked by Trench BE18 yielded many ceramic sherds dateable to the 3rd millennium BC, with a concentration of diagnostic finds that belong to the mid-3rd millennium BC. Pottery sherds found in this layer belong to fine wares. They are made of a well-levigated paste, hard fired, and the majority has a greenish buff fabric. Architectural remains of Building Level I were identified below the topsoil in Trench BE18, and a 'tandoor house' with a rectangular floor plan measuring 4.5x3.40 m was revealed in the central sector of the trench in this stratum. This is a single-room structure with a tandoor installed in a corner just left of the entrance, and its walls are built of a single row of mudbricks wall thickness is 50 cm (Figure 3). The preserved height of the tandoor is about 70 cm, and its base diameter is 60 cm. The thickness of the tandoor's walls ranges between 3 cm and 5 cm across its body, and its outer surface is reinforced with potsherds at various spots. In size and form, this tandoor is closely similar to the tandoors found at contemporaneous levels of Tell Arbid (Ławecka, 2008: 564-567, Figs. 4, 6). In comparative perspective, we can associate the tandoor in Building Level I in Trench BE18 with the latest phase of the Early Dynastic Period. The floor of the tandoor is packed with fist-sized river pebbles and

ash (Figure 2). A nearly complete jar and another partial jar with a fragmented small vessel inside, found close to the tandoor, provide informative chronological markers for dating the tandoor context. West of the tandoor house lies a cist-like feature made up of stone slabs and arranged as two side-by-side basins[5]. Such basins associated with tandoor houses were also revealed by excavations in contemporaneous levels of Tell Brak (Emberling, Cheng et al. 1999: 9, Figure 14 - Figure 16) and Tell Arbid (Bieliński, 2007: 463, Figure 13). A small, baked clay figurine in the form of a schematized animal with a broken head and tail was found inside the eastern basin[6] (Figure 4). Other notable finds found in topsoil include three baked clay wheels, which would have belonged to terracotta models of carts or chariots (Figure 5). Fragments and wheels from baked clay (terracotta) cart/chariot models are a frequently attested category of finds at the 3rd millennium BC sites in the Upper Khabur Valley and neighboring regions (Kelly-Buccellati, 1988: 65-67, Fig. 32; Orthmann, Hempelmann et al. 1995: Abb. 18; Pecorella & Benoit 2005: 32).

Figure 3

Tandoor house' and adjacent contexts to its west, Trench BE18, Building Level I.

[5]The entire width of this two-part feature is 125 cm. The individual basins are about 80 cm long, 55 cm wide, and 25 cm deep. Stone slabs used in its construction are about 5 cm thick.

[6]For comparable examples of zoomorphic figurines, identified as sheep/goat(?), see Makowski, 2016: 67-82.

Figure 4
Baked clay animal figurine, Trench BE18, Building Level I.

Figure 5
Baked clay model wheels, Trench BE18, Building Level I.

After excavating out the structural remains of the tandoor house that belongs to Building Level I (which is ascribed to the final phase of the Early Dynastic Period), the outline of an inhumation burial was identified in the mudbrick fill of the outdoor area delimited by the tandoor house and the east-west-orientated wall in the southern portion of the trench. The burial pit inside the mudbrick deposit measured 55x50 cm, and the burial was that of an infant skeleton lying on its side in *hocker* position, facing north (Figure 6). Skeletal elements of the infant (aged ca. 4 or 5 years old) were poorly preserved. The skeleton was accompanied by burial gifts that consisted of two simple-rim bowls and two jugs/pitchers, one in miniature size. It is worth noting that the miniature juglet is carefully placed next to the skull (Figure 7). Among the excavated settlements of the Upper Khabur Region, such mortuary vessels consisting of simple-rimmed, hemispherical bowls and miniature jugs/juglets are found in the mid-3rd millennium BC levels at Tell Chagar Bazar (Mallowan, 1936: 9-10, Figure 10), and in building levels C16 and C13 at Tell Mozan dating to the Early Jezirah IIIa (EB IVa) period (Pfälzner & Dohmann-Pfälzner 2014: 52, Abb. 30). Examples that belong in the same ceramic group as these mortuary vessels are known from Tell Chagar Bazar (Mallowan, 1936: 10, 30-31, Figure 10), Tell Brak (Mallowan, 1947: 234-235, Plate LXXIV, No. 10-11; Emberling, Cheng et al. 1999: 9-15, Figs. 20-22; Oates 2001b: 182, Fig. 454; Matthews, 2003: 123-134), in Levels 39-40 dated to Early Jezirah IIIa (EB IVa)

at Tell Barri / Kahat (Pecorella & Benoit 2005: 181-186), Tell Mozan (Buccellati & Kelly-Buccellati 1988: 65-67), and Tell Chuera (Orthmann, Hempelmann et al. 1995: 18-54, Abb. 23-24).

Figure 6

Infant inhumation in hocker position accompanied by burial goods, Trench BE18, Building Level I.

Figure 7

Vessels accompanying the infant burial, Trench BE18, Building Level I.

The main architectural feature that defines the layout of the contexts revealed in the trench is a mudbrick wall with stone foundations, which runs east-west and delimits the southern sector of the trench. The width of the wall is 70 cm, and its preserved height is 1.20 cm (Figure 8).

Figure 8
Mudbrick wall with stone foundations, Trench BE18, Building Level II.

Excavations progressed towards the east balk of the Trench and contexts belonging to Building Level II were unearthed in this area. A stone-built canal, running from north to south, was revealed, defining the western limit of this context. The canal is 2.26 m long, and its stone-paved base is 72 cm wide. The drain inside the stone-built body of the canal is only 15 cm wide. Because the canal is sloped towards the south, it must be functionally associated with the mudbrick wall with stone foundations that lies in the southern sector of the trench. The archaeological deposit that the canal is dug into consists of a compact mudbrick fill, which belongs to the Early Bronze Age level. Another canal with the same orientation was identified below this canal towards the north, which we think joins the same canal system (Figure 9). This second canal below is gently curved towards the east, and it is nearly 6 m long and 55 cm wide. Its drain is 20 cm wide and 30 cm deep. Inside this drain, the front piece of a terracotta chariot model was found. The front panel of the fragment is decorated with incised lines (Figure 10). An almost identical fragment is known from Tell Chuera (Orthmann, Hempelmann et al. 1995: 128, Abb. 72, No. 60). In the area east of the canal in the eastern sector of the trench, a floor paved with small and medium river stones was unearthed. In the mixed deposit on top of this floor, ceramic sherds dateable to the mid-3rd millennium BC and a bulla were found (Figure 11). The northern limit of this floor is marked by a wall segment, which was preserved to a height of a few mudbrick courses.

Figure 9
Drainage canals found in the eastern and western portions of Trench BE18, Building Level II.

Figure 10
Fragment of a terracotta chariot model found inside the drainage canal, Trench BE18, Building Level II.

Figure 11
A bulla found on the floor associated with the drainage canal, Trench BE18, Building Level II.

In the southwestern portion of the Trench, excavations revealed a separate canal, which is oriented parallel to the first two canals described above. This canal is also stone-built, and its drain is covered by capstones. The well-preserved canal continues for 4 m north south, and it is 40 cm wide across the east-west axis. The canal's drain is 20 cm wide and 35 cm deep.

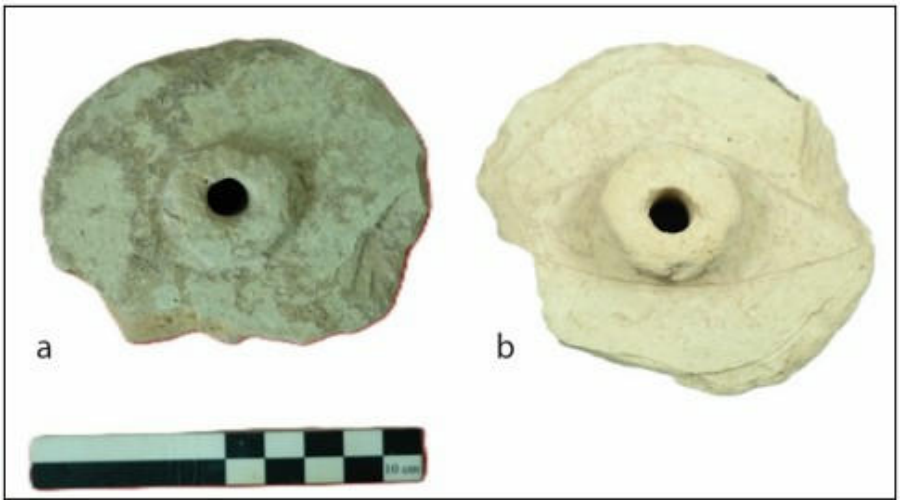
Most likely, this canal that belongs to Building Level II is associated with the mudbrick wall with stone foundations that belongs to a building in the south. As such, both canals that are situated close to the eastern and the western sections of the trench must have served as a drainage system for a building complex lying south of the excavation trenches (Figure 9). The central area of the trench that is limited on both sides by the two canals was filled with structural rubble and mudbrick detritus. During the clearing of this deposit, structural alignments of mudbrick were identified in the area between the two canals.

In the northwestern sector of the trench, a well-preserved floor, packed with small pebbles and some ceramic sherds, was unearthed. This floor covers an area of 3.50x3.30 m and it belongs to Building Level II. The floor pavement continues further south, below the canal that is in the western sector of the trench. Therefore, we think that this pebble-paved floor may be associated with the wall in the south. Joining sherds from the upper body of a storage vessel were found lying on the pebble floor, together with a small, spouted vessel found *in situ* inside it, both dateable to the mid-3rd millennium BC (Figure 12). Similar spouted vessels are known from the ED III destruction phase (Phase L) at Tell Brak (Oates, 2001b: 179, Fig. 456). During the cleaning of this floor, we observed that pottery sherds were used as construction material in addition to pebbles. Two terracotta wheels of a chariot model were found on this floor. The shaft bearing is articulated as a ring in relief at the center of these two wheels (Figure 13). Similar terracotta wheels at Chagar Bazar in the Upper Khabur are found in the 2nd millennium BC and earlier levels (Mallowan, 1936: 21, Figure 6, no.

6, 8, 17). Mallowan states that one of the wheels at Chagar Bazar (Figure 6, no. 8) resembles the wheels of the chariots depicted in the Standard of Ur, which was found in the Royal Cemetery of Ur. At Tell Brak, such terracotta wheels with articulated details of wooden fittings come from the Akkadian Period levels (Oates, 2001a: 284, Fig. 304). One of the terracotta wheels found at Boğaziye belongs to the type of chariots in which the wheel is made from three wooden planks that are clamped together with a metal ring-frame (Figure 13b). This wheel type was also found at Tell Chuera (Orthmann, Hempelmann et al. 1995: Abb. 73). The level that the pebble-packed floor and the spouted vessel and terracotta wheel are found show characteristics of the Early Bronze IVa period. Therefore, it can be stated that the wheel model in question belongs to the same type of model chariot wheels found at the Royal Cemetery of Ur (Crouwel, 2019: 32-33, Figure 8).

Figure 12
Storage jar and spouted vessel found on the gravel-packed floor, Trench BE18, Building Level II.

Figure 13
Terracotta wheels belonging to chariot models, found on the gravel-packed floor, Trench BE18, Building Level II.



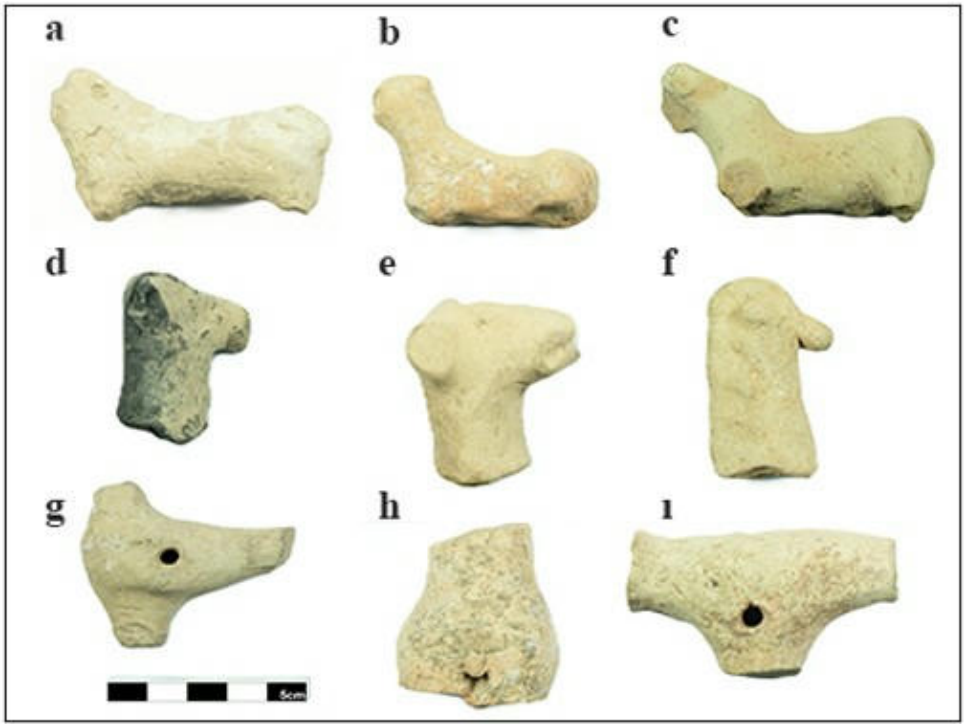
Trench Be17

In the northern sector of the mound, the area west of Trench BE18 was targeted for excavation to investigate the stratigraphic sequence in the area where tall cross-sections of the mound are exposed due to the removal of soil by villagers. The excavation area was extended west into the area labeled Trench BE17, where baked clay objects, including fragments of seven figurines and two body fragments belonging to two-wheeled cart models, were found in the topsoil (Figure 14). One of the seven fragments belongs to an

anthropomorphic figurine (Figure 14h), one is shaped like the head of a bird (Figure 14f), and the rest belong to domestic quadrupeds like rams and sheep (Figure 14a-e). Fragments of terracotta anthropomorphic figurines are known from Tell Brak (McDonald 2001: 269-271, Fig. 286-289, 486), Tell Chagar Bazar (Mallowan, 1936: 19-22, Figure 5), Tell Mozan (Kelly-Buccellati, 1988: 81, Fig. 46), and Tell Arbid (Makowski, 2016: 19-39, Pl. 1-3). Examples of zoomorphic figurines like those found at Boğaziye are frequently found at the excavated settlements of the Upper Khabur Region. Zoomorphic figurines found at the Boğaziye Höyüğü are similar to those known from the contemporaneous levels of Tell Brak (McDonald, 2001: 271-274, Fig. 489), Tell Chagar Bazar (Mallowan, 1936: 20-22, Figure 5), Tell Arbid (Makowski, 2016: 41-94), Tell Barri (Pecorella & Benoit 2005: 31), and Tell Mozan (Weiss, 1991: 694, Figure 8).

Figure 14

Fragments of baked clay zoomorphic figurines and cart models found in the surface soil of Trench BE17.



In Trench B17, just below topsoil, a nearly intact zoomorphic figurine and a terracotta chariot model were found inside the mudbrick detritus that had filled up Room 1 and Room 2, which belong to Building Level I (Figure 15). During the excavation of the rubble and mudbrick detritus of Rooms 1 and 2, a miniature vessel with dot impressions in concentric circles on its interior surface (Figure 16e), four terracotta wheels (Figure 16a-d), a terracotta figurine of a pedestalled bird (Figure 16gh), and a cylindrical object made of baked clay (Figure 16f) were found. Terracotta bird figurines (McDonald, 2001: 273-274, Fig. 489) and similar cylindrical objects (Matthews, 2003: 102, 176-177, Fig. 5.75) are known from Tell Brak and Tell Chagar Bazar excavations (Mallowan, 1937: 134, Figure 12, No. 34). The bird figurine found at Boğaziye shows close similarity to pedestalled bird figurines found at Tell Chuera and Tell Arbid[7] (Orthmann, Hempelmann et al. 1995: 126-132, Abb. 70; Makowski, 2016: 269-270, Pl. XX).

[7] Additionally, for a pedestalled bird figurine placed as a grave offering in a burial context at Tell Arbid, see Bieliński, 2004: 338-339, Figs. 4-5.

Figure 15
Fragments of baked clay zoomorphic figurines and chariot models found in the archaeological deposit of Rooms 1 and 2 in Building Level I, Trench BE17.

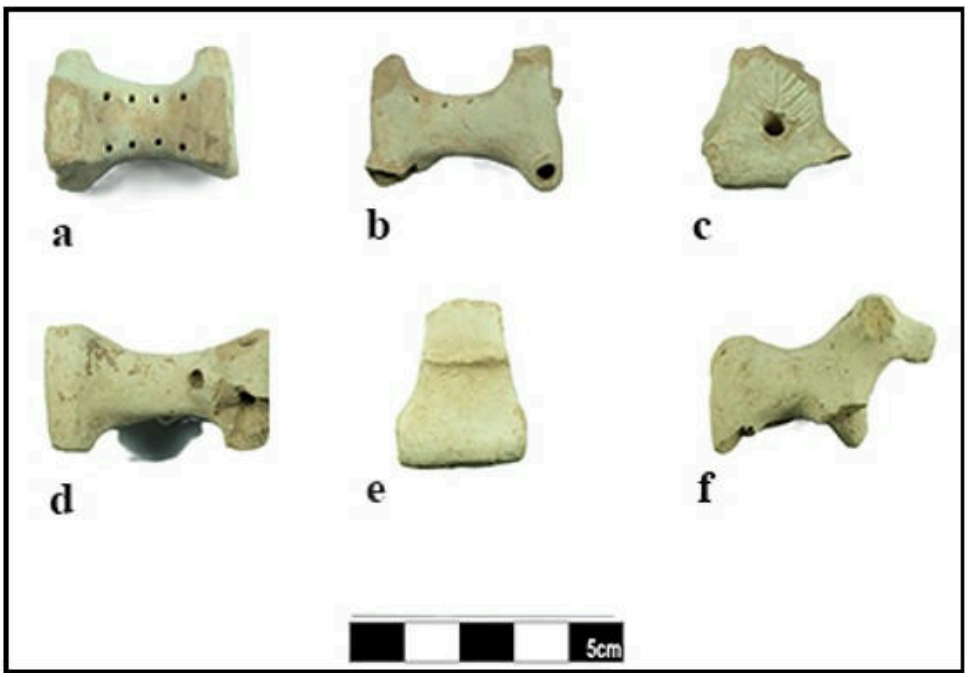
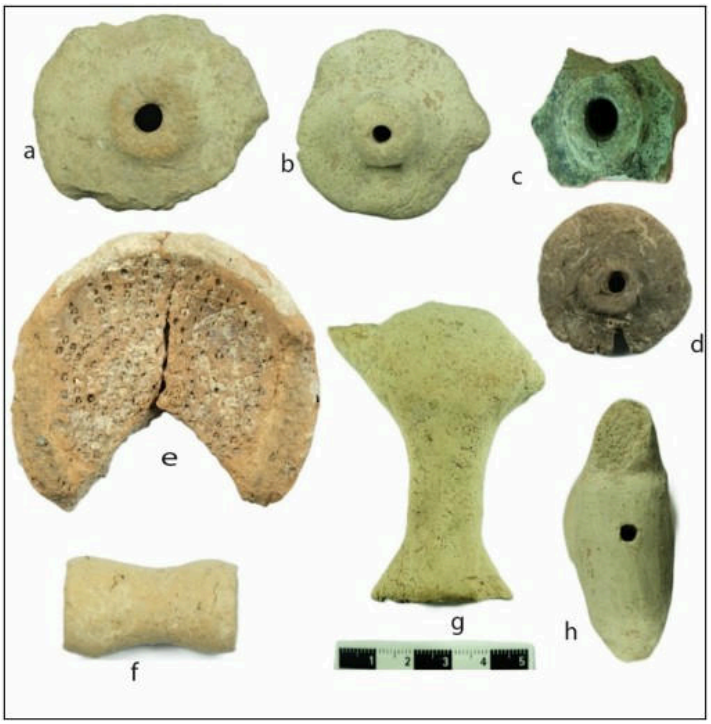


Figure 16
Small finds from the fill inside Rooms 1 and 2 in Building Level I, Trench BE17.



The zoomorphic figurine resembling a bull and the body of a chariot model were found in the same context. Very similar examples of the zoomorphic figurines found here are also known from the Upper Khabur sites, mentioned above, and terracotta cart and chariot models are frequently found at the archaeological sites of the Upper Khabur Region and Mesopotamia (Littauer & Crouwel 1979: 15-47; Bollweg,

1999). This nearly complete chariot model at Boğaziye is shaped like a zoomorphic figurine with the four legs terminating in a shaft for attaching the wheels. On the dorsal surface of the object, there are eight perforations that are arranged equidistantly in two parallel rows. These holes would have been used for inserting wooden sticks to represent the wooden chariot wagon. The front panel of this chariot model is decorated with an incised figure resembling a schematized tree. A hole is placed just below this figure, which would have held the rod that connects the body of the chariot to the animal figurines, drawing it. Similar chariot models are known from the Akkadian and post-Akkadian Period levels at Tell Brak (Oates, 2001a: 279-285, Fig. 487-488). A particularly similar example of a chariot model with an incised tree/plant motif on the front panel is found in the destruction level associated with the final phase of the Early Dynastic Period at Tell Brak (Emberling, Cheng et al. 1999: 13, Fig. 23d). Considering that the decorative tree/plant figures are a diagnostic trait of the Early Dynastic Period chariot models (Oates, 2001a: 281, Fig. 487), the close similarity between the chariot model from Tell Brak and the one recently found at Boğaziye provides us a chronological comparative framework. Terracotta chariot models from Tell Arbid, Tell Barri (Raccidi, 2012: 673-682; Makowski, 2016: Pl. XXXI), and Tell Chuera (Orthmann, Hempelmann et al. 1995: 127-128, Abb. 71-72) can also be considered in the same typological category as the Boğaziye chariot.

In the southeastern sector of the trench, mudbrick alignments were observed in the detritus and further excavations revealed walls that define a room context (Locus 2024BE17-7), labeled Room 1. This room measures 5 m north-south, and 2.10 m east-west (Figure 17). The mudbrick walls of the room are 70 cm wide. Mudbricks used in the construction of this wall vary in size, and three sizes could be recorded: 40x45 cm, 35x45 cm, and 30x45 cm.

Figure 17
Rooms 1, 2, and 3 in Trench BE17, Building Level I.

Rooms 1 and 2 are separated by a shared wall: the western wall of the eastern room, Room 1 (Locus 2024BE17-5) is the eastern wall of the western room, Room 2. This wall is built using an alternating full- and half-brick technique, traditionally known as “mother-and-lamb” bond (*analı-kuzulu*) in Anatolian vernacular architecture. In this wall, the full-sized mudbricks measure 50x40 cm and 40x40 cm, and the half-bricks measure 15x35 cm. The exposed length of the eastern wall of Room 1 is 4.70 m, but the wall continues south

into the southern balk of the trench. Room 2 (Locus 2024BE17-3) is a smaller context; its unearthed portion measures 2.30x2.30 m and it continues further south than the southern limit of the trench. Chipped stone tool fragments out of flint and chert were found in the fill of this room in addition to pottery sherds. The northern wall (Locus 2024BE17-6) of the room measures 4.50 m (Figure 17).

Excavations in this building complex continued and revealed the full extent of the walls of Room 1 except for the northern wall, which may have collapsed downslope due to its location on the eroding edge of the mound. Below the northern portion of this room, a pebble-paved floor was exposed, which belongs to an earlier building level. Adjacent to the northern wall of Room 2, another room was identified and labeled Room 3. The floor surface of this room was well-articulated (Figure 17). Many scattered ceramic sherds dateable to the 3rd millennium BC and a grinding stone were found in this room. The room fill was excavated down to the floor level, and it was understood that the ceramic sherds were used here as construction fill for creating a hard-packed floor. The northern wall of Room 3 has also eroded downslope like the northern wall of Room 1.

Trench Bf18

In Trench BF18 (a partial trench just on the edge of the high slope), investigations focused on an archaeological deposit ascribed to Building Level III. Excavations of this deposit revealed ceramic sherds dateable to the 3rd millennium BC and the scattered sherds from a pithos. Disarticulated human skeletal remains were found scattered around the pithos, which led us to identify these remains as a disturbed pithos grave. Other remains found in this area include pottery sherds dateable to the 3rd millennium BC, mixed animal bones, and two pendants, one made of seashell and the other made of a semi-precious stone (Figure 18), which further supports the interpretation of these remains as a mortuary context.

Figure 18
Perforated pendants made of shell (left) and stone (right) associated with the disturbed pithos burial in Trench BF18, Building Level III.

Walking surveys were carried out on the flat top of the mound and on its southeastern, slopes where cross-sections are exposed, and deposits are mixed. A double-mouthed bottle found in this mixed deposit constitutes a significant diagnostic find (Figure 19). At Tell Brak, such double-mouthed bottles (also called double-spouted bottles in literature) date to the final phase of the Early Dynastic (Emberling, Cheng et al.

1999: 13-14, Fig. 22a) and Akkadian Period (Matthews, Matthews & McDonald 1994: 184, Figure 7, 4; Oates, 2001a: 181-182, Fig. 453). The double-mouthed bottle at Boğaziye, which was found inside the mixed deposits of the collapsed section in an unstratified context, is identical to the examples unearthed at Tell Brak. Therefore, we can conclude that settlement levels contemporary with Tell Brak are present at Boğaziye.

Figure 19

Double-mouthed bottle found in mixed context on the southeastern slope.

Conclusions

The Upper Khabur Region stretches as a vast, fertile plain along the southern skirts of the Tur Abdin (*Kašiari*) Mountains, irrigated by the tributaries of the Khabur River. Archaeological surveys and excavations began in the region in the early 20th century and intensified over the last few decades. Results of systematic regional surveys and stratigraphic excavations at mound sites increased our understanding of the culture-historical settlement sequences and revealed the characteristics of chronological periods based on the settlement remains of significant regional centers. Stratified archaeological assemblages also established a firm understanding of the region's interactions with contemporaneous settlements in Southern Mesopotamia. Results from recent excavations conducted at Boğaziye Höyüğü (Mound) revealed settlement levels contemporaneous with the 3rd millennium settlements of the Upper Khabur Basin. Accordingly, the site appears as a regional center at the far northwestern end of the Upper Khabur Region.

Two seasons of excavations carried out in 2023 and 2024 on the Boğaziye Höyüğü unearthed material culture remains that are significant in demonstrating the site's connectedness with the cultural horizons of the Upper Khabur Basin. Excavation Trenches BE18-BE17 and BF18 were placed at the top of the tall cross-sections on the northern slope with the objectives of salvaging the exposed archaeological deposits in this severely destroyed portion of the mound and documenting the settlement sequence by stratigraphic excavations (Figure 20). Building levels documented by excavations in these trenches so far show that this area was inhabited during the 3rd millennium BC with the sturdiest remains dating to the mid-3rd millennium BC.

Figure 20
General view of Builing Levels I and II in Trenches BE18, BE17, and BF18.

In Trench BE18, the context which was identified as a tandoor house, adjacent installations, and small finds from surrounding areas belonging to Building Level I date to the end of the Early Dynastic Period (ED IIIb – EJ 3b = 2500/2450-2350 BC). In Trench BE18, the stone-built drainage canals and the adjacent southern building complex belong to Building Level II. Various finds from this building level including ceramics, a spouted vessel, fragments of terracotta chariot models, and terracotta wheels show characteristic traits of ED IIIa – EJ 3a and EB IVa periods (2600-2500/2450 BC). Mudbrick walls with stone foundations and pebble-packed floors constitute the architectural remains of this period. An infant burial of the Building Level II found below the tandoor house of the Building Level I is also dateable to this phase based on the ceramic vessels interred in the grave.

In Trench BF18, ceramics dateable to the 3rd millennium BC were found in a limited area during the clearing of a deposit that belongs to Building Level III.

In Trench BE17, the stratum identified as Building Level I yielded various small finds and ceramics dateable to the mid-3rd millennium BC. Especially, the zoomorphic terracotta figurines and fragments of terracotta cart and chariot models found in the surface soil of this trench exhibit the characteristics of this period. Terracotta objects found inside the mudbrick detritus of the Rooms 1 and 2 in Building Level I show close similarities to those found at contemporaneous settlements of the Upper Khabur Region and Mesopotamia. These objects include four terracotta wheels, one zoomorphic figurine, one chariot model, a pedestalled bird figurine, and a cylindrical object (Figures 9-10). Among these, especially the chariot models and the incised decoration on the front panel of the body are nearly identical to the models known from Early Dynastic sites. Moreover, ceramics, anthropomorphic and zoomorphic figurines, and chariot models found at Boğaziye Höyüğü bear close similarities to those found in stratified contexts at many excavated

sites in the Syrian sector of the Upper Khabur Valley. In this regard, the Boğaziye Höyüğü appears as a significant site with far-reaching connections and an important regional center at the western extent of the cultural horizons of the Upper Khabur Basin. In the light of the archaeological evidence from our excavation trenches (Figure 17), we may conclude that Boğaziye Höyüğü was settled since the early 3rd millennium BC by communities with cultural ties to the excavated settlements of the Upper Khabur Basin like Tell Brak / Nagar, Tell Beydar / Nabada, Tell Mozan / Urkeş, Tell Chagar Bazar, Tell Arbid, Tell Barri / Kahat, Tell Hamidiya, Tell Hamoukar, Tell Leilan / Šubat-enlil-Šehna, and Tell Fekheriye.

Abbreviations

RGTC 6-1: G.F. Del Monte-J. Tischler 1978, Die Orts-und Gewassernamen der hethitische texte: Répertoire Géograhique des Textes Cunéiformes, 6/1. Wiesbaden, DR. Ludwig Reichert Verlag.

RGTC 6-2: G.F. Del Monte 1992, Die Orts-und Gewassernamen der hethitische texte: Répertoire Géograhique des Textes Cunéiformes, 6/2. Wiesbaden, DR. Ludwig Reichert Verlag.

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Author Details

Bülent Genç
[1] Mardin Artuklu University, Faculty of Letters, Department of Archaeology, Mardin, Türkiye
0009-0007-0781-8381 bulendgenc@hotmail.com

Muaviye Şahin
[2] Republic of Türkiye Ministry of Culture and Tourism, Mardin Museum, Mardin, Türkiye
0009-0007-9245-1077

Senem Işık
[3] Istanbul University, Institute of Social Sciences, Postgraduate Program in Archaeology, Istanbul, Türkiye
0000-0002-3708-3159

Ayda Abakay
[3] Istanbul University, Institute of Social Sciences, Postgraduate Program in Archaeology, Istanbul, Türkiye
0000-0001-8971-2589

Şemsihan Kaya
[4] Istanbul University, Faculty of Letters, Department of Ancient History, Istanbul, Türkiye
0000-0002-3761-7616

Erkan Konyar
Istanbul University, Faculty of Letters, Department of Ancient History, Istanbul, Türkiye
0000-0002-1256-5960

Armağan Tan
Istanbul University, Faculty of Letters, Department of Ancient History, Istanbul, Türkiye
0000-0003-1598-5706

References

Bartl, P. V., & Bonatz, D. (2013). Across Assyria's northern frontier: Tell Fekheriye at the end of the Late Bronze Age. In K. A. Yener (Ed.), *Across the border: Late Bronze-Iron Age relations between Syria and Anatolia. Proceedings of a symposium held at the Research Center of Anatolian Studies, Koç University, Istanbul, May 31–June 1, 2010* (pp. 263–292). Peeters.

Bieliński, P. (1997). Preliminary report on the first season of Syro-Polish excavations on Tell Arbid. *Polish Archaeology in the Mediterranean*, *8*, 203–211.

Bieliński, P. (2004). Tell Arbid: The 2003 Campaign of Polish-Syrian Excavations Preliminary Report. *Polish Archaeology in the Mediterranean, 15*, 335-353.

Bieliński, P. (2007). Tell Arbid: Report on the Syrian-Polish explorations in 2005: The tenth season. *Polish Archaeology in the Mediterranean*, *17*, 451–471.

Bollweg, J. (1999). *Vorderasiatische Wagentypen: Im Spiegel der Terracottaplastik bis zur Altbabylonischen Zeit*. Universitätsverlag / Vandenhoeck & Ruprecht.

Bretschneider, J., & Jans, G. (1995). Ausgrabungen in der Kranzhügelstadt Tell Beydar (1992–94). In J. Bretschneider & A. Dietrich (Eds.), *Beydar: Mitteilungen über die Erforschung eines urbanen Zentrums im Norden Alt-Syriens* (pp. 5–27). Münster.

Buccellati, G., & Kelly-Buccellati, M. (1988). *Mozan 1: The soundings of the first two seasons*. Undena Publications.

Crouwel, J. H. (2019). Wheeled vehicles and their draught animals in the ancient Near East—An update. In P. Raulwing, K. M. Linduff, & J. H. Crouwel (Eds.), *Equids and wheeled vehicles in the ancient world: Essays in memory of Mary A. Littauer* (pp. 29–48). BAR Publishing.

Davies, T., Fry, H., Wilson, A., Palmisano, A., Altaweel, M., & Radner, K. (2014). Application of an entropy maximizing and dynamics model for understanding settlement structure: The Khabur Triangle in the Middle Bronze and Iron Ages. *Journal of Archaeological Science*, *43*, 141–154.

Eichler, S., & Wäfler, M. (1985). *Tall al-Hamidiya 1: Vorbericht 1984*. Vandenhoeck & Ruprecht / Universitätsverlag Freiburg Schweiz.

Emberling, G., Cheng J., Larsen, T. E., Pittman, H., Skuldboel, T. B. B., Weber, J., & Wright, H. T. (1999). Excavations at Tell Brak 1998: Preliminary report. *Iraq*, *61*, 1–41.

Erkanal, H. (1983). 1982 Gırnavaz kazıları. *Kazı Sonuçları Toplantısı*, *5*, 131–135.

Genç, B., & MacGinnis, J. (2023). *The Assyrian rock relief at Yağmur (Evrihan) in the Tur Abdin*. Archaeopress Archaeology.

Gibson, M., al-Azm, A., Reichel, C., Quntar, S., Franke, J. A., Khalidi, L., Hritz, C., Altaweel, M., Coyle, C., Colantoni, C., Tenney, J., Abdul Aziz, G., & Hartnell, T. (2002). Hamoukar: A summary of three seasons of excavation. *Akkadica*, *123*, 11–34.

Grayson, A. K. (1987). *Assyrian rulers of the third and second millennia BC (to 1115 BC)*. University of Toronto Press.

Kelly-Buccellati, M. (1988). Artifacts from the excavations. In G. Buccellati & M. Kelly-Buccellati (Eds.), *Mozan 1: The soundings of the first two seasons* (pp. 65–81). Undena Publications.

Kelly-Buccellati, M. (1990). Three seasons of excavation at Tell Mozan. In S. Eichler, M. Wäfler, & D. Warburton (Eds.), *Tall al-Hamidiya 2* (pp. 119–132). Universitätsverlag.

Ławecka, D. (2008). Heating places and ovens of the 3rd millennium BC in sector SD on Tell Arbid. *Polish Archaeology in the Mediterranean*, *18*, 562–569.

Littauer, M. A., & Crouwel, J. H. (1979). *Wheeled vehicles and ridden animals in the ancient Near East*. Brill.

Liverani, M. (1992). *Studies on the annals of Ashurnasirpal II 2: Topographical analysis*. Università di Roma "La Sapienza".

Makowski, M. (2016). *Tell Arbid I: Clay figurines*. Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences.

Mallowan, M. E. L. (1936). The excavations at Tall Chagar Bazar, and an archaeological survey of the Habur region, 1934–5. *Iraq*, *3*(1), 1–59, 61–85.

Mallowan, M. E. L. (1937). The excavations at Tall Chagar Bazar and an archaeological survey of the Habur region: Second campaign, 1936. *Iraq*, *4*(2), 91–177.

Mallowan, M. E. L. (1947). Excavations at Brak and Chagar Bazar. *Iraq*, *9*, 1–87, 89–259, i–iv.

Matthews, R. (2003). Chiefdom on the northern plains: Early third-millennium investigations—the Ninevite 5 period. In R. Matthews (Ed.), *Excavations at Tell Brak, Vol. 4: Exploring an Upper Mesopotamian regional centre, 1994–1996* (pp. 97–134). McDonald Institute for Archaeological Research.

Matthews, R. J., Matthews, W., & McDonald, H. (1994). Excavations at Tell Brak, 1994. *Iraq*, *56*, 177–194.

McDonald, H. (2001). Third-millennium clay objects. In D. Oates, J. Oates, & H. McDonald (Eds.), *Excavations at Tell Brak, Vol. 2: Nagar in the third millennium BC* (pp. 269–278). McDonald Institute for Archaeological Research.

Oates, D., Oates, J., & McDonald, H. (1997). The excavations. In D. Oates, J. Oates, & H. McDonald (Eds.), *Excavations at Tell Brak, Vol. 1: The Mitanni and Old Babylonian periods* (pp. 1–37). British School of Archaeology in Iraq.

Oates, J. (2001a). Equid figurines and 'chariot' models. In D. Oates, J. Oates, & H. McDonald (Eds.), *Excavations at Tell Brak, Vol. 2: Nagar in the third millennium BC* (pp. 279–293). McDonald Institute for Archaeological Research.

Oates, J. (2001b). The third-millennium pottery. In D. Oates, J. Oates, & H. McDonald (Eds.), *Excavations at Tell Brak, Vol. 2: Nagar in the third millennium BC* (pp. 151–194). McDonald Institute for Archaeological Research.

Oppenheim, B. M. von. (1933). *Tell Halaf: A new culture in oldest Mesopotamia*. G. P. Putnam.

Orthmann, W., Hempelmann, R., Klein, H., Kühne, C., Novak, M., Pruß, A., Vila, E., Weicken, H.-M., & Wener, A. (1995). *Ausgrabungen in Tell Chuēra in Nordost-Syrien I: Vorbericht über die Grabungskampagnen 1986 bis 1992*. Saarbrücker Druckerei und Verlag.

Pecorella, P. E. (1982). *Tell Barri / Kaḫat / 1: Relazione preliminare sulle campagne 1980 e 1981 a Tell Barri/Kaḫat nel bacino del Ḫabur*. CNR, Istituto per gli Studi Micenei ed Egeo-Anatolici.

Pecorella, P. E. (2003). *Tell Barri/Kahat: La campagna del 2000: Relazione preliminare*. Firenze University Press.

Pecorella, P. E., & Benoit, R. P. (2005). *Tell Barri/Kahat: La campagna del 2002: Relazione preliminare*. Firenze University Press.

Pfälzner, P., & Dohmann-Pfälzner, H. (2014). Die räumliche Struktur der zentralen Oberstadt von Tall Mozan. In A. Bianchi, H. Dohmann-Pfälzner, E. Geith, P. Pfälzner, & A. Wissing (Eds.), *Die Architektur und Stratigraphie der zentralen Oberstadt von Tall Mozan/ Urkeš* (Vol. 1, pp. 27–75). Harrassowitz Verlag.

Raccidi, M. (2012). Chariot terracotta models from Tell Arbid and Tell Barri: A typological and functional analysis. In R. Matthews & J. Curtis (Eds.), *Proceedings of the 7th International Congress on the Archaeology of the Ancient Near East, 12 April – 16 April 2010* (Vol. 3, pp. 673–682). Harrassowitz Verlag.

Radner, K. (2006). How to reach the Upper Tigris: The Route Through the Tur Abdin. *State Archives of Assyria Bulletin XV*, 273-305.

Ristvet, L., & Weiss, H. (2012). Subat-Enlil. B. Archäologisch. *Reallexikon der Assyriologie und Vorderasiatischen Archäologie*, *13*(3/4), 229–236.

Ur, J. A. (2010). *Tell Hamoukar. Volume 1: Urbanism and cultural landscapes in northeastern Syria: The Tell Hamoukar survey 1999–2001*. Oriental Institute of the University of Chicago.

Wäfler, M. (1990). The excavations at Tell Hamidi. In S. Eichler, M. Wäfler, & D. Warburton (Eds.), *Tall al-Ḥamīdīya 2: Symposion – Recent excavations in the Upper Khabur region* (pp. 219–228). Vandenhoeck & Ruprecht / Universitätsverlag Freiburg Schweiz.

Weiss, H. (1985). Tell Leilan on the Habur Plains of Syria. *The Biblical Archaeologist*, *48*(1), 5–34.

Weiss, H. (1991). Archaeology in Syria. *American Journal of Archaeology*, *95*(4), 683–740.

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Research Article

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Echoes of Loss: Socio-Cultural Interpretation of the Hand Relief with a Missing Finger on a Burial Pithos from Küllüoba

Sinem Üstün Türkteki [1]

[1] Bilecik Şeyh Edebali University, Department of Archaeology, Faculty of Humanities and Social Sciences, Bilecik, Türkiye

Abstract The meanings attributed to the hand motif, which has been used as a symbol since prehistoric times, are extremely diverse. This diversity is likely due to the importance of the hand as a limb in the human body. The sensitivity of the fingertips laid the groundwork for the active use of the hand, enabling humans to invent tools and facilitating both cultural and technological advancements in settlements. The hand motif/stencil, which first appeared in parietal art, can also be observed on pottery in subsequent periods. The motif discussed in this article belongs to a four-fingered hand depicted on a pithos unearthed in the Early Bronze Age I Cemetery at Küllüoba Höyük. The fact that the hand on the pithos has four fingers, that the pithos was used as a burial container, and that the remains of a child's burial were found inside elevates this motif beyond mere decoration, making it open to various interpretations. In the article, it is argued, based on the example from Küllüoba and compared with similar examples from Gargas Cave, that a deliberate amputation might have been performed. The pithos, with its motif, the findings inside, and its context, forms a unique combination and, for now, represents the earliest known example in the field of archaeology in terms of both its archaeological significance and the meanings attributed to it.

Keywords Parietal Art · Early Bronze Age · Cemetery · Pithoi · Hand Stencil · Mourn.

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Corresponding author: Sinem Üstün Türkteki sturkteki@gmail.com

Introduction

Used throughout history to express various symbolic meanings, the hand is one of the human body's most functional and mobile limbs. As the first instruments used by humankind and more involved than other organs in various actions necessary for survival such as grasping, holding, climbing, pulling, hitting, object-shaping, and tool-making, hands have also taken on important tasks like verbal and non-verbal communication since prehistoric times.

The sensitivity of the fingertips also plays a crucial role in the active use of these highly specialized limbs. Equipped with approximately six thousand nerve endings per square centimetre (Molcho, 2000: 163-164), the fingers can identify the objects they touch, just as the eyes do by sight (Ersoy, 2007: 356-357). The area occupied by the cells that control the thumbs and forefingers in the human brain is equal in size to the area associated with the head and all sensory organs, and ten times larger than the area associated with the feet (Baltaş & Baltaş 2001: 53-54). The hand's importance stems from its highly sensitive capability of movement and sensation and the rich interactive connections between the hand and the brain. When humans began to walk upright, it freed their hands, which in turn enhanced their functions, and parallel to the freedom of the body, the brain also became free (Kaşıkçı, 2007: 55). Through the synergistic interaction between hands and brain, humans who initiated tool-making with their hands began to assert dominance over nature and advance productive capacities. The co-evolution of tool-making and fire played a pivotal role in shaping the evolutionary trajectory by fostering the development of complex social structures and enhancing cognitive abilities (Ko, 2016: 16). The interplay between fire utilization and tool-making profoundly influenced social dynamics and intellectual capacities, marking a critical juncture in human evolutionary history. Accordingly, social cooperation, bipedal locomotion, neural reorganization, and the emergence of language constitute fundamental processes in the evolutionary advancement of humans (Potts, 1998: 2).

Considering that manual dexterity developed in parallel with the biological development of the brain, the hands, as they produced the ideas and imaginings of the human brain, must also have opened new horizons of thought for the brain (Baltaş & Baltaş 2001: 54). For example, it is known that tool making is not merely an action, but rather the outcome of a coordinated act and, more importantly, a design process between the hands and the brain (Özdemir, 2014: 10).

From the very beginning, the means by which humans have expressed themselves has undergone significant changes and diversification. One of these, perhaps the most common way of expressing oneself, is to leave a personal mark on the world. Since the earliest times, as a sign of their existence, human beings have made their presence known by drawing pictures first on the walls of caves and then on the walls of the structures in which they resided or which they regarded as sacred.

Hand stencils are one of the oldest motifs of parietal art (i.e., all non-portable prehistoric art created on cave walls, floors, ceilings, and hollowed rocks) identified to date (Zhang et al. 2021: 2506). These painted hand stencils, which can also be described as the oldest form of art in human history, must have been used among people as a means of communication, as a signature accentuating the thoughts of the individual in understanding both oneself and the outside world. At the same time, these hand images must have been used to record oneself, communicate with the other world, or perform some kind of ritual (Dobrez, 2013: 298, 310).

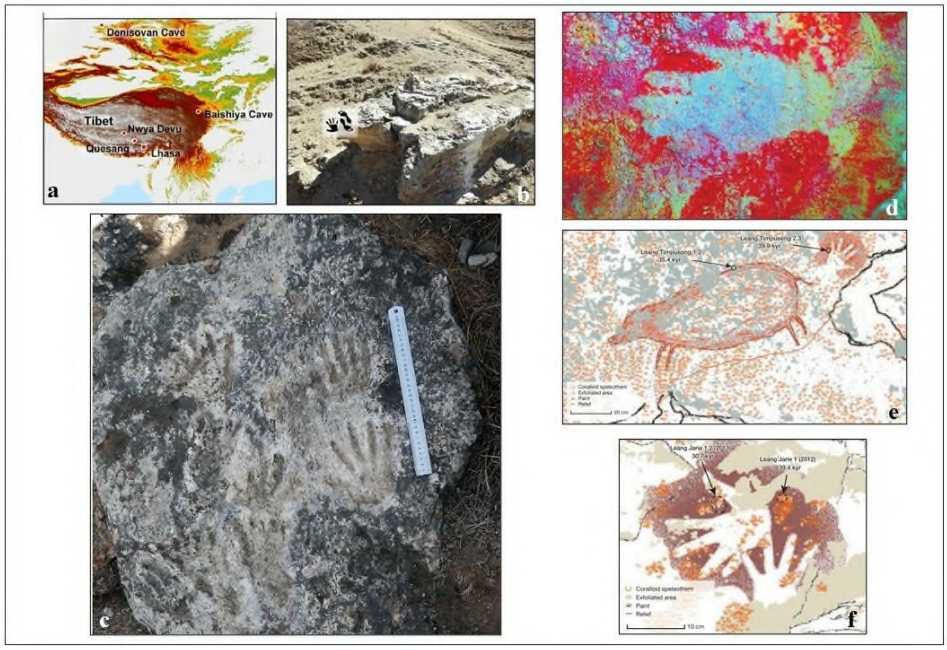
The earliest hominin hand impressions were found on travertine near the village of Quesang in Tibet. The lithified traces of five hands and five feet were imprinted on the surface of a travertine unit. The handprints were thought to belong to a 12-year-old child. These impressions, also the earliest examples of parietal art, were estimated to date between 169 and 226 ka BP (Zhang et al. 2021: 2506, Figure 1) (Figure 1a-b-c).

One of the other oldest examples was discovered in the cave of Maltravieso (Extremadura) in Spain. Using uranium-thorium (U-Th) dating, the hand stencil on the cave wall was dated to 66.7 ka (Hoffmann et al. 2018: 913, Figure 2) (Figure 1d).

On the island of Sulawesi in Indonesia, there are 300 different limestone caves in the region known as Maros-Pangkep. The hand stencils discovered in some of these sites are among the earliest known examples of prehistoric art (Brumm, 2021: 1). Based on uranium series (U-series) isotopic analyses, the identified hand stencils were dated between 39.9 and 17.4 ka. The analyses showed that the hand stencils in the Leang Timpuseng Cave, one of the sites in this region, were dated to at least 39.9 ka. The next oldest hand stencil was found in Leang Jarie, and dated to at least 39.4 ka (Aubert, 2014: 225-226, Figure 2/a-b). Also, in the same region, at Gua Jing, two distinct hand stencils were analysed for dating. These yielded minimum and maximum ages of 22.9 and 27.2 ka, respectively. Therefore, considering that the minimum age of the hand stencil found in Leang Timpuseng is 39.9 ka, it can be inferred that an artistic culture with a duration of at least 13 ka existed in the karsts of Maros-Pangkep (Aubert, 2014: 225,Figure 2c, Figure 3b) (Figure 1e-f).

Figure 1

The impressions Found in Tibet are the Earliest Examples of Parietal Art (a-b-c-); Another of the Oldest Examples was Discovered in the Maltravieso Cave in Extremadura, Spain. (d); The Next Oldest Hand Stencil was Found in the Karsts of Maros-Pangkep (e-f).



Source: Zhang et al. 2021: 2506, Fig. 1-a,b,c; Hoffmann et al. 2018: 913, Fig. 2; Aubert, 2014: 225, Fig. 2c, 3b;

Currently, 56 caves in Europe are known to bear human hand motifs. These caves contain a total of 769 hands, of which 90% are negative images or stencils, 9% are positive images or imprints, and 1% are mixed representations. The majority of the caves with hand motifs are located in two main areas, northern Spain and southern France. Of these caves, 30 are in France, 23 in Spain, 1 in Gibraltar, and 2 in Italy (Fernandez-Navarro et al. 2022: 3).

The most remarkable caves with hand stencils display hands with missing phalanges, i.e., finger bones. These caves are concentrated mostly in France and, secondly, in Spain. Hand stencils with missing phalanges or fingers were discovered in the caves in Grotte de Gargas, Chauvet, Cosquer, Tibiran, Grand Grotte, Margot, and Erberua in France, and Altamira, Maltravieso, and Fuente del Trucho in Spain (Etxepare & Irurtzun 2021: 1).

Among the most noteworthy of these caves is the Grotte de Gargas in Hautes-Pyrénées in France. The cave, which contains many images of hands with missing phalanges, yielded a total of 231 hand stencils. Of these, 114 were missing at least one finger segment, 10 were complete, and 107 were insufficiently preserved to determine whether the images were complete (McCauley et al. 2018: 316) (Figure 2) (Etxepare-Irurtzun, 2021: Figure 1).

Figure 2

Some Examples of the Hand Stencils with Missing Fingers from Grotte de Gargas.

Source: Etxepare-Irurtzun, 2021: Fig. 1

The Earliest Examples of Amputation

It is common for human skeletons found during archaeological excavations to have missing bones or limbs, mostly due to taphonomic factors; however, it is relatively rare for examinations of skeletal remains to provide proof of amputation (Fernandesa et al. 2017: 63). The amputation of an extremity, i.e., a distal or terminal body part, is one of the oldest known surgical procedures (Phillips et al. 2021: 2).

The earliest evidence of amputation to date comes from the Liang Tebo Cave in Kalimantan, Indonesia. The remodelled bones, and the evidence of healing on the left distal tibia and fibular shafts of the skeleton (TB1) of a young adult of approximately 19 or 20 years of age with a missing left lower leg indicate that the absent limb was removed through a deliberate surgical amputation. The trauma pattern on the lower leg is not consistent with clinical findings of non-surgical amputation; the marks are clean oblique cuts, and the individual survived for an additional 6 to 9 years following the amputation. The skeleton was dated to the late Pleistocene, between 31 and 30 ka. This makes it the first buried individual ever known to have undergone surgical amputation (Maloney et al. 2022: 548-549, Figure 3 - Figure 4) (Figure 3a).

Figure 3

The Earliest Evidence of Amputation from the Liang Tebo Cave in Kalimantan, Indonesia (a); The Neolithic Man with Partially Healed Amputation in Site of Buthiers-Boulancourt, France (b).

Source: Maloney et al. 2022: 548-549, Fig. 3-4, Illustration by Jose Garcia, Buquet & Marcon et al. 2007: 5-6

At the Neolithic site of Buthiers-Boulancourt, located near Paris, France, the well-preserved remains of an elderly man, dated to 5000 years ago, have been unearthed. The distal part of the left humerus of the almost complete skeleton is believed to indicate a partially healed surgical amputation. The distinguishing feature of this buried individual is the position of the left humerus, i.e., away from the ribs, and the total absence of the bones of the left forearm, wrist, and hand. The small protuberances on the bone, and the newly formed layer of cortical bone tissue detected during the radiological and microtomographic examination that is overlying the original cortical bone, as well as the results of the scanner imagery and the 3D reconstruction, all together suggest the presence of a partially healed amputation (Buquet & Marcon et al. 2007: 5-6) (Figure 3b).

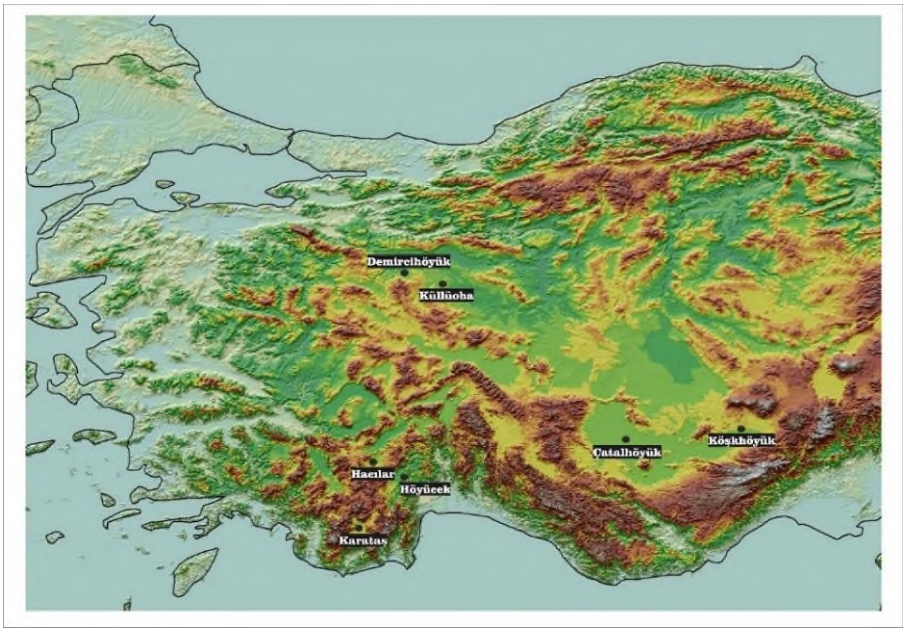
Although skeletal remains of individuals who were subjected to amputation have been unearthed in Indonesia, France, England, Portugal, Bulgaria, South Africa and Egypt (Phillips et al. 2021, 2), no similar examples have been discovered in Anatolia.

General Introduction to Küllüoba and Its Cemetery Area

The pithos with a hand motif discussed in this article is from Küllüoba Höyük, which is located in the village of Yenikent in the Seyitgazi district of Eskişehir. The mound measures 350 × 150 m and rises 10 m above the plain. It has two barely visible apexes: the eastern and the western. It is situated on a fertile plain west of the Upper Sakarya River Basin, along an important natural transportation route that connects Central Anatolia to the Marmara region, the Northern Aegean and the Balkans. Excavations at the site, which were started by Prof. Dr. Turan Efe in 1996 and have continued under the direction of Prof. Dr. Murat Türkteki since 2019, have shown that the mound was continuously inhabited for at least 1300 years, between around 3200 and 1900 BC (Üstün-Türkteki, 2020: 10) (Figure 4), (Table 1).

Figure 4

Settlements Mentioned in the Text.



Source: Üstün-Türkteki, 2020: 10

Table 1

Küllüoba Chronogical Chart (Üstün-Türkteki, 2020: 10).

DATES	KÜLLÜOBA		
	Eastern Cone	Western Cone	New Stratification
	Periods		
2000	IIA		
	IIB		
	IIC		EBA IIIb
	IID		
	IIE		
	IIIA		
2250	IIIB		EBA IIIa
	IIIC		
2500	IVA		EBA IIc
	IVB		
	IVC		EBA IIb
	IVD		
	IVE	1	EBA IIa
	IVF		
2750	VA	2	EBA Ib
	VB	3	
		4	EBA Ia
	VC	5	
3000	VD	6	

The cemetery area, where the pithos bearing a hand motif with missing fingers was found, was discovered in 2019. Following this discovery, the fieldwork focused more on the northeastern slope of the mound (Figure 5).

Figure 5
The Cemetery Area in Küllüoba

Source: Küllüoba Archive-Courtesy of Prof. Dr. Murat Türkteki

Together with a team of faculty members and students from the Anthropology Department of Hacettepe University, we documented 160 individuals from 126 graves discovered in Grids AJ 13, AK 13, and AJ 11. Morphological examinations and DNA analyses of the skeletal remains of these 160 individuals are still being carried out at the Hacettepe Skeletal Biology Laboratory (Husbio_L) in Hacettepe University.

To date, only four radiocarbon analyses have been performed on these samples. Based on these, the burials date between 3200 and 2900 BC. The area is the earliest cemetery so far in Western Anatolia, which was located outside a settlement. With a few exceptions, the graves in the cemetery were predominantly oriented northwest to southeast, especially in the case of the pithos burials, with the mouth to the northwest and the base to the southeast. Four main types of burials were identified in the cemetery: pithoi or pseudo-pithoi burials, which constitute the majority of the graves, as well as stone cists, mudbrick cists, and simple earthen graves (Türkteki et al. 2022). All these diverse burial practices could indicate the coexistence of different cultures or be related to socio-economic conditions. Also, no regularities were found in the orientation of the skeletons. While the skeletons unearthed in the cemetery were buried in the 'hocker position', they were all *inhumations,* mostly of single individuals (Figure 6).

Figure 6
Burial Practises in Cemetery Area

Source: Küllüoba Archive-Courtesy of Prof. Dr. Murat Türkteki

The factors determining status in archaeological burials are based on various elements such as grave goods, grave type, gender, age, and burial placement. These factors must be evaluated together to understand the individual's place and significance within the social structure. Since DNA studies at Küllüoba have not yet been completed, detailed interpretations regarding connections such as gender, age, diseases, and diets cannot be made at this stage. Nevertheless, the archaeological finds recovered from the graves, as well as the diversity in burial and funerary traditions, hold significant importance in identifying the early settlers of Küllüoba. It has been observed that individuals were buried with personal belongings, and grave goods varied according to their status, such as the form and types of graves.

At Küllüoba, where burial traditions such as simple earth graves, pithos burials, mudbrick cists, and stone cists have been identified, some of these graves contained findings such as foot-shaped stamps, objects that could be earplugs or piercings, hair rings, and pins. Considering the conditions of the period, the inclusion of these rarely used items in the graves provides insight into the status of the buried individuals.

Another example of a status indicator identified at Küllüoba is the Stone Cist Grave and the data associated with the individuals interred within it. This grave, which differs from others in both burial style and dietary patterns, was constructed by placing flat limestone slabs vertically. Two individuals, an adult male and a child approximately 13-14 years old, were buried together in this grave, with evidence of fatal blunt weapon injuries to their skulls. It appears that these individuals, who were killed before burial, were carefully placed within the grave.

The large, flat limestone slabs used to construct the stone cist grave were not commonly utilized in the architecture of the period, where smaller foundation stones were typically preferred. The relative difficulty of obtaining such materials suggests that this grave reflects a status distinct from others. Despite being killed, the individuals were not discarded or left carelessly but were instead buried with care. The simultaneous burial of these two individuals, with one being significantly younger than the other, may indicate a familial relationship between them. If this is the case, the younger individual's death might have been intended to prevent the continuation of a lineage or to preempt potential retaliation (Figure 6). Additionally, the robust skeletal structure and muscle attachment sites of both individuals, along with their bone composition, suggest a protein-rich diet, differing significantly from other examples identified at the site. All of these

findings indicate that these two individuals held a distinct position within the settlement's social hierarchy (Türkteki-Erdal, 2024: 409-411).

Pithos with a Hand with a Missing Finger Motif from Küllüoba and Similarities

The pithos *inhumation* burial, numbered G61 in Küllüoba's cemetery area, was unearthed from grids 6,40-7,10/3,90-4,60 at levels (K)30,32/(G)930,30. The upper portion of the jar is missing due to destruction caused by agricultural erosion. The base, however, is intact, and the preserved part of the body, although fragmentary, still shows the original form of the vessel. The pithos has a globular body on which there are two nipple decorations placed between the neck and the body, and in relief, a hand with a missing finger is attached to an arm slightly bent at the elbow. The hand motif, together with the arm, extends towards the belly of the vessel (Figure 7). The burial yielded several bone fragments, a *premolar* and an *incisor*. Following the examinations carried out by anthropologists on these bones and teeth, it was concluded a child between the ages of three and five was placed inside the pithos and subsequently buried (Figure 8).

Figure 7

Pithos with Hand Motif

Source: Küllüoba Archive-Courtesy of Prof. Dr. Murat Türkteki

Although anthropomorphic vessels and vessels with hand motifs have existed since the Neolithic period, the pithos in question, which was used as a burial and had a hand motif with a missing finger, was discovered for the very first time in Küllüoba and can, therefore, be considered as a unique find. The literature review revealed that no similar findings have been documented to date.

As mentioned, hand motifs with missing fingers or phalanges were identified in caves, particularly from the Upper Palaeolithic period. In the Neolithic and Chalcolithic periods, although hand motifs were relatively

common, especially on pottery, there are also other examples such as wall prints (Mellaart, 1962: Pl. 12) and examples where the hand itself was used as a seal impression (Mellaart, 1963: 98, Pl. 41/4-5).

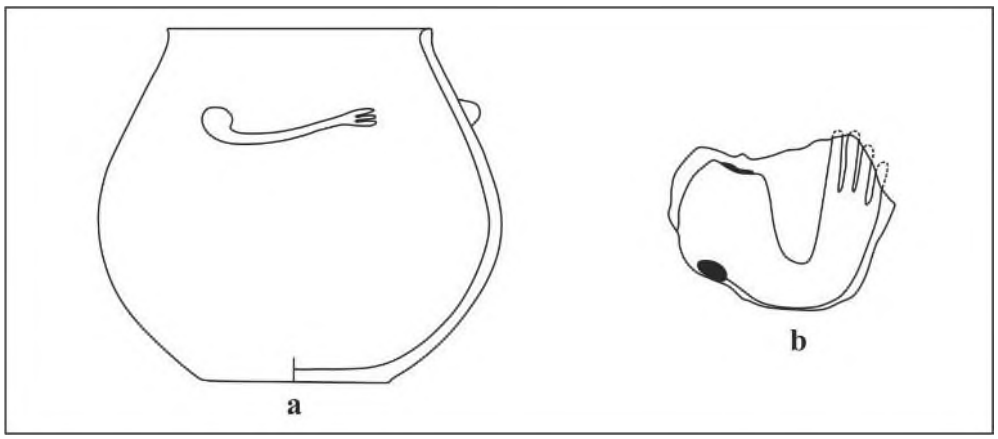
Figure 8

Reconstruction of a Pithos with Hand Motifs and Child Skeleton Inside

Source: 3D drawings by Murat Afşar

Figure 9

Relief Vessels with Missing Finger Motifs from Hacılar



Source: Mellaart, 1970a: 107; Mellaart, 1970b: Fig. 56/4; (b) Mellaart,1970a: 107; Mellaart, 1970b: Fig. 57/4.

Although from different periods, two motifs in relief that bear a close resemblance to the specimen from Küllüoba were found in Hacılar Höyük. One of these vessels, both from Hacılar Level VI (the last phase of the Late Neolithic), is decorated with an outstretched arm ending in a hand motif with two missing fingers

(Mellaart,1970a: 107; Mellaart, 1970b: Fig. 56/4) (Figure 9a). The other one has a relief motif that depicts an arm, of which the upper part functions as a tubular lug that bends at the elbow and ends in a hand with one missing finger (Mellaart, 1970a: 107; Mellaart, 1970b: Fig. 57/4) (Figure 9b). Other hand motifs with missing fingers attached to an arm, as seen in the Küllüoba example, which is occasionally bent at the elbow, have also been unearthed in Hacılar as painted decoration (Mellaart, 1970a: 115,117,119; Mellaart, 1970b: Fig. 73/4, 78/27, 28, 82/2, 85/28,31, 97/1) (Figure 10). Hand motifs with missing fingers without the arm detail are also seen in the decoration repertoire of Hacılar (Mellaart, 1970a: 111, 113, 117, 119; Mellaart, 1970b: Fig. 62/20, 69/7, 10 11, 13, 73/1, 5, 11, 88/ 7, 89/15, 93/5, 95/6, 7, 21, 96/6, 16, 143/1) (Figure 11). The above-mentioned painted specimens belong to the Early Chalcolithic period.

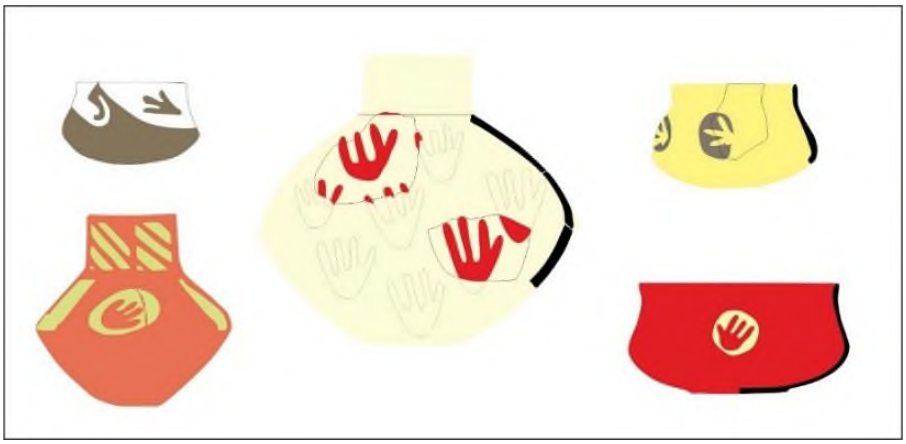
Figure 10

Painted Hand Motifs with Missing Fingers from Hacılar

Source: Mellaart, 1970a: 115,117,119; Mellaart, 1970b: Fig. 73/4, 78/27, 28, 82/2, 85/28,31, 97/1

Figure 11

Hand Motifs with Missing Fingers without the Arm Detail from Hacılar



Source: Mellaart, 1970a: 111, 113, 117, 119; Mellaart, 1970b: Fig. 62/20, 69/7, 10 11, 13, 73/1, 5, 11, 88/ 7, 89/15, 93/5, 95/6, 7, 21, 96/6, 16, 143/1

In Höyücek, another settlement in close vicinity of Hacılar Höyük, a painted jar from the Sanctuaries Phase (Late Neolithic Period) bears a hand motif with four fingers attached to an arm (Duru & Umurtak, 2005: Lev. 83/2) (Figure 12b).

Another similar motif was recovered from Layer III of Köşk Höyük (Late Neolithic Period). The motif in relief on the anthropomorphic vessel depicts arms extending towards the vessel's abdomen and hands with four fingers (Öztan, 2012: 39, Fig. 33) (Figure 12a).

A few similar specimens were also recovered from the First Shrine of Area E in Level VI, 8 in Çatalhöyük, on which hands with one missing finger were stencilled on bull's heads and walls (Mellaart, 1962: 69, 68, Figure 13/1, 6, 9, Pl. 12/ a, c) (Figure 12c-d-e).

Figure 12

Anthropomorphic Vessel from Köşk Höyük Features Arms Extending to the Body Ending in a Four-Fingered Hand (a); The Painted Jar from Höyücek Features a Hand Motif with Four Fingers Attached to an Arm (b) Hands with One Missing Finger were Stenciled on Bull's Heads and Walls From Çatalhötük (c, d, e).

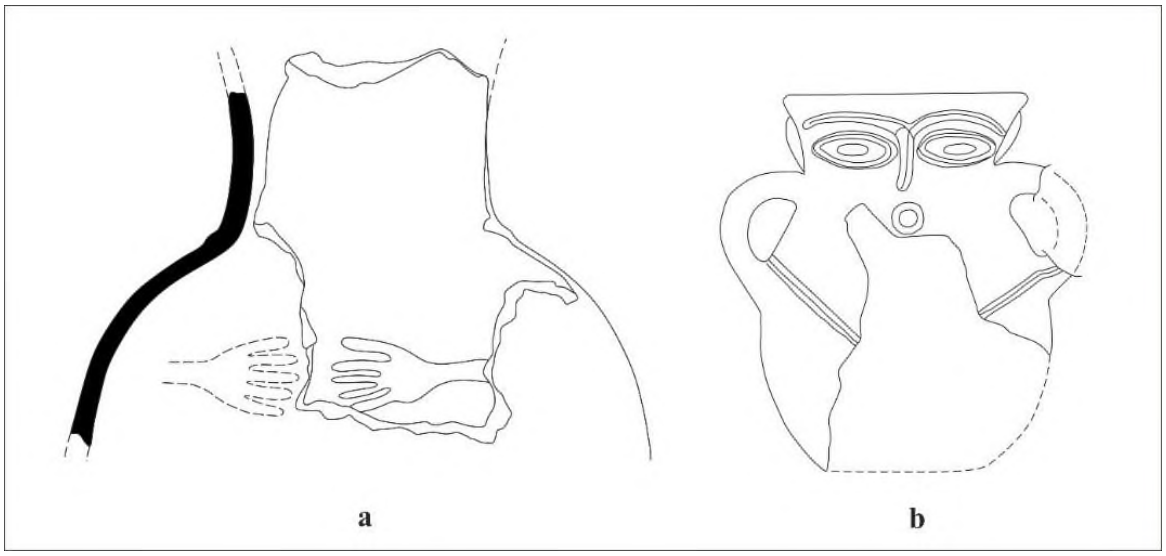
Source: Öztan, 2012: 39, Fig. 33, Duru & Umurtak, 2005: Lev. 83/2, Mellaart, 1962: 69, 68, Fig. 13/1, 6, 9, Pl. 12/ a, c

In the literature, there are human- or woman-shaped jars among the specimens that are similar in some way to the pithos found in Küllüoba, although it is known that they were not used as burial vessels. The most analogous examples of such vessels are from the settlements of Demircihöyük and Karataş-Semayük.

The jar found in Demircihöyük, of an undetermined age, as it was not recovered from a stratigraphic layer, was also not used as a burial vessel. However, it has similarities with the example from Küllüoba. The arm and hand motif on the necked jar is depicted extending towards the bulging belly of the jar. It differs from the Küllüoba pithos in that the hand in this motif has five fingers (Efe, 1988: 139, Taf. 23/5). However, the absence of a symmetrical hand motif on the jar raises the question of whether the number of fingers is correct or not (Figure 13a).

The jar from Karataş-Semayük was found behind the storeroom of the structure called Megaron 3, and although it has lost some parts of its front and lower body, it still has its essential parts preserved (KA602). On the neck of the ovoid-shaped and two-handled jar, eyes, pupils, eyebrows, nose, and ears are modelled with the help of relief ridges. A relief circle depicts the mouth, and the arms emerge from below the handles and extend towards the body; unfortunately, the hands are broken, so it is impossible to speculate whether the hand motifs had missing fingers or not. The jar was discovered in Karataş-Semayük in the mixed deposit of Trench 35/37 and was dated to the period V-VI:1, i.e., EBA II-EBA IIIA (Mellink & Angel, 1968: 252, fig.15; Eslick, 2009: 200, pl. 66, 95; Warner, 1994: Pl. 166, pls. 66-95/c-d) (Figure 13b).

Figure 13
Hand-Motif Example from Demircihöyük (a); Anthropomorphic Vessel with Possibly Hand-Motifed from Karataş-Semayük (b).



Source: Efe, 1988: 139, Taf. 23/5, Mellink & Angel, 1968: 252, fig.15; Eslick, 2009: 200, pl. 66, 95; Warner, 1994: Pl. 166, pls. 66-95/c-d

Evaluation and Conclusion

Regarding parietal art, some hypotheses exist about why "incomplete" hand stencils were made. We can list the most prominent ones among these as:

1. Mourning (Loss of a loved one) (Mc Cauley et. al., 2018: 319, 323)
2. Marriage (Indicating/marking marital status) (Mc Cauley et. Al., 2018: 319, 324)
3. Punishment (Penalising a bad deed that does not conform to the community's rules) (Mc Cauley et. al., 2018: 319, 324)
4. Raynaud's Syndrome (Cold or stress-induced discoloration of distal extremities was first reported by Raynaud in 1862). Raynaud's Phenomenon (RP) is a three-stage reaction (pallor-cyanosis-erythema) triggered spontaneously, or by cold or physical-emotional stress, usually occurring in the fingers. Still, it may also occur occasionally in the toes, ears, and the tip of the nose. Often reversible, such vascular reaction may, on occasion be irreversible and progress to severe ischemia or necrosis, and result in gangrene (Ergül et al., 2009: 131)[1]. Therefore, amputation due to an infection caused by frostbite or injury is also among these hypotheses (Janssens, 1957: 320; Leroi-Gourhan, 1967: 108).
5. Some scholars also suggest that the "incomplete" hand stencils reflect the use of a sign language (Etxepar- Irurtzun, 2021: 2)[2] or represent a counting system (Etxepar & Irurtzun, 2021: 6), or were made with the purpose of leaving behind a mark of oneself, or a signature or a "visiting card" (Van den Broeck, 1950: 102-105).

Among all the hypotheses mentioned above, the one most consistent with the hand motif with a missing finger depicted on the pithos, the subject of this article, is the hypothesis related to "mourning" over the loss of a loved one. Other hypotheses, apart from mourning, appear to be inconsistent with the meaning of the missing-finger motif on the pithos at Küllüoba. The pithos likely symbolizes a womb. In this context, the figure, representing a mother who amputated her finger after losing her child, may depict hands reaching

[1] For detailed information, see: Cleophas 1993; O'Connor 2021.

[2] For detailed information, see: Leroi-Gourhan, 1967.

toward the womb. Furthermore, the remains of a child burial found inside the pithos further strengthen the mourning hypothesis.

The most suggestive evidence, currently known, for finger amputation was discovered in the Grotte de Gargas Cave. In Gargas, impressions of human limbs were found in hardened mud, some of which belonged to hands with stumps of fingers instead of complete fingers (Barrière, 1976: 205). This is significant as it shows humans performed limb amputations independently of any underlying cause for the loss of the fingers or phalanges.

A recent ethnographic literature review, which is the product of a cross-cultural study designed to shed light on finger amputation, provides a valuable contribution to the argument presented in this article. The study identified 121 societies from Africa, Asia, the Americas, and Oceania engaged in finger or phalanx amputation, and distinguished ten distinct amputation practices (McCauley et al., 2018: 320, 326, 330). This article will focus only on the data on "mourning" as it is relevant to our topic.

In the study, it was mentioned that 15 groups from North America, six groups each from Africa and Oceania, and three groups from South America engaged in amputating a finger or phalanx as an act of "mourning". A noteworthy example from the study, which pointed out that close female family members were the most common participant in this practice is an elderly woman with missing phalanges. In an interview, she openly states that her fingers were cut off at different times to express her grief over the deaths of her three daughters, illustrating the opinion argued in this article (McCauley et al., 2018: 323).

Regarding the Küllüoba example, we can say that it would not be inaccurate to associate the pithos with the belly of a mother, basing this idea mainly on the reasons that the pithos in question is a burial vessel and that it yielded bone fragments from the skeleton of a child. The depiction of an arm and hand with a missing finger stretching towards the bulging body of the pithos might suggest a mother's hand holding her belly, and the missing finger might indicate her grief over the loss of her child. It is important to note that Küllüoba, the most extensively excavated cemetery in Central Western Anatolia, has not yet yielded any skeletal remains with missing limbs or phalanges. Although it has been possible to determine the number of individuals in Küllüoba, the soil's high pH value and moisture content have resulted in the recovery of only a small number of complete and intact skeletons. Therefore, these circumstances do not allow for the identification of any skeletons with missing limbs, if any, among the unearthed skeletal remains.

Ethnographic data explains how finger or phalanx amputation might have been performed. However, while there is no definitive ethnographic evidence for the existence of a finger-cutting tradition in Anatolia based on the available information, in Indonesia, members, especially women, of the Dani Tribe living in the town of Wamena, cut off their fingers or phalanges to mourn the loss of a loved family member. Before cutting, a piece of rope was tied tightly around the upper part of the finger for 30 minutes to numb the finger for painless removal. It was usually a close family member, such as a sibling or a parent, who amputated the finger. Following the amputation, the wound was cauterised to prevent bleeding and for a tip to form over the remaining part. This practice of finger amputation in the Dani tribe, a ritual practiced only by their women, had diminished over time and was officially banned some years ago (Andira et al., 2022) (Figure 14).

Figure 14
Examples of Ritual Finger Amputations Practiced by Dani Tribe.

Source: https://www.thesun.co.uk/news/8477620/dani-tribe-fingers-amputated/
https://www.mzunguexpeditions.com/papua_2023_en

Various analgesic or hallucinogenic substances might have been used after the procedure mentioned above. A recent study using gas chromatography-mass spectrometry (GC-MS) found salicylic acid in the subsequent periods (Türkteki et al., 2022), which is essential to keep in mind. Traces of salicylic acid, which is a main component in many painkillers, were found inside a depas that is dated to the EBA III and is the only known such example so far. Long used as an anti-inflammatory and analgesic agent, *salicylic acid* is found mostly in the leaves and bark of willow and poplar trees (Türkteki et al., 2022: 128). Ancient texts mention that willow bark was chewed for fever and pain and used for pain relief during childbirth (Goldberg, 2009). The discovery of salicylic acid content in two of the samples collected from the seven depata found in Küllüoba has taken its place in the archaeological literature as the first physical evidence of the use of this agent in ancient times, which was a fact only known so far from written texts (Türkteki et al., 2022: 138). Depata were special vessels that were probably used in ceremonies. The depata found in Küllüoba yielded traces of both wine and salicylic acid. This suggests that salicylic acid and fermented products, such as wine, were consumed together. This mixture might have had a place in various ceremonies and rituals.

In conclusion,

The existence of a deliberate limb amputation dating to the Late Pleistocene, between 31,000 and 30,000 BC,

The presence of hand stencils with missing fingers or phalanges on the walls of Upper Palaeolithic caves,

The discovery of hand impressions with finger stumps/cut-off fingers on hardened mud in the Gargas Cave,

The presence of hand motifs with missing fingers, both painted or in relief on pottery or as wall paintings/impressions in Anatolia, dating to the Neolithic and Chalcolithic periods, and

The existence of ethnographic examples in which the phalanges of fingers were deliberately amputated proves, in a way, the practice of finger and phalanx amputations, for whatever reasons, during ancient times.

Considering the previously detailed features of the pithos in question, and the ethnographic data correlating the practice of amputation to the loss of a loved one, it would be reasonable to associate the Küllüoba pithos with "mourning".

Another matter to point out here is that intentionally buried structures dating to the same period as the Küllüoba pithos with the missing finger motif have been found. This is most likely related to the ritual burying of structures, as observed in some Neolithic Period settlements in Anatolia. This is important in demonstrating the carrying over of traditions from earlier periods at Küllüoba. Therefore, it would not be inaccurate to say that the hand motifs with missing fingers found in settlements such as Hacılar, Çatalhöyük, and Köşk Höyük, which display remarkably parallel similarities, especially in the case of the relief decorated examples from Hacılar, were borrowed from earlier periods. This is a crucial determination as it shows how enduring cultural interaction and transmission over generations have been, regardless of the 4,000-years in between.

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Author Details Sinem Üstün Türkteki

[1] Bilecik Şeyh Edebali University, Department of Archaeology, Faculty of Humanities and Social Sciences, Bilecik, Türkiye

0000-0002-3918-8050 sturkteki@gmail.com

References

Ayu, A. D. D., Amin, I. R. P., Sayyidina, D. A., Putri, A. O., & Ardhika, R. C. (2022). The Tradition Of Cutting The Fingers of the Dani Tribe as a Symbol of Morning Located in Papua. *Omnibus Law Journal (OLJ), Vol. 2*(1), June 2022, 34-44.

Aubert, M.., Brumm, A., Ramli, M., Sutikna, Saptomo, T., E. W Hakim, B., Morwood, M. J., van den Bergh, G. D., Kinsley, L. & Dosseto, A. (2014). Pleistocene Cave Art from Sulawesi, Indonesia. *Article in Nature*, 514, 223-227.

Baltaş, Z. &Baltaş, A. (2005). *Beden Dili*. Remzi Kitabevi, İstanbul.

Barrière, C. (1976). *L'art pariétal de la Grotte de Gargas, parts I and II.* Oxford: British Archaeological Reports International Series 409.

Brumm, A., Oktaviana, A. A., Burhan B., Hakim, B., Lebe, R., Zhao, J., Sulistyarto, P. H., Ririmasse, M., Adhityatama, S., Sumantri I., & Aubert, M. (2001). Oldest Cave Art Found in Sulawesi. *Science Advances, Vol. 7*, 1-12.

Buquet-Marcon, C., Charlier P., & Samzun, A. (2007). The Oldest Amputation on a Neolithic Human Skeleton in France. *Nature Precedings* (Nat Prec. 2007). https://doi.org/10.1038/npre.2007.1278.1

Cleophas T. J., & Niemeyer, M.G. (1993). Raynaud's Syndrome, an Enigma after 130 Years. *Angiology,* 44(3), 196-209.

Dobrez, P., (2013). The Case for Hand Stencils and Prints as Proprio-Performative. Arts 2 (4), 273-327.

Duru, R., & Umurtak G., (2005). *Höyücek: 1989-1992 Yılları Arasında Yapılan Kazıların Sonuçları*. Türk Tarih Kurumu Yayınları: Ankara.

Efe, T., (1988). *Demircihöyük, Die Ergebnisse der Ausgrabungen 1975-1978, Band III, 2 Die Keramik 2C,* Mainz.

Ergül, Y., Nişli, K., Dindar, A, Aydoğan, Ü., Ömeroğlu, R. E., & Ertuğrul, T. (2009). Primer Raynaud Sendromunda Akut Vasküler Komplikasyonlar ve Tedavisi. *Çocuk Dergisi*, *9*(3), 131-134.

Ersoy, N., (2007). *Semboller ve Yorumları*. Dönence Yayınları: İstanbul.

Etxepar R. & Irurtzun, A. (2021). Gravettian Hand Stencils as Sign Language Formatives. *Philosophical Transactions of the Royal Society B, Biological Sciences, Vol. 376*(1824), 1-9.

Fernandesa, T., Liberato M., Marques, C., & Cunha, E. (2017). Three Cases of Feet and Hand Amputation from Medieval Estremoz, Portugal. *International Journal of Paleopathology 18*, 63-68.

Fernandez–Navarro, V., Camaros E., & Garate, D. (2022). Visualizing Childhood in Upper Palaeolithic Societies: Experimental and Archaeological Approach to Artists: Age Estimation through Cave Art Hand Stencils. *Journal of Archaeological Science, 140*, 1-11.

Hoffmann, D. L., Standish, C. D., Diez, G., Pettitt, P. B., Milton, J. A., Zilhão, J. , Alcolea-González, J. J., Cantalejo-Duarte, P., Collado, H., de R., Balbín,, Lorblanchet, M., Ramos–Muñoz, J., Weniger, G.-CH., & Pike, A. W. G. (2018). U-Th Dating of Carbonate Crustsreveals Neandertal Origin of Iberiancave Art. *Science, 359*(6378), 912–915.

Hooper, A., (1980). Further Information on the Prehistoric Representations of Human Hands in the Cave of Gargas. *Medical History, 24*(2), 214–216.

Janssens, P. A., (1957). Medikal Views on Prehistoric Representations of Human Hands. *Medical History Vol. 1*(4), 318 – 322.

Kaşıkçı, E., (2007). *Doğrucu Beden Dili*. Hayat Yayınları, İstanbul.

Ko, K. H., (2016). Origins of Human Intelligence: The Chain of Tool-Making and Brain Evolution. *Anthropological Notebooks 22*(1), 5-22.

Leroi–Gourhan A., (1967). Les Mains de Gargas. Essai Pour une Étude D'ensemble. *Bulletin de la Société Préhistorique Française, Études et travaux*, *tome 64*(1), *107-122.*

Maloney, T. R., Dilkes–Hall I, E., Vlok, M.., Oktaviana, A. A., Setiawan, P., Priyatno, A. A. D., Ririmasse, M., Geria I. M., Effendy, M. A. R., Istiawan, B., Atmoko, F. T., Adhityatama, S., Moffat, I., Joannes–Boyau, R., Brumm, A., & Aubert, M. (2022). Surgical Amputation of a Limb 31,000 Years Ago in Borneo. *Nature, Vol. 609*, 547-551. https://doi.org/10.1038/s41586-022-05160-8

McCauley, B., Maxwell, D., & Collard, M. (2018). A Cross-Cultural Perspective on Upper Palaeolithic Hand Images with Missing Phalanges. *Journal of Paleolithic Archaeology, Vol. 1*(4), 314-333. https://doi.org/10.1007/s41982-018-0016-8

Mellaart, J. (1962). Excavations at Çatal Hüyük: First Preliminary Report, 1961. *Anatolian Studies, Vol. 12*, 41-65. https://doi.org/10.2307/3642517

Mellaart, J. (1963). Excavations at Çatal Hüyük, 1962: Second Preliminary Report. *Anatolian Studies, Vol. 13*, 43-103. https://doi.org/10.2307/3642490

Mellaart, J. (1970a). *Excava1970'a at Hacılar Vol 1.* Edinburgh. Edinburgh University Press.

Mellaart, J. (1970b). *Excavations at Hacılar Vol 2.* Edinburgh. Edinburgh University Press.

Mellink M. J., & Angel, J. L. (1968). Excavations at Karataş-Semayük in Lycia, 1967. *American Journal of Archaeology, Vol. 72*(3), 243-263.

Molcho, S. (2000). *Beden Dili (Sessiz Diliniz).* Gün Yayıncılık, İstanbul.

O'connor, C. M. (2021). Raynaud's Phenomenon. *Journal of Vasculer Nursing, Vol. 19*(3), 87-93.

Özdemir, Ç. S. (2014). *Resim Sanatında El İmgesinin Farklı Anlam ve İfade Biçimleri*. (Unpublished master's thesis) Anadolu University. Eskişehir.

Öztan, A. (2012), The Neolithic in Turkey: New Excavations and New Research. In M. Özdoğan, N. Başgelen & P. Kuniholm (Eds.), Köşk Höyük: A Neolithic Settlement in Niğde-Bor Plateau. (pp. 31-70). İstanbul.

Phillips, M., Cruz, M., Martin, E. K., Smith, D. R., Elias, B. D., Villalta, B. J. M. E., & Toyne, M. J. (2021). Two (Missing) Left Feet: Caring for Foot Amputees in Late Pre-Hispanic Túcume, Lambayeque Peru. *Bioarchaeology International, Vol.5*(1–2), 1–20.

Potts, R. (1998). Variability Selection in Hominid Evolution, *Evolutionary Anthropology: Issues, News, and Reviews, 7*(3), 81–96.

Raynaud, M. (1888). *On Local Asphyxia and Symmetrical Gangrene of the Extremities*. Translated by Thomas Barlow. Public Domain Mark. Source: Wellcome Collection.

Üstün–Türkteki, S. (2020). Early Bronze Age Sealing Tradition of Küllüoba Höyük in the Context of Anatolian Sealing Practice. *Studia Hercynia, XXIV*(1), Charles University, 7-29.

Türkteki, M., Tarhan – İ., Kara, H., & Tuna, Y. (2022). Possible Uses of Depas Amphikypellon from Küllüoba in Western Central Anatolia Through Gc-Ms Analysis of Organic Residues. *Mediterranean Archaeology and Archaeometry (MAA), Vol. 22*(1), 127-154.

Türkteki, M., Erdal, Y. S. (2024). Önasya Arkeolojisi Toplantıları 1: Savaş ve Şiddet. In A. Aykurt, A. Akçay, M. Türkteki, D. Sarı, F. Şahin, A. Beyazıt, M. Massa & U. Oğuzhan-Akay (Eds.), Şehirleşme Süreci ve Şiddet: Eskişehir-Küllüoba Örneği (pp. 401-425). Ankara.

Van den Broeck, A. J. P. (1950). *De Dageraad der Mensheid.* Utrecht: Ossthoek's Uitg. Nederlands.

Warner J. L. (1994). *Elmalı-Karatas II: The Early Bronze Age Village of Karataş*. Bryn Mawr College. Bryn Mawr.

Zhang, D. D., Bennett M. R., Cheng H, Wang L., Zhang H., Reynolds, S. C., *Zhang, S., Wang,* X., *Li, T., Urban T., Pei, Q., Wu, Z., Zhang, P., Liu,* C., *Wang,* Y., *Wang, C, Zhang* D., & Edwards, R. L. (2021). Earliest Parietal Art: Hominin Hand and Foot Traces from the Middle Pleistocene of Tibet**.** *Science Bulletin, 66*(24), *2506-2515.*

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Research Article

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The Fire Cult During the Achaemenid Period

Elif Hatice İlkkurşun [1]

[1] Istanbul University, Institute of Social Sciences, Department of Ancient History, Istanbul, Türkiye

Abstract This study examines the sacredness of fire, temple structures, cult, and the relationship between fire temples and the cult of Anāhitā during the Achaemenid Kingdom period. While fire is considered sacred in Zoroastrianism, debates continue today about whether the Achaemenids were Zoroastrian, and it is argued that defining the concept of Achaemenid religion is difficult. This study, which does not ignore these debates, attempts to examine classical sources and modern research together while also taking into account royal inscriptions. In sources, it is noted that the Persians performed their rituals in the open-air areas and did not have temples, while the concept of sacred place emerging in Pasargadae and the controversial term "āyadanā" are noteworthy. In modern research, two different views emerge: one suggesting that the Persians did not have temples before the Achaemenid period and those who oppose this in light of the excavation findings. Structures uncovered both in the East and the West, such as Ka'ba-yı Zerdust, Naqsh-e Rustam, Tepe Nush-e Jan, and Dahan-e Ghulaman, have been included. The depiction of fire altars in Achaemenid seals and royal tombs has been examined. Additionally, the research addresses the impossibility of a singular cult and culture in the Iranian geography.

Keywords Achaemenids · Cult of Fire · Temples · Fire Temples · Cult of Anāhitā

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Corresponding author: Elif Hatice İlkkurşun ehilkkursun@gmail.com

Introduction

The history of Iran, particularly pre-Islamic period, presents a complex and challenging field of study. Researchers face a range of difficulties. The terms "Iran" and "Persia" serve as prime examples of this issue. While "Iran" today refers to the modern Islamic Republic of Iran and its current borders, historically, it has carried different meanings, encompassing much broader geographical regions overe time. Similarly, the term "Persia", widely used in Western Europe, especially on the Continent, has been applied to denote the Achaemenid, Parthian, and Sassanian Kingdoms in the Iranian plateau. However, this terminology introduces significant ambiguities and has contributed to a range of interpretative challenges in understanding the broader historical context.

The concept of "Iran" emerged during the Sassanian period in the 3rd century CE, encompoassing both religious and political meanings (Wiesehöfer, 2001: xi). However, in 1934, Reza Shah issued a decree to replace the term "Iran" with the French term "Pers", symbolizing a significant shift in the expression of modern Iranian identity. The term "Persia" not only referred geographically to the core region known as Parsa (Persis), but was also used to describe an ethnic group, such as "Parsa" first appeared in Assyrian and Babylonian tablets during the half of the 1st millennium BCE, with variants such as Parsua or Parsumash, and is encountered in Ancient Near Eastern texts in these forms.

The earliest use of the term "Parsa" in cuneiform typically referred to the mountainous regions of Iran, particularly various locations in the central Zagros and the peoples inhabiting these areas. However, from the late 7th century onward, the term began to be used to descrine the region of Fārs (Pārsa), and by the 6th century, it had become the heart of the Persian Achaemenid Kingdom (Daryaee & Rolllinger, 2021:7). Therefore, the term "Parsa" does not correspond to the modern concept of "Persia" as used today, but rather refers specifically to one of the core regions of the Achaemenid Kingdom.

The geographical name "Iran" (Eran) is derived from the term "Airyanəm Vaējah" found in the Avesta, meaning "the land of the Aryans" or "the vastness of the Aryan territories". This indicates that the Iranians themselves used this expression to define their homeland (Malandra, 1979: 7).

The term "Aryan" which is commonly used by scholars in Europe to refer to the Indo-Iranian language family, was coined by Professor Max Müller and carries its own set of challenges. It is suggested that the peoples categorized as Aryans – such as the Indians, Persians, Greeks, Romans, Slavs, Celts and Germans – once lived in the same region and even under the same roof. The language they shared under this common roof is believed to be the ancestor of languages like Sanskrit, Akkadian, and Greek (Taylor, 1980: 2-4). Later, the Aryans divided into two groups: Indo-Europeans and Indo – Iranians. While the homeland of the Indo – Iranians are believed to have originated from the steppes of Central Asia, North of the Caspian and Aral Seas. According to this traditional view, during the third millennium BCE, this group into two subgroups: the Indo-Aryans and the Iranians. Subsequently, these two groups moved southward from the steppes around 1500 BCE (Malandra, 1979: 7).

Although the term "Iran" is often associated with kingdoms, it also carries significant ethnic and linguistic connotations. Specifically, it refers to the groups that spoke Indo-European languages, including the Iranian branch. However, non-Iranian languages were also part of Iranian history. Despite the kingdom being home to speakers of different languages, the Achaemenids used Elamite, Babylonian and Old Persian. Based on royal inscriptions, it is assumed that Old Persian thought to belong to the Achaemenid dynasty, was a high-status group who settled in Fārs at some point in an unclear period, with their language based on a southwestern Iranian dialect (Wiesehöfer, 2021: 8; Rossi, 2021: 53).

Even though there is no official definition for the state, the Great Kings considered their kingdom as the World itself. Beginning with the reign of Darius I, royal inscriptions offered a portrayal of the world through detailed lists of territories. (Daryaee & Rollinger, 2023: 3).

Moreover, both Darius and, later, Xerxes identified themselves in royal inscriptions as Achaemenid, Persian (Parsa), son of Persian, an Aryan (Ariya), and a member of the Aryan lineage (Ariyacica). The terms "Aryan" and "Aryan lineage" carry broader connotations. However, this does not necessarily imply that the Iranians shared a common migration history. The term "Persian" (Persis) refers to being a man from Parsa/Persis, meaning it is of a regional dimension (Malandra, 1979: 7).

Darius and Xerxes emphasized their Aryan origins, stating that Ahura Mazda was the god of the Aryans, and their ancient language was Aryan. The Achaemenids prioritized their Persian identity, rooted in their Aryan ancestry, over their broader identity as Aryans. Rather than identifying with other Iranian-speaking peoples, such as the Medes or Bactrians, they defined themselves as Persians. They emphasized their origin from the southwestern region of present-day Iran, known as Parsa or Persis. The Sasanians, on the other hand, developed an identity based around the concept of "Iran" (Wiesehöfer, 2021: xi).

Beyond these terms, limited and scattered information about the history of Achaemenids is a common issue for many research topics. Therefore, apart from the existing knowledge of their religion and traditions, many details remain elusive. The religious beliefs of the Achaemenid rulers and their Persian subjects are also among the topics that have sparked considerable debate. Furthermore, information regarding the religious beliefs and practices of the Persians during the reigns of Cyrus and Cambyses is limited and contradictory. Not only is the early Achaemenid period poorly understood, but also the rituals, beliefs, and religions of the early Iranians, considered to precede them, are not well known. Additionally, one of the primary questions that arises – perhaps the first – is whether Achaemenids were Zoroastrians. However, the historical identity, origins, texts, and reforms of Zoroaster, as well as the regions where his reforms were implemented, remain subjects of ongoing debate.

Studies indicate that Zoroaster did not create a new religion; he transformed the ancient Iranian religion under the influence of Iranian paganism. One of the main supporting arguments fort his idea is that the foundation of Zoroastrianism includes worship practices related to the cults of fire and water, which are characteristic elements of Iranian paganism (Sarianidi, 1999: 308-9).

Fire, although often defined in modern times as a concept associated with Zoroastrinism, has historically been one of the most important cultic objects. Stories, myths, beliefs, and traditions related to fire can be found in many cultures. Since the Middle Stone Age, fire has been sanctified and included in rituals for the dead and sacrifices. Throughout prehistoric periods, it has shown more symbolic and divine qualities such as grave fire, home fire and cult fire (Maringer, 1974: 68 – 105). Just as in many other societies, among the Indo-Iranian speaking communities, fire was crucial for meeting basic needs like warmth, lighting, and cooking. In ancient times lightning a fire was not as easy as it is today. Fire, which was an important source for heat, light, and cooking, must have been one of the most primitive ways to protect against dangers such as predators and evil spirits.

The concept of fire temples in the Iranian geographical context presents a somewhat problematic and complex situation. Some researchers have attempted to link the origin of the fire cult back to the pre-Zoroastrian period. The reverence for fire, known as "Atar" (MP Adur-Atas, Pahlavi Ader) in the Avesta and as "Agni" in the Brahmanic traditions, is believed to have roots in Indo-Iranian and most likely, Indo-European origins. One of the reasons for this is the religious significance of fire, not only in Zoroastrinaism but also in Vedic tradition (De Jong, 1997: 343). Additionally, the respect for the hearth fire, which suggests the universality of the cult of fire or the idea that this cult originated from the hearth fire (Boyce, 1979: 4;

Shenkar, 2014: 90; Yamamoto, 1979: 30). Therefore, it is likely that the protection and transportation of fire were one of the oldest ritual activities (Cantera, 2019: 20).

As noted by Mary Boyce and Yamamoto, one the accepted hypotheses is that the people living in the Iranian geographical region, including the Zoroastrians, did not have temple structures, and the idea of acquiring such temples was only accepted from the later period of the Achaemenid era onward. The belief that no fire temples date back to the early periods has primarily directed researchers to Classical texts (De Jong, 1997: 345). However, the discovery of certain structures dating to the Achaemenid period and earlier has created a contradiction with Boyce and Yamamoto's views on temples (for further information, see Scerrato 1979; Stronach 1985; Genito, 1987; Gnoli, 1993, non-vidi).

The identification of fire altars or temples is one of the most prominent issues in research. In addition to the ancient and universal fire cult, tracking its development in Iran is quite challenging due to the difficulties encountered in the sources. Klaus Schippmann, Yumiko Yamamoto, and J. Houterkamp have gathered materials and archaeological findings related to fire altars and worship from the Achaemenid, Seleucid, Parthian, and even Sassanian periods (for further information, see Schippmann, 1971; Yamamoto, 1979; Houtkamp, 1991).

Some researchers argue that, except for a few locations in Central Asia, no fire temples or any other temples existed during the Achaemenid period. They attribute this to the lack of archaeological evidence and the uncertainty regarding the connection of these temples with Iranian cults or Zoroastrianism. Additionally, they suggest that temples began to appear only from the later periods of the Achaemenid period onwards (Boyce, 1975a; 1982; Yamamoto, 1979; Cantera, 2019: 20; De Jong, 1997: 343).

Due to the problem encountered in terms of sources, careful research is required to trace the cult of the fire temple and its development. The only written source apart from seals, royal tomb reliefs, and royal inscriptions related to the period is the Avesta. The debates surrounding the archaeological data of early – period fire temples have led researchers towards the works of classical writers. In addition to works from the period and classical writers' sources, modern sources and excavation findings should be carefully followed for the study of the cult of fire and its development.

In this study, all the terms and topics addressed are related to the Persians/Iranian people, who are considered to be associated with the Achaemenids, and the regions they both inhabited and ruled. The Achaemenid state, initially established by Cyrus II (around 559 – 529 BCE), reached its greatest extent, stretching from Thrace and northern Greece in the west to India in the east, from Egypt in the south to Afghanistan and Central Asia in the north (Tavernier, 2021: 39; Potts, 2021: 13) (fig. 1). The article addresses the importance of fire among the Persians, how fire temples emerged, and whether the Persians had a temple structure as mentioned in Classical sources. As previously stated, the focus of the study is the Achaemenid Kingdom, known as Persia or Parsa, which existed between 330 and 600 BCE.

The debate over whether the Iranians had temples in early periods also brings up the issue of how a structure should be defined as a fire temple. Additionally, there is another terminological issue: fire altars and fire bearers. Recent discussions on whether the Achaemenids were Zoroastrians or what the Achaemenid religion entailed have brought fire cults and temples back into focus. It also seeks to understand the relationship between the newly emerging Anāhitā cult treated separately from Zoroastrianism in this article. Finally, taking all this into account, the Achaemenids have been evaluated separately from the Zoroastrian religion.

Research Methodology

The main aim of this study is to systematically and critically analyze existing literature and texts, focusing on evaluating available sources from the perspective of ancient history rather than conducting new archaeological fieldwork. Archaeological data are primarily used to support the analysis, relying on previously published excavation reports and findings rather than direct field research. Existing archaeological evidence, ancient written records, and modern scholarly works have been carefully reviewed and compared to provide a comprehensive understanding. Thus, archaeological findings serve to complement and contextualize interpretations derived from literary sources and iconographic evidence.

The data sources for the research include ancient textual materials (such as Herodotus, Xenophon, and Diodorus Siculus) and their available translations, alongside archaeological reports, seal and coin iconographies, and Achaemenid period inscriptions. Furthermore, modern scholarly literature related to the topic has been reviewed to incorporate diverse viewpoints and interpretations.

The geographical scope of the study is limited to the Iranian Plateau and its surrounding regions within the boundaries of the Achaemenid Kingdom. The temporal scope covers the Achaemenid period from the 6th century BCE to the late 4th century BCE. These delimitations allow for a more coherent analysis of the available sources and archaeological data. The primary focus lies on religious structures, temples, and evidence of fire cults during this era.

Source criticism has been applied by analyzing the ancient authors' texts in their historical and cultural contexts. Potential biases, ideological influences, and narrative styles have been questioned, and consistencies or contradictions between different sources have been compared. Attention has also been paid to nuances and translation variations in the original languages of the texts.

Iconographic analysis has been carried out through detailed examination of religious symbols found in Achaemenid seals, coins, and reliefs. The cultural context in which these visual materials were produced, the deities or concepts they represent, the meanings of motifs, and their relationship to religious rituals have been studied. Iconographic evidence has been cross-referenced with archaeological findings and written sources to deepen the understanding of temple structures and fire cult practices.

This multidisciplinary approach has enabled a complementary evaluation of textual and visual evidence, fostering a more holistic and critical understanding of Achaemenid religious practices. However, the limitations of existing sources and the predominantly Greek perspective of ancient accounts require cautious interpretation of the findings.

Fire Among Persians

Fire, like in many societies, was significant for the Indo – Iranians to meet basic needs such as heating, illumination, and cooking. The respect for the fire referred to as “Atar” in the Avesta (MP Adur – Atas, Pahlavi Ader) and “Agni” in Brahmanic traditions, likely extends back to the Indo – European periods. The reverence for the hearth fire, considered universal in fire worship, or derived from it, is widely accepted (Tiele, 1932: 63, 65; Maringer 1974: 86; Boyce, 1979: 4; Yamamoto, 1979: 30; Shenkar, 2014: 90). In Iranian rituals, the fire, which is a central icon is important as the deity called Atar and is considered the son of Ahura Mazdā (De Jong, 1997: 100-1; Skjærvø 2011: 12).

Herodotus mentions that the Persians considered fire to be a deity (Hdt, 1.131, 3.16). Xenophon, while discussing offerings, refers to fire worship several times (Xenophon. Cyropaedia. 1.6.1; 7.5.57). In Strabo, we see that the Persians pray to fire first before offering sacrifices to whichever god they desire (Strabo. Geography. 15.3.16). Clement of Alexandria, who based his writings on Dino mentions that the Persians and

Medes worshipped Fire (Clement of Alexandria. Procepticus. 5.65.1). When the Curtius Rufus talks about the importance of fire among the Persians, on the other hand, Diogenes Laertius states that they believed the gods existed in fire, earth and water, and that fire was the primary symbol of the divine in this world and the central focus of ritual activities (Quintis Curtius Rufus. Historiae Alexandri Magni. 3.3.9; 4.13.12; 4.14.24; Diogenes Laertius. 1.6-9).

Another thing mentioned in the works of Classical writers that the Persians abstained from cremation rituals for the dead (Ctesias. Persika. §57). Herodotus indicates that the Persians did not cremate their dead but rather buried them without being mutilated by birds or dogs, and that in-ground burial was a commonly preferred burial method within the society (Hdt.1.140; 3.16.3). The view that corpses were torn apart by birds and dogs is corroborated by Plutarch (Plutarch. Artaxerxes. 18.5). The reason for their avoidance of cremation was likely due to their desire not to have the fire contaminated by the bodies of the deceased (Strabo. Geography. 15.3.14). Dioscorides also mentions that the Persians had a strong aversion to cremation their dead (Dioscorides. Anthologia Palatina. 7.162). The practice mentioned by Herodotus, where the body was first torn apart by animals and then buried, was actually carried out by the Magi. The Persians, on the other hand, would cover the body with wax before burying it in the ground. Both practices were contrary to the Zoroastrian tradition (Widengren, 1965: 133). During the Greek expedition, Herodotus recounts that Xerxes buried an Achaemenid named Artachaees who had died of illness and gave him a funeral and burial. However, he does not specify the burial type (Hdt.7.117).

However, after the Battle of Thermopylae, Herodotus reports that Xerxes buried the dead soldiers in trenches and covered the bodies with soil (Hdt.7.24). This practice is consistent with the directive mentioned by Xenophon, according to which the body of Great Cyrus should be buried after his death (Xenophon.Cyropaedia.8.7.25; also see Quintius Curtius Rufus. Historiae Alexandri Magni. 3.12. 13-14).

In Xenophon, Cyrus sacrificed first to Hestia, and then to Zeus, and the to any god suggested by the Magi. Xenophon's mention of Hestia likely stems from the similarity between the Persian hearth fire cult and the Greek Hestia, the goddess of the hearth (Xenophon. Cyropaedia. 7.57). In the late 4th century, funeral sacrifices were still being performed at Cyrus's tomb, while the royal coronation ceremony took place at a local temple (Plutarch. Artaxerxes. 3.2; cf. Sancisi –Weerdenburg, 1987; Briant, 2002: 523-4; 667; 998; Henkelman, 2012: 940).

Evidence regarding the existence of the dynasty fire, which was lit when kings ascended the throne and extinguished upon their death, is not sufficient. Most of the evidence for dynasty fires is based on accounts related to Alexander. Diodorus Siculus, Alexander, upon the death of his beloved friend Hephaistion, ordered the people of Asia, including the Persians, to extinguish what they called the sacred fire until the funeral was over (Diodorus Siculus. 17.114.4). Curtius Rufus when referring to the dynastic fire, states that the sacred and eternal fire plays an important role in processions dedicated to multiple gods (Quintis Curtius Rufus. Historiae Alexandri Magni. 3.3.9; 4.13.12; 4.14.24). Xenophon describes how after processions dedicated to various gods, the fire is carried on a large altar (Xenophon. Cyropaedia. 8.3.12).

According to the Diodorus, this sacred fire which was requested from all the peoples of Asia, is likely the fire they kept in their homes. After the head of the family died, the hearth fire was extinguished. Just as it is here, after the king died, the dynastic fire was extinguished and then rekindled after the next king ascended the throne. The dynastic fire, on the other hand, was a symbol of the Achaemenid dynasty The dynastic fire is considered a symbol of the Achaemenid dynasty and kingdom. Additionally, it is accepted that the tradition of the dynastic fire emerged from the hearth fire. Information about how it continued during the Parthian and Sasanian periods and their rituals can be found in sources. (Yamamoto, 1979: 32-3; De Jong, 2010: 551).

Frazer divided the stages of human mastery of fire into three phases: the first period when fire was unknown, the second period when fire was discovered and used for warmth and cooking, and the third

period when fire was regularly utilized (Frazer, 1930: 201). From the perspective of the Persians, it is likely that fire transformed into hearth fire during the transition from nomadic periods to settled life or during the process of transition. Later on, it can be divided into periods such as evolution into sacred fire and dynastic fires.

Sacred Places

It is generally accepted that the Persians (and the Medes) may have inherited the tradition of worshiping at open-air or hearth fires from the Indo – Iranian tradition. (Boyce, 1975a, 1985, Yamamoto, 1979: 26).

Herodotus stated that the Persians did not have the habit of making statues, temples or altars (Hdt. 1.131). It was reported by Strabo five centuries later that the Persians did not have statues or altars because they regarded the sky as Zeus and performed sacrifice rituals on a high place (Strabo. Geography. 15.2.13). Xenophon who expresses a similar view, is unaware of the existence of Persian temples and mentions that they performed sacrifice rituals outdoors on a hill (Xenophon. Cyropaedia. 8.7.3). Clement of Alexandria, referring to Dino of Colophon, also describes Persians sacrificing outdoors (Clement of Alexandria. Procepticus. 5.65.1). As a result, ancient Iranian worship ceremonies were conducted in any clean and open area. However, in later periods, seasonal celebrations where people gathered took place in high places and near water springs (Boyce, 1982: 22).

Although the existence of a few established sacred areas is known from what Strabo reported, two points regarding religious structures stand out in the Achaemenid royal inscriptions (Strabo. Geography. 11.8.4). One of them is the mention in Darius's Behistun inscription of rebuilding the destroyed place of worship, āyadanā, during the rebellion of Gaumata (DB 1.14; DB 63-4; Wikander, 1946: 58; Schmitt, 1991: 53) (fig. 2). The word "āyadanā" is translated as "temple" in the Akkadian and Elamite versions of the inscription. This is because āyadanā is a standard term used for termples in these languages (Widengren, 1965: 131; De Jong, 1997: 345). Upon detailed examination of the inscription, it is uncertainty what type of structure this temple or sacred place referred to as āyadanā was. In addition to this uncertainity, it is also unclear whether āyadanā was an Iranian sacred site or a temple in Babylon or Elam (Shenkar, 2007: 173). Some researchers have suggested that āyadanā refers to places of venetration, temples or open-air sanctuaries. According to Boyce, in Old Persian, āyadanā also refers to sacred areas, while Lecoq has suggested that they could refer to buildings. (Boyce, 1982: 89; cf. Lecoq, 1997).

The second point is the Daiva Inscription, which is thought to have been written during the reign of Xerxes I. This inscription describes how the Great King destroyed the daivadand in a territory of the kingdom where worship of the daivas took place, purifying the region with appropriate rituals dedicated to Ahura Mazda (XPh §3) (fig. 3).

As in the example of āyadanā, the specific structure or country referred to by the term daivadand remains unclear. For this reason, the Daiva Inscription is one of the most debated inscriptions of the Achaemenids. It has been suggested that the term Daiva refers to the Marduk Temple in Babylon and the Babylonian gods named Daiva (Widengren, 1946: 138). Alternatively, other interpretations consider options such as the destruction of Indo-Iranian temples in Eastern Iran and India, or the eradication of Greek religious practices, as relevant to the term daivadand (Gnoli, 2011).

In the content of the inscription, two different perspectives emerge regarding Xerxes' destruction of the daivas. The most common view is that it represents an act of disrespect towards Babylonian and Greek temples or the suppression of Elamite culture (Shenkar, 2007: 174; Brosius, 2006: 90). In this sense, Xerxes' actions are ideologically legitimized as acts of religious propaganda aimed at disrespecting these temples (Degen, 2024: 45). Alternatively, some interpretations suggest that Xerxes' behavior is related to the notion of

religious tolerance within the Achaemenid Kingdom. This tolerance is linked to the Persepolis Fortification Archieve, which demonstrate that worship of Iranian, Elamite, and Assyrian deities took place in Persis. According to these documents, there was a diversity of gods, beliefs, and cultures during the Achaemenid period (Brosius, 2006: 90).

A more comprehensive interpretation comes from Degen: Xerxes, breaking away from his father Darius I's policy of tolerance, implemented harsh measures against all religions other than his own. He distanced himself from the Achaemenid religious policy, which is often regarded or interpreted as a form of tolerance (Degen, 2024: 41).

In conclusion, the different groups described in this inscription are viewed as a sectarian conflict, hostility towards those outside the Iranian faith, or a departure from the Achaemenid policy of tolerance. Even though the exact nature or location of the Daiva remains a topic of debate, it is inferred to refer to "other gods, demons, or temples." This is because the destruction of the āyadana, or temples, mentioned in the Behistun Inscription is considered an act of disrespect and is associated with Darius's enemies. Therefore, it is clear that the āyadana in Behistun and the daivadāna in the Daiva Inscription are different.

One of the oldest religious sites dating back to the Achaemenid period is the open-air fire altar located in Pasargadae, which was built as the royal capital by Cyrus II (Canepa, 2018: 27). Pasargadae maintained its significance as an administrative and economic center throughout the kingdom, primarily due to the presence of Cyrus the Great's monumental tomb, the founder of the kingdom. The palace served as a crucial venue for royal ceremonies and coronation rituals, while the open-air sanctuary regularly hosted large-scale sacrificial rites (ibid.: 29). In this area, two stone pedestals, isolated from other buildings and placed in an open space with stairs in one of them, have been found. Stronach, who conducted the excavations here, believed that these stone pedestals were fire altars (Stronach, 1978: 141-142, figure 72 and table 108) (fig. 4).

The conclusion that these stones are fire altars was reached based on reliefs carved on the rock tombs of the seven successive Achaemenid kings, including Darius, found at Naqsh-e Rustam and Persepolis (Chosky, 2015; 394). However, Potts suggests that this conclusion is speculative, while according to Yamamoto, the term "fire altar" is misleading. Yamamoto points out that reliefs in the rock tombs at Naqsh-e Rustam and Persepolis indicate that one of these pedestals carried fire at a certain ceremonial time, but it is not clear which one carried the fire (Potts, 2013: 453; Yamamoto, 1979: 30).

One or both of these pedestals may have carried the fire. However, the mention that there is no clear consensus on whether they are altars or pedestals brings about a debate between a fire altar versus a fire-holder. The term "fire altar" is used by modern researchers to denote the platform where the sacred fire was placed. Some researchers such as Boyce, argue that this term is misleading because these structures were used solely to hold the fire in a metal or clay vessel for worship purposes. Therefore, although Boyce proposed the term "fire-holder" instead of "fire altar", it has not gained much popularity (Boyce, 1982: 51-2). Boucharlat, who shares a similar approach, suggests that the term meaning "fire altar" is polysemic and instead proposes that it would be more appropriate to refer to it as "fire stand" or "fire-holder" (Boucharlat, 2014: 11). Those seen at Naqsh-e Rustam are fire-holders and could be related with the cult of fire (Stronach, 1978: 138 – 45; Yamamoto, 1979: 28-9).

Another view supporting Boyce's fire-holder is that Achaemenid Persians built altars instead of temples for their gods, and these altars were fire vase bases used solely to carry fire, with no other purpose (Brosius, 2006: 90; De Jong, 1997: 111). The fire altars found on seals of the period are among the evidence supporting this view. Additionally, what a Herodotus report states is that the Persians did not conceive of their gods in human form, yet on seals or coins, Ahura Mazdā is depicted in human form (Jacobs, 2006: 216). On the other hand, the sacred fire was also preserved in portable altars. In Xenophon, a portable altar of this kind

is depicted, and only certain people would carry the fire in a large vessel (Xenophon. Cyropaedia. 8.3.12). Curtius Rufus wrote that the fire was carried on silver altars (*argenteis altaribus praeferebatur*, Quintus Curtius Rufus. Historia Alexandri Magni. 3.3.9; 4.14.24 *qui praefertur altaribus*).

Depiction of Fire Altar in Achaemenid Art: Royal Tombs and Persepolis Archieves

Great Cyrus II is buried in a rectangular tomb chamber in Pasargadae, but the kings who came after Cambyses II (530-522 BC) made their tombs in the form of monumental rock-cut tombs. Today, at the site known as Naqsh-e Rustam, the rock-cut tombs of Darius I (522-486 BC) (fig.5), Xerxes I (486-465 BC) (fig.6), Artaxerxes I (465-424 BC) (fig.7), and Darius II (423-404 BC) (fig.8) can be found (vanden Berghe, 1983: 35). After Darius I chose this area, which has been considered a sacred site since the 2nd millennium BCE, for his monumental tomb, other kings similarly commissioned their own monumental tombs (Garrison, 2009: 17). The tombs of the other three kings, Artaxerxes II (404-359 BC) (fig.9), Artaxerxes III (ruled 359-338/7 BC) (fig.10), and Darius III (380-330 BC, unfinished tomb), are also located in Persepolis (vanden Berghe, 1983: 35). The reliefs found in Darius's tombs are similarly interpreted: the king is worshiping fire on a stone altar (Yamamoto, 1979: 21, 108; Brosius, 2006: 90).

The front facades of all the tombs are divided in a cross shape, with a Egyptian-style gate in the middle section. The upper parts are adorned with sculptures. The king is depicted standing in front of a fire altar, sacrificing to holy fire and praying to the Ahura Mazdā. At the top of these scenes, there is a winged sun disk, a crowned bust, and a lunar symbol, which are symbols of the Achaemenid dynasty. Guard units are located at the sides of the tombs (vanden Berghe, 1983: 36). The depiction of the king in front of a fire altar may imply the existence of such a ritual. However, two inscriptions called DNa-b on the relief, do not mention the religious significance of the sculpture (Root, 1979: 163) (fig.11, 12). The fire on the stepped altar depicted on the relief is accepted as visual evidence for some of the information provided by Herodotus (Garrison, 2009: 50). Also, the sun shining in the scene on this relief is interpreted as an indication that the ritual took place in an open area and that there were no temples (Huart, 2008: 81).

Another issue here is that only the tomb of Darius I has a trilingual inscription in Old Persian, Elamite, and Babylonian. This inscription helps determine the ownership and date of Darius I's tomb. However, since the other tombs lack inscriptions, a precise dating cannot be established. Assignments have been made based on historical data and typological research (vanden Berghe, 1983: 36). Nevertheless, what catches our attention here is that the other tombs share similarities with Darius I's tomb, including the reliefs and the depiction of the fire altar.

In coins, seals and bullae from the Achaemenid Persian period, we see the depictions of worship, rituals and religious elements. While descriptions of worship, rituals and religious elements on these materials may be limited, they are still significant. During the Achaemenid period, the significant role of fire altars in official rituals is evident in the depictions found on seals. The male figure facing the fire altar to the left is found on most seals. In these representations, at the top step of a stepped basin tapering towards the base, there is a fire altar. The flames on the altar are usually depicted in inverted cone or semi-circle shapes (Canepa, 2018: 158). In this article, we only focus on examples from the period that include fire altars. Because, generally, the materials included in this group contain details such as Ahura Mazdā, rituals such as praying or sacrificing, priests (magi) along with accompanying details like wigned disks, floral elements, and court robes etc.

The Persepolis Fortification Archive seals contain detailed depictions of ritual scenes. Thanks to the work of Mark Garrison, these seals are better understood (Canepa, 2018: 156).

The Persepolis Fortification Archive (PF) and Persepolis Treasury Archive (PT) were discovered in 1933/4 at the heartland of Achaemenids in southwestern Iran, Persepolis, by Ernst Herzfeld and Erich Schmidt. (Cameron, 1948: 18-9; Root, 1988: 1-2; Razmjou, 2005: 84). The archive, a small portion of which is preserved, consists of approximately 30.000 tablets (Herzfeld, 1941: 226) and dates back to the the period between 508 and 493 BCE, spanning from the reign of Darius I to Artaxerxes I. It is among the most important sources for Achaemenid culture (Hallock, 1969: 1; Garrison, 2017: 27-8). The seals found in the archive are crucial for Achaemenid iconography. The archives, which are not limited to local food production, also encompass various social and economic issues. By focusing on different segments of society, they provide important insights into the overall structure of the kingdom (Hallock, 1973: 320). They provide information on various subjects such as religious practices, administrative mechanisms of the kingdom, trade routes, languages, society and so on (Garrison, 2017: 27-8).

Fire altars attributed to the Achaemenid period generally appear in these visual sources in two main forms. The first one features a stepped structure, supported by a column or conical-shaped base. The other one is a rectangular structure with its upper part shaped as a tower or adorned with triangular masses (Garrison, 2017: 1). Yamamoto described them in three groups: tower structure, stepped structure and slender shaft (Yamamoto, 1979: 31). The evidence obtained from Persepolis provides information about two different types of altars. The seal PFS 11 (fig.13) represents the tower altar, while the seal PFS 75 (fig.14) serves as an example of the stepped altar (Garrison, 2009: 51). Overall, there are depictions described as stepped, tower, or stepped tower in the archive.

The stepped structures depicted on the seals are portrayed with one or two attendants in some cases, and in others, they are represented with sacrificial rituals (Garrison, 2017: 123-7; 128-131; 132-7; 138-145). When examining examples of stepped structures, although some differences may emerge, the most prominent and defining feature shared by all is the blazing of the fire and the three-stepped podium. Each step of the podium becomes wider moving from the bottom step to the top step. However, in some cases, two-stepped or even single-stepped structures are observed. These stepped podiums with varying bases have been examined in four different types: conical support (PFS 578s, PFUTS 110s, PFUTS 156, PFUTS 147, PFUTS 149) (fig.15), tripod support (PFUTS 66, PFUTS 91, PFS 2360, PFUTS 615, PFUTS 614) (fig.16), broad rectangular support (PFUTS 154, PFUTS 610, PFUTS 618) (fig.17) and columnar support(s) with or without a base PFUTS 111, PFUTS 148, PFUTS 94, PFUTS 285, PTS 20, PT5 791) (fig.18) (ibid: 248-250) (ibid: 248-50).

The tower structures mentioned in the fire altars are divided into two main groups: crenelled top and V-shaped top. Tower structures are generally the largest elements in the scenes they depict, apart from their distinctive characteristics. Scientists have not reached a clear consensus on tower structures. However, there is no indication of fire present in the depictions of tower structures. (ibid, 2017: 272; 297). Due to the lack of consensus on the use of towers, the article focuses on depictions of fire altars or fire holders found in this archive.

Not included in the Persepolis archives but one seal from Gordion, Anatolia stands out significantly within the context of fire altars. Gordion SS 100 (Cat. No. 33 2342 SS 100) (fig.19) worship scene consist of a fire altar, two bearded crowned figures in court robes, pedestal sphinxes, a wigned disk, a half figure, floral elements of lotus, phialai and an Aramaic inscription (Dusinberre, 2005: 51-2.).

Temples

The common belief found in classical sources is that the Persians did not have statues, temples, or places of worship as highlighted before. For instance, Herodotus mentioned that Persians performed their sacrifices and rituals in open air sacred places because they did not have temples (Hdt. I.131). When Xenophon talks

to us about fire, he does not provide information about temples (Xenophon. Cyropaedia. 8.7.3). While Dino does not acknowledge the existence of temples belonging to the Persians, Clement of Alexandria reports the open air places. (Clement of Alexandria. Procepticus. 5.65.1). According to Cicero the Achaemenid king Xerxes (486 – 465 BCE) ordered the destruction of the temples in Athens because he considered it wrong to confine gods within walls. It is also noted that the Persians had a tradition of viewing sacred statues in human form as undesirable (Cicero. Da Republica. 3.9.14).

The lack of information about fire in the Gathas and the absence of a clear reference to the existence of temples in later sections of the Avesta support the statements of classical writers. However, the absence of a specific term for fire temple in the Avestan language and the mention of the cult of fire temples in the Vendidad section (Vd. VIII. 81. ff). This section, believed to have been created during the Parthian period, has been cited as supporting evidence against the idea that there were fire temples or any kind of temple during the early Achaemenid period (Yamamoto, 1979: 79; Boyce, 1982: 222). Nevertheless, several structures of religious significance dating back to 1400-1000 BCE have been discovered in Central Asia (Askarov/Shirinov, 1994 16-23; Sarianidi, 1998; 1999; cf. Sarianidi, 2002: 162 – 214). Although excavators in the region have referred to these places as fire temples, their connection to Iranians and Indo-Iranians is not certain. This is because they may belong to the indigenous people who inhabited the region before the arrival of the Indo-Iranians in the second millennium BCE (Shenkar, 2007: 171).

While temples dating back to the Achaemenid period have been found, Schippmann has described five out of six structures identified as fire temples from this period as doubtful and questionable. Also, Boyce used Schippmann's research in her arguments. The Ka'ba-i Zardhust at Naqsh-i Rustam and Zendan-i Suleyman in Pasargadae are considered to be temples or fire temples. Their purposes and significance are not fully understood, and a similar Achaemenid tower structure was discovered in Samadlo, Georgia. (Shenkar, 2007: 178) (fig.20, 21). Boyce states that Ka'ba-i Zardhust and Zendan-i Suleyman date back to the pre-Darius and even Cyrus period. The idea that these tower structures served as tombs is supported by their resemblance to the tomb of Cyrus (Boyce, 2001: 458). Another structure is Building 3 (QN3), discovered by Italian archaeologists in Dahan-e Ghulaman in Seistan, described as sacred (Scerrato, 1966; Boucharlat, 2003: 268-9) (fig.22). Probably built near the settlement in the late 6th to early 5th century BCE, whis building bears similarities to the royal architecture of Persepolis while also reflecting the local traditions of Eastern Iran (Stronach 1985: 608). Boyce suggested that this temple could be evidence of a pre-Iranian cult and might represent a tolerance or acceptance of the Seistan people, known to worship Elamite gods until the 5th century (Boyce, 1975b: 458; 1982:128-31).

The oldest known altar in Iran is a well-preserved tower-like structure found at Tepe Nus-e Jan, northwest of Hamadan. This remarkable structure, dating back to around the mid-8th to mid-6th centuries BCE (approximately 700 BCE), is devoid of windows. It is built at the highest point of a prominent rock and contains fire basins (Stronach & Roaf, 2007: 212; Stronach, 1973: 133) (Fig.23). Traces of burning are visible in the shallow fire basin in the center of its square upper surface. Stronach notes the difficulty of maintaining a permanent fire in this shallow basin and suggests that this altar is evidence that the early fires of Media were not permanent and were rekindled at each ceremony. Furthermore, Stronach acknowledges this as a Zoroastrian temple because it was thought Zoroaster lived around 650 BCE during that period (Yamamoto, 1979: 34). According to Yamamoto, the reason this place is called a fire altar is the presence of a wall around it and the knowledge that the fire of Media was used in some temples but did not burn continuously. Additionally, during the Achaemenid period, there were many Elamites and Babylonians who adhered to their own beliefs and were not subject to Zoroastrianism, indicating that the fire cult existed not only among Zoroastrians but also in other religions and cultures (ibid: 34-5).

Another sacred structure dated to the Achaemenid period was found near Erivan in Arinberd (ancient Erebuni). The former Urartian palace was revised for a Persian satrap's residence and later transformed into a fire temple. The structure of this temple resembles that of the temple in Susa (Boyce, 1982: 226). While the structure called āyadanā in Susa is considered an early Iranian temple example, Shenkar has stated that this structure should be dated to the Hellenistic – Parthian period (Shenkar, 2014: 177, cf. Stronach, 1985: 621; Boucharlat, 2005: 242). Dating back to the early 4th century BCE, Tas-K'irman-tepe in Khwarezm and Kuchuk-tepe in the 6th century BCE Bactria are other religiously significant remnants. However, again, no clear relationship has been established. (Shenkar, 2014: 176.)

Along with all these, one commonly accepted belief is that fire rituals conducted in open-air sacred places at high altitudes during the Achaemenid period evolved into enclosed sites with open surroundings in later periods. The institutionalization of fire temples began in the 4th century BCE and continued into the Sasanian period, when it may have responded to the growing prominence of the Anāhitā cult (Boyce, 1982: 222-224). So, according to this interpretation, the cult of fire worship likely emerged during the reign of Artaxerxes II with the establishment of an image cult associated with Anāhitā (Wikander, 1946: 60; Yamamoto, 1979: 108).

Strabo mentions Persian temples in Anatolia and the ever-burning fire (Strabo. Geography. 15.3.15). A similar custom is observed in Pausanias; they constantly feed the fire around an altar in a sacred room and read a text from a book in an incomprehensible language (De Jong, 1997: 347). Fire temples are referred to as **ātarš-kata* (**ātarš-gāθu*) in Old Persian and Avestan, *ātaxšgāh* in Middle Persian, and *ātaşgāh*, *ātaşkade*, or simply "fire place" or "fire house" in Modern Persian (Chosky, 2015: 394).

In Achaemenid inscriptions, the name of the goddess Anāhitā, which first appeared during the reign of Artaxerxes II (r.c. 404 to 358 BCE), is mentioned as "areeduui sura anahita" in the Avesta and as "Anahid" in Middle Persian (Jocobs, 2001: 88; Shenkar, 2014: 66). Unlike his predecessors, Artaxerxes II's inscriptions mention not only Anāhitā but also Miθra (Mithra) alongside Ahura Mazdā (Huart, 1998: 81; Briant, 2002: 251; 253). On the other hand, Anāhitā is dedicated a section in Avesta's Yašt (Yašt V). The conclusion drawn from later inscriptions from the time of Artaxerxes II, especially in specific locations at Hamedan (A^2Ha) and Susa (A^2Sa), is that Miθra (Mithra) and Anāhitā were worshipped alongside Mazda (Saadi-Nejad, 2001: 121) (fig. 24, 25).

The Babylonian priest Berossus recounts that King Artaxerxes Mnemon ordered the erection of statues of Anāhitā in the kingdom's most important cities, such as Babylon, Susa, Ecbatana, Persepolis, Bactria, Damascus, and Sardis (Clement of Alexandria. Procepticus. 5.65.2-5; see more Berossus. III. 65, non-vidi; Wikander, 1946: 69 Briant, 2002: 253.) Also, Berossus claims that Persians had no images of gods until Artaxerxes II erected them. Traces of the erected statues and temples have not been found (Wikander, 1946: 62; Jacobs, 2001: 90). On the other hand, the first mention of the goddess Anāhitā in royal inscriptions is believed to support Berossus's account (Shenkar, 2014: 16).

Although clear evidence regarding this innovation concerning Anāhitā could be obtained, a small temple located not far from the Achaemenid palace in Susa is noteworthy (Schippmann, 1971: 266-9). While the basic traces of the temple have been lost and some parts have been unearthed, the excavator M. Dieulafoy dates it to the reign of Artaxercxes II (Wikander, 1946: 70; Schippmann, 1971: 272-3). The reason for this is the similarity between the column bases found in the small temple and a bell-shaped column base with a short inscription found in Susa. Some researchers describe this place as one of the Anāhitā temples that began to be established during the reign of Artaxerxes II, while others have called it a fire temple. (Boyce, 1975: 459). However, Schippmann expresses that there is possible but insufficient evidence to claim that the Susa complex was dedicated to Anāhitā (Schippmann, 1971: 272). It should also be noted that the columns

might have been reused here during the Parthian period. Regardless of the exact date, Boyce states that it is uncertain what type of cult object was present in the sacred area of the temple (Boyce, 1982: 225-6).

The oldest Iranian temple in Anatolia, dating back to the sixth century BCE and located in Zela in Cappadocia, was devoted to Anāhitā and a deity referred to as "Omanos"(Saadi-Nejad, 2001: 120). Ancient Greek writers associated Anāhitā with ancient Greek goddesses such as Aphrodite (Urania), Athena, and Artemis (ibid: 120). The oldest written evidence of Anāhitā is found in Herodotus. According to Herodotus, the cult of Anāhitā was present in the Iranian pantheon but was introduced later (Hdt 1.131). Although Herodotus mistakenly referred to the god Miθra (Mithra) as a celestial goddess, research has revealed that he was actually referring to Anāhitā (Wikander, 1946: 56; De Jong, 1997: 104; 107-9; 269). Additionally, later Greek writers referred to this goddess as "Aphrodite-Anaïtis" (Saadi-Nejad, 2001: 120).

Plutarch states that Artaxerxes II was crowned in the temple of a war goddess, presumably Athena (Plutarch. Artaxerxes. 3.1-2). Additionally, he mentions another temple devoted to Artemis, who is likely, another form of Anāhitā and known as Anaïtis, in Ecbatana (Plutarch. Artaxerxes. 27.3.) According to Strabo, the Armenians, Persians, and Medes, who shared the same religious beliefs, held great reverence for Anaïtis (Anāhitā) (Strabo. Geography. 11.14.16). Especially from the 1st century AD onwards, there was a huge statue dedicated to Anaïtis in a temple of Anāhitā in the city of Eriza in Acilisene. This statue was worshipped, and it was plundered by the Roman Empire in 34/36 BC (Pliny the Elder. The Natural History. 33.24; 5.20).

Xenophon describes a magnificent royal ceremony with three chariots that was performed every year during the reign of Cyrus the Great. Following the sacrifice, a chariot with a white horse, representing that of Ahura Mazdā (Zeus), chariots representing those of the sun (Miθra - Helios), and presumably a fire altar adorned with purple trappings for Anāhitā (Hestia), passed before the king and the aristocrats of his court (Xenophon, Cyropaedia. 8.3.12).

The erection of temple statues appears to be a significant innovation in Iranian religious practices, and it is believed that this innovation was the personal initiative of Artaxerxes II (Jacobs, 2001: 88). This is accepted as an innovation because the Persians were known for not creating physical representations of their gods (Sarianidi, 1999: 302). Also, it looks like this image cult emerged after the periods observed by Herodotus (De Jong, 1997: 93). The construction of Anāhitā statues, which began during the reign of Artaxerxes II, is generally attributed to influences from foreign cultures. Some scholars, like Meyer, Cumont, and Boyce, believe this temple image has Sumerian origins, while others, like Windischmann and Wikander, attribute it to the Greeks (Wikander, 1946: 62; Saadi-Nejad, 2001: 121).

Recent excavations at Oluz Höyük in Amasya, dated to the mid-5th century BCE, have raised the possibility of the presence of a fire temple associated with the Achaemenid period (Saba, 2021: 151-174). This is due to several factors: the Persians are known to have conducted their worship in open and elevated areas, and the institutional development of temple cults in Iran is believed to have begun primarily during the Achaemenid period. Furthermore, most Anāhitā sanctuaries in Anatolia were constructed on natural high grounds (Klingenberg, 2020: 110) These considerations make it difficult to definitively categorize the Oluz Höyük structure as a fire temple. Therefore, while the site may represent an early example of Achaemenid religious architecture in Anatolia, current archaeological evidence remains inconclusive and open to interpretation. Furthermore, it should be noted that research on Oluz Höyük remains limited to investigations conducted by the excavation team, and independent or supplementary studies are currently lacking.

However, the Bünyan Altar found in Kayseri and the Arebsun Inscription from Nevşehir can be indirectly associated with the fire cult, although not in a direct manner (Dusinberre, 2005: 235; Boyce, 1982: 274-275). While the Arebsun Inscription does not explicitly reference a fire altar or fire cult, the mention of deities such

as Ahura Mazda and Bel suggests a religious content and indicates that the text likely pertains to a place of worship. These divine names also reflect the inscription's Persian and Mesopotamian religious influences.

On the other hand, the depictions of Persian priests (magi) on the Bünyan Altar are particularly noteworthy. These figures bear strong iconographic similarities to reliefs found at sites such as Daskyleion, Persepolis, and Naqsh-e Rustam (Karagöz, 1997: 137). The priests on the altar are portrayed holding a phiale (libation bowl) instead of the traditional barsom (sacred bundle), an iconographically distinctive element that nevertheless signifies the representation of a ritualistic religious ceremony. Furthermore, the priests (magi) are depicted wearing the typical Persian headgear and kandys robes, clearly grounding these representations within Persian religious traditions (Karagöz, 1997: 145). Given that priest (magi) traditionally played roles closely linked to fire in Zoroastrian rituals, this altar may be indirectly connected to the fire cult.

Nonetheless, neither example provides direct or unequivocal evidence of a fire altar or fire cult practices. Therefore, the Arebsun Inscription and Bünyan Altar should be considered as examples that can be associated with the fire cult primarily through indirect religious indicators and secondary iconographic elements.

Conclusions

While there is no debate about the sacredness and significance of fire based on information obtained from classical and modern sources, the issue of temples is controversial. Additionally, fire, being vital, has existed in the cults of most societies and is considered a universal cult. Fire also holds an important place in Iranian cults. Herodotus mentioned the Persians' reverence for fire but did not emphasize it as a distinctive feature of their religion (Hdt. 3.16). Therefore, despite the existence of a sacred fire, the lack of institutional temple structures from that period remains a gap in terms of sources and data. Contrary to classical sources, Avesta, and royal inscriptions, archaeological evidence reveals the presence of temples among the Iranians in the territories under the kingdom's dominion. However, reaching a definitive conclusion about the detailed or specific purpose of these sacred temples or structures and their worship rituals is challenging. These structures could have belonged to the local populace before the Indo-Iranians migrated to the region, or they could have been primarily associated with the cultures of the Indo-Iranian peoples. This is because a homogeneous and equal cult cannot be assumed across all Iranian territories.

The debated and complex issue regarding the religious beliefs of Achaemenid kings or the official state religion revolves around whether it was Zoroastrianism or not. Despite well-conducted scholarly research, there is no universally accepted solution. Another perspective suggests that the court religion of the Achaemenid kings resembled a fourth Iranian religion alongside Magism, Mithraism, and Zoroastrianism. From this examination, it appears to be an independent yet inherently syncretic religion (Cameron, 1948: 18). Even tablets that have survived to the present day have not been able to solve this mystery. Regarding fire worship, unlike in India, traces of the essence of the hearth fire are found in Iranian fire worship. Additionally, there is a respect for fire as a pure element that should not be polluted. However, during the Arsacid period and subsequent periods, according to Greek and Latin writers, Persians have been specifically referred to as fire worshipers or fire worshipers. (Wikander, 1946: 57-9).

Again, based on information from classical sources, it can be inferred that the Achaemenids, unlike other Iranian communities such as the Medes, adhered more closely to nomadic Indo-Iranian traditions in their worship practices. Therefore, it is likely that they utilized open-air temples instead of enclosed ones or practiced an Iranian cult whose definition has yet to be fully established. When the nomadic Iranians encountered advanced civilizations like Elam and Mesopotamia, they may have come into contact with temple cults. However, the mystery of the āyadanā confuses matters at this point, as it could have been used in some kind of temple context. The āyadanā mentioned in the Behistun Inscription, which were destroyed

by Gaumata and rebuilt by Darius I, contradict Herodotus's accounts if they are temples. However, it should not be forgotten that besides physical structures, they could also refer to open-air sacred places. Therefore, there must be a significant connection between the cult of fire and the āyadanā.

In contrast, while the definition of religion, especially in the early periods of the Achaemenid era, remains problematic, the characteristics of ancient Indo-Iranian traditions are similarly not fully elucidated. Therefore, determining precisely when the temple cult was established is difficult. Additionally, debates about Zoroastrianism, the religion's temple structures, and whether the Achaemenids were Zoroastrians have been added to all of this. The developments that Zoroastrianism, which has ancient origins and has continued into modern times, has undergone over this long period should also be taken into account.

Fire altars depicted on Achaemenid seals, coins and bullae are considered by P.S.R. Moorey to be one of the most significant innovations of the period (Moorey, 1978: 149). A similar perspective applies to the connection between temples and Anāhitā. Sarianidi suggests that Persian worship was not directed towards specific gods but rather towards concepts represented by the gods. For example, a temple may be dedicated not only to the god of fire but generally to fire itself (Sarianidi, 1999: 302-3). In this case, the connection or issues between Anāhitā and the cult of fire are noteworthy.

The general view is that Anāhitā's prominence during the reign of Artaxerxes II coincides with the "first" fire temples. It is concluded that the introduction of the cult of Anāhitā coincided with the king's personal relationship and the establishment of temples marked the beginning of idolatry. In Achaemenid Royal inscriptions, thanks are also given to Ahura Mazdā and other gods. Since the names of other gods are not mentioned, we do not know who they are. Therefore, worship of the goddess Anāhitā may have existed before the time of Artaxerxes II. Perhaps this cult was initially visually represented primarily in the western regions (Jacobs, 2001: 90). Similarly, Iranians have been worshiping Miθra since ancient times, but they may not have elevated him to a specific status or official position within the royal court. Rather, while worship among the populace may have been widespread, kings may not have had a special place for him in their official religious practices (Huart, 1998: 82). The reason for these views, of course, is the absence of their names in royal inscriptions before Artaxerxes II. At this point, as in many other matters, a clear conclusion cannot be reached.

In conclusion, many unanswered questions still arise regarding religion in the Achaemenid period. The cult of fire, fire altars, and fire-holders, as well as temple structures, are the best examples of this situation. The limited number of sources from the period, the influence of information found in classical sources on one another, and incomplete or incorrect accounts are among the factors contributing to this situation. Classical sources should be critically examined because they provide information from the Greek perspective. Focusing on the relationship between Anāhitā and the cult of fire may help solve issues related to temple structures. However, it should not be overlooked that while the Persians established dominance over a vast geographical area, the Iranian geography must also be considered. Due to the presence of different communities in various regions of the state, cultural syntheses or interactions are normal. Still, even in the Iranian geography, it is difficult to speak of a single composite culture.

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Author Details Elif Hatice İlkkurşun
[1] Istanbul University, Institute of Social Sciences, Department of Ancient History, Istanbul, Türkiye
0000-0001-6151-648X ehilkkursun@gmail.com

References

Askarov, A. & Shirinov T. (1994), The Palace, Temple and Necropolis of Jarkutan, *Bulletin of Asia Institute 8*, 13 – 26.

Boucharlat, R. (2003). The Persepolis area in the Achaemenid period. In N. F. Miller & K. Abdi

(Eds.), *Yeki bud, yeki nabud: Essays on the archaeology of Iran in honor of William M.*

Sumner (Monograph Series 48, pp. 261-265). Cotsen Institute of Archaeology at UCLA.

Boucharlat, R. (2014). Fire altars and fire temples in the first millennia BC/AD in the Iranian world:

Some remarks. In P. Bielinski et al. (Eds.), *Proceedings of the 8th International Congress on the*

Archaeology of the Ancient Near East (Vol. 1, pp. 7–25). Wiesbaden: Harrassowitz Verlag

Boyce, M. (1975a). *A History of Zoroastrianism*, Volume I Early Period, Leiden: E.J. Brill.

Boyce, M. (1975b). On the Zoroastrian temple cult of fire. *Journal of the American Oriental Society, 95*(3), 454–465.

Boyce, M. (1979). *Zoroastrians: Their Religious Belief and Practices*. London: Routledge & Kegan Paul.

Boyce, M. (1982). *A History of Zoroastrianism: Volume II, Under the Achaemenians*. Leiden: E.J. Brill.

Boyce, M & Grenet, F. (1991). *A History of Zoroastrianism Volume Three Zoroastrians Under Macedonian and Roman Rule*. Leiden: E.J. Brill.

Briant, P. (2002). *From Cyrus to Alexander, A History of the Persians Empire*, (P. T. Daniels, Trans)., Winona Lake, IN: Eisenbrauns.

Brosius, M. (2006). *The Persians* (1st ed.). Routledge.

Cameron, G. G. (1948). *Persepolis treasury tablets*. Chicago, IL: The University of Chicago Press.

Canepa, M. P. (2018). *The Iranian expanse: Transforming royal identity through architecture, landscape, and the built environment, 550 BCE–642 CE*. Berkeley: University of California Press.

Cantera, A. (2019). Fire, the greatest god (ātarš ... mazišta yazata): The cult of the "eternal" fire in the rituals in Avestan. *Indo-Iranian Journal, 62*, 19–61.

Chosky, J. K. (2015). Religious sites and physical structures. In M. Stausberg & Y. Sohrab-Dinshaw Vevaina (Eds.), *The Wiley Blackwell companion to Zoroastrianism* (pp. 393-407). Chichester: Wiley Blackwell.

Curtis, V.S. & Tallis, N. (2005). *The Forgotten Empire: The World of Ancient Persia*, The British Museum Press: London.

de Jong, A. (1997). *Traditions of the magi: Zoroastrianism in Greek and Latin literature*. Leiden: E.J. Brill.

de Jong, A. (2015). Religion and politics in pre-Islamic Iran. In M. Stausberg & Y. Sohrab-Dinshaw Vevaina (Eds.), *The Wiley Blackwell companion to Zoroastrianism* (pp. 85–101). Chichester: Wiley Blackwell.

Daryaee, T., & Rollinger, R. (2021). *Iran and its histories: From the beginnings through the Achaemenid Empire*. Wiesbaden: Harrassowitz Verlag.

Degen, J. (2024). Xerxes I, and heir of Assyria? The Daiva inscription in context. *Journal of Near Eastern Studies, 83*(1), 41–58. Chicago: The University of Chicago Press.

Dusinberre, E. R. M. (2005). *Gordion seals and sealings: Individuals and society*. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.

Frazer, J. G. (1930). *Myths of the origin of fire*. London: Macmillan and Co.

Frye, R. N. (2010). Cyrus the Mede and Darius the Achaemenid? In J. Curtis & S. Simpson (Eds.), *The World of Achaemenid Persia* (pp. 17-19).

Garrison, M. B. (2017). Beyond Auramazdā and the winged symbol: Imagery of the divine and numinous at Persepolis. In W. Henkelman & C. Redard (Eds.), *Persian religion in the Achaemenid period / La religion perse à l'époque achéménide* (pp. 185-254). Wiesbaden: Harrassowitz.

Garrison, M. (2017). *The ritual landscapes at Persepolis: Glyptic imagery from the Persepolis fortification and treasury archives*. Chicago: The University of Chicago.

Gnoli, G. (2011). Daivadana. In *EncIr Online*.

Hallock, R. T. (1969). *Persepolis fortification tablets*. Chicago: The University of Chicago Press.

Henkelman, W. F. (2012). The Achaemenid heartland: Archaeological–historical perspective. In D. T. Potts (Ed.), *A companion to the archaeology of the ancient Near East* (pp. 931–962). Malden, MA: Blackwell Publishing.

Herzfeld, E. E. (1941). *Iran: The ancient East archaeological studies presented in the Lowell Lectures at Boston*. New York: Oxford University Press.

Houtkamp, A. (1991). Some remarks on the fire altars of the Achaemenid period. In J. Kellens (Ed.), *La religion iranienne à l'époque achéménide* (pp. 23–49). Gent.

Huart, C. (2008). *Ancient Persia and Iranian civilization* (M. R. Dobie, Trans.). New York: Routledge.

Jacobs, B. (2001). Kultbilder und Gottesvorstellung bei den Persern – Zu Herodot, Historien 1.131 und Clemens Alexandrinus 5.65.3. In H. Sancisi-Weerdenburg et al. (Eds.), *Achaemenid Anatolia: Proceedings of the First International Symposium on Anatolia in the Achaemenid Period* (pp. 83–90). Leiden: Uitgaven van het Nederlands Historisch-Archaeologisch Instituut te Istanbul.

Jacobs, B. (2006). Die Religion der Achameniden. In A. Koch & E. Rehm (Eds.), *Das persische Weltreich* (pp. 213- 221). Stuttgart.

Lecoq, P. (1997). *Les inscriptions de la Perse achéménide*. Paris: Gallimard.

Karagöz, Ş. (1997). Küçük Asya Tipi Greko-Pers Bir Eser, Bünyan Sunağı, *Anadolu Araştırmaları,* (ss. 137-45).

Klingenberg, A. (2020). *Die Iranishche Diaspora in Kleinasien Kontinuat und Wandel des persischen Erbes nach dem Ender der achaimenidischen Herrschaft.* Dr. Rudolf Habelt GMBH, Bonn.

Legrain, L. (1925). *The culture of the Babylonians from their seals in the collection of the museum: Text and plates*. Publications of the Babylonian Section, 14. Philadelphia: University of Pennsylvania.

Malandra, W. W. (1983). *An introduction to ancient Iranian religion: Readings from the Avesta and the Achaemenid inscriptions* (NED-New edition). University of Minnesota Press.

Maringer, J. (1974). Das Feuer in Kult und Glauben der vorgeschichtlichen Menschen. *Anthropos, 69*(1/2), 68–112.

Moorey, P. R. S. (1978). The iconography of an Achaemenid stamp-seal acquired in Lebanon. *Iran, 16*, 143–154.

Potts, D. T. (2013). *A companion to the archaeology of the ancient Near East* (Vol. I–II). Chichester: Wiley Blackwell.

Potts, D. T. (2021). Geography and climate. In B. Jacobs & R. Rollinger (Eds.), *A companion to the Achaemenid Persian Empire* (Vol. I, pp. 13-26). Wiley Blackwell.

Razmjou, S. (2005). Religion and burial customs. In J. Curtis & N. Tallis (Eds.), *Forgotten empire: The world of ancient Persia* (pp. 150-180). The British Museum Press.

Root, M. C. (1979). *The king and kingship in Achaemenid art*. Leiden: Brill.

Root, M. C. (1988). Evidence from Persepolis for the dating of Persian and Archaic Greek coinage. *The Numismatic Chronicle*, 148, 1-12.

Rossi, A. V. (2021). The inscriptions of the Achaemenids. In B. Jacobs & R. Rollinger (Eds.), *A companion to the Achaemenid-Persian Empire* (pp. 75–85). Hoboken, NJ: Wiley-Blackwell.

Saadi-nejad, M. (2001). *Anāhitā: A history and reception of the Iranian water goddess*. London: I.B. Tauris.

Saba, M. (2021). Zerdüşt Dini'nin Anadolu Yayılımı: Oluz Höyük Geç Demir Çağı Bulguları Işığında, İstanbul. (Doktora Tezi)

Sancisi-Weerdenburg, H. (Ed.). (1987). *Achaemenid history, I: Sources, structures and synthesis* (Proceedings of the Groningen 1983 Achaemenid History Workshop, pp. xiv + 196). Leiden: Nederlands Instituut voor het Nabije Oosten. Paper.

Sarianidi, V. (1998). *Margiana and proto-Zoroastrianism*. Athens: Kapon editions.

Sarianidi, V. (1999). Near Eastern Aryans in Central Asia. *Journal of Indo-European Studies*, 27(3/4), 295-326.

Sarianidi, V. I., & Margus. (2002). *Ancient Oriental Kingdom in the Old Delta of the Murghab River*. Ashgabat, Turkmenistan: Türkmendöwlethabarlary.

Scerrato, G. (1979). Evidence of religious life at Dahan-e Ghulaman, Sīstān. In M. Taddei (Ed.), *South Asian archaeology 1977 II* (pp. 709-735). Naples.

Scerrato, S. (1966). Excavations at Dahan-I Ghulaman: First preliminary report (1962-1963). *East and West, 16*, (186 – 197). Rome.

Schmitt, R. (1991). *The Bisitun inscriptions of Darius the Great: Old Persian text*. Corpus Inscriptionum Iranicarum.

Schippmann, K. (1791). *Die iranischen Feuerheiligtümer*. Berlin & New York: Walter de Gruyter.

Shenkar, M. (2007). Architecture in the Iranian world before the Macedonian conquest. *Iran & the Caucasus, 11*(2), 169–194.

Shenkar, M. (2014). *Intangible spirits and graven images: The iconography of deities in the pre-Islamic Iranian world*. Leiden & Boston: Brill.

Skjærvø, P. O. (2011). *The spirit of Zoroastrianism*. New Haven & London: Yale University Press.

Stronach, D. (1985). On the evolution of the early Iranian fire temple. In *Papers in honor of Prof. Mary Boyce* (pp. 479–491). *Acta Iranica, 23*.

Stronach, D. (1978). *Pasargadae: A report on the excavations conducted by the British Institute of Persian Studies from 1961 to 1963*. Oxford: Clarendon Press.

Stronach, D. and Roaf (2007).

Tavernier, J. (2021). Peoples and languages. In B. Jacobs & R. Rollinger (Eds.), *A companion to the Achaemenids* (Vol. I, pp. 39–52). Wiley Blackwell.

Taylor, I. (1980). *The origin of the Aryans*. Scribner & Welford.

Tiele, C. P. (1932). *The religion of the Iranian peoples* (G. K. Nariman, Trans.). Bombay: The Parsi Publishing Co.

Vanden Berghe, L. (1983). *Reliefs rupestres de l'Iran ancien: Bruxelles, Musées royaux d'art et d'histoire, 26 octobre 1983–29 janvier 1984*. Bruxelles: Les Musées.

Widengren, G. (1965). *Die Religionen Iran*. Stuttgart: W. Kohlhammer Verlag.

Wiesehöfer, J. (2001). *Ancient Persia from 550 BC to 650 AD* (A. Azodi, Trans.). London & New York: I.B. Tauris Publishers.

Wikander, S. (1946). *Feuerpriester in Kleinasien und Iran*. Lund: C.W.K. Gleerup.

Yamamoto, Y. (1979). The Zoroastrian temple cult of fire in archaeology and literature. *Orient, 15*, 19–53.

Online Sources

Livius

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-tomb-iv/achaemenid-tomb-iv-upper-register/

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-tomb-i/tomb-i/

https://www.livius.org/pictures/iran/persepolis/persepolis-royal-tombs/persepolis-tomb-of-artaxerxes-iii-upper-register/

https://www.livius.org/pictures/iran/behistun/behistun-darius-relief-and-inscription/

https://www.livius.org/pictures/iran/persepolis/persepolis-museum-pieces/xph-daiva-inscription/

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-tomb-iv/achaemenid-tomb-iv-upper-register/

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-tomb-iii/tomb-of-darius-the-great-dna/

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-tomb-iii/tomb-of-darius-the-great-dnb/

https://www.livius.org/pictures/iran/pasargadae/pasargadae-zendan-of-suleyman/

https://www.livius.org/pictures/iran/naqs-e-rustam/naqs-e-rustam-kabah-e-zardusht/naqs-e-rustam-kabah-e-zardusht/

Garrison, M. (2012). Fire altars. In *Encyclopædia Iranica* (Vol. IX, No. 6, pp. 613-619). Retrieved from http://www.iranicaonline.org/articles/fire-altars

Gnoli, G. (2011). Daivadana. In *Encyclopaedia Iranica Online*. Retrieved from https://www.iranicaonline.org/articles/daivadana-lit

CAIS-SOAS

http://www.cais-soas.com/CAIS/Religions/iranian/Zarathushtrian/fire_alters.htm

Iranica Online

https://www.iranicaonline.org/uploads/files/dahan-fig35.jpg

Wikimedia

https://en.wikipedia.org/wiki/Tomb_of_Artaxerxes_I_of_Persia#/media/File:Naghsh-e_rostam,_Ir%C3%A1n,_2016-09-24,_DD_13.jpg

https://upload.wikimedia.org/wikipedia/commons/thumb/d/d0/Persepolis_Tomb_of_Artaxerxes_II_Mnemon_%28r.404-358_BCE%29_Upper_Relief.jpg/1024px-Persepolis_Tomb_of_Artaxerxes_II_Mnemon_%28r.404-358_BCE%29_Upper_Relief.jpg

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Research Article

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Stamped Amphora Handles from Lysimachia and its Harbours

Göknur Bektaş [1]

[1] Istanbul University, Faculty of Letters, Department of Archaeology Istanbul, Türkiye

Abstract

Stamped amphorae fragments from Cardia (Bakla Burnu), Agora/Cherronesus/Chersonesus (Bolayır) and Pactye (Maltepe Höyük) on the isthmus of Thracian Chersonesus were evaluated. The pottery fragments collected during the surveys conducted in Thrakia and the Gallipoli Peninsula (Chersonesus) under the direction of Prof. Dr. Mustafa. H. Sayar on behalf of the Istanbul University, Southeastern European Studies Center, in 2006, 2011, and 2012 were discussed within the scope of the doctoral thesis, and finds from the Prehistoric period to Byzantine period were evaluated. These settlements, which were the scene of Athenian colonisation after Miletus and Clazomenai, were united with *synoikismus* by Lysimachus in 309/8 BC in order to become the capital (Lysimachia) of his kingdom. After the death of Lysimachus in 281 BC, they were the scene of the conflicts of the Hellenistic kingdoms as well as the raids of the Galat and Thracian tribes, finally being completely abandoned in 144 BC. The site's status under the Roman administration is still uncertain, but it is known that the settlement was given the status of *ager publicus*. The stamped amphorae constitute a group of finds that best reveal the economic, commercial, and cultural structure of these settlements originally indipendent cities, later organized as an acropolis (Agora), a harbor (Cardia), and a surrounding district (Pactye)- during the 4th to 2nd centuries BC. It was observed that the settlements had commercial interactions with the cities of Mende, Parmeniskos group (Macedonia, Chalkidike), Thasos, Acanthus, Alexandria Troas, Rhodes, Cos, Cnidus, Nikandros group (Metropolis-Ephesus-Miletus), Heraclea Pontica, and Sinope.

Keywords Lysimachia · Cardia · Agora · Pactye · amphora · stamp

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Corresponding author: Göknur Bektaş gknrbkts@gmail.com

Introduction

Stamped handles have an important place among pottery fragments collected during the surveys conducted in 2006, 2011, and 2012 under the direction of Prof. Dr. Mustafa H. Sayar at the Istanbul University, Southeastern European Studies Center. In the doctoral thesis completed in 2021, ceramics collected during these surveys were the primary focus of evaluation.

Stamped amphorae, such as potsherds and unstamped amphorae fragments, play a crucial role in illustrating the overall condition of the autonomous cities situated on the isthmus of Thracian Chersonesus and the capital during the Hellenistic period. After the death of Lysimachus at the battle of Coroupedium, the city was being crutial role for Hellenistic kingdoms, and during the Galatian raids. In 196 BC, Antiochus III initiated the reconstruction of the city of Lysimacheia, as well as fortification of the Chersonese with the aim of establishing it as an administrative centre for his son Seleucus Philopator (Polybios, *Historiai*, xviii, 51, 7; Livius, *Ab Urbe Condita*, xxxiii, 38, 10; xxxiii, 40, 6; xxxiii, 41, 4; Appianos, *Syriaka*, 1,1; 1, 3; 6, 28; Cohen, 1978: 62-63).

Following the derstruction of the city by Diegylis in 144 BC, Lysimachia was deserted, and the stuation of both the city and peninusula became unclear. Additionally, a significant number of inscriptions found in the city of Lysimachia date to the Roman period, indicating that it was not completely deserted after 144 BC. After this date, though, the peninsula and Lysimachia became "*Ager publicus*".

The aim of this article is to provide information about the commercial relations of Lysimachia and its three predecessor free cities in the Thracian Chersonesus through collected amphora fragments, ceramics, stamped handles, as well as through the harbours and trade routes of Lysimachia. A total of fifty-eight stamps (4th–2nd centuries BC) were collected from Cardia (seven), Agora/Cherroneus/Chersonesus (forty-nine), Pactye (two), and Lysimachia region as a whole, which became the capital city of Lysimachus after the three cities were united by *synoikismus* (309/8 BC) (Map 1 - Map 2). Three of these stamps are on red-slipped jug (No. 36), jug (No. 35) and lagynos handle fragment (No. 15) from Agora/Lysimachia. Given that some of the fifty-eight stamps were either identical or illegible, only thirty-six distinct stamps have been evaluated in this study.

Map 1

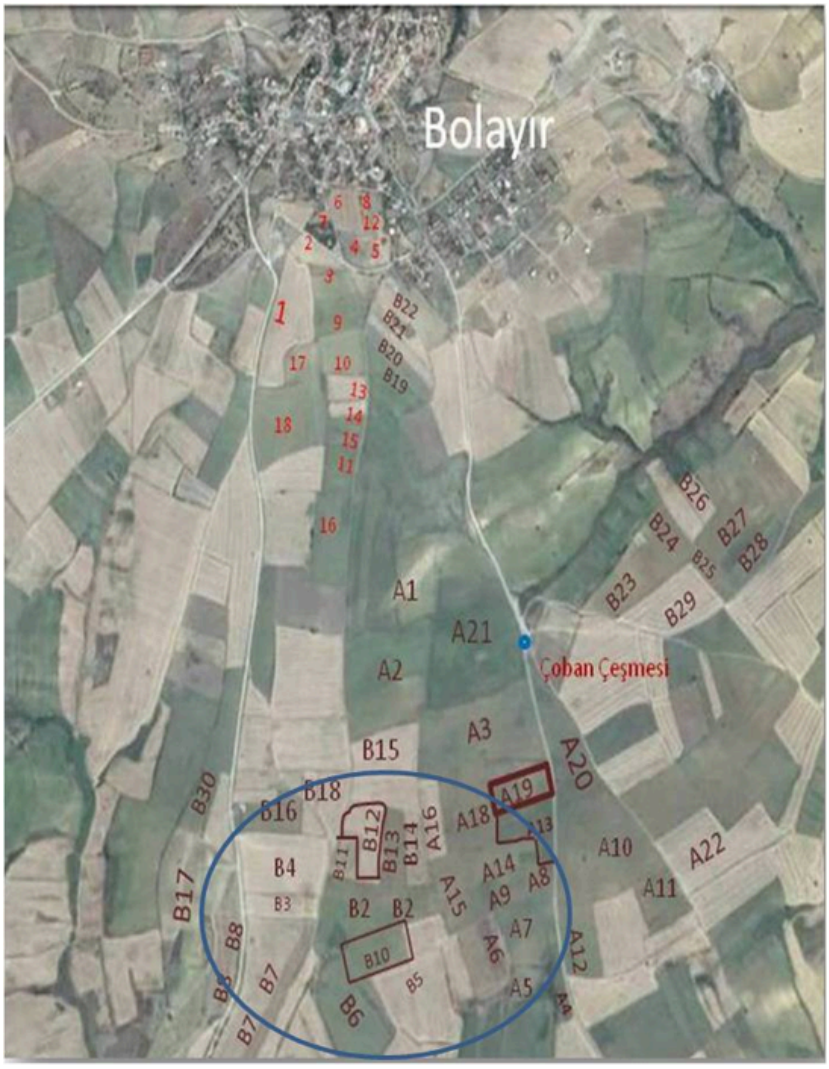
North Aegean and Thracian Chersonesus.

Map 2

Bakla Burnu (Cardia), Bolayır (Agora), Maltepe Höyük (Pactye) and Kazanağzı (Agoraion Teichus/Macron Teichus)

Map 3

Field numbers of Bolayır with the circle of find.



Map 4
Bakla Burnu field numbers and slipway on the cape.

Recent publications, and newly unearthed stamps necessitated a reassessment of the subject. During the surveys, amphorae were found primarily in Cardia and Agora. Since the spatial distribution of amphora fragments and potsherds closely mirrors that of the stamped amphorae, the study has focused particularly on the stamped amphora fragments are discussed (Bektaş, 2021: 80-83, 156-161, 200-202, Map 12-15).

The city of Lysimachia, located in the present-day town of Bolayır in Thracian Chersonesus, was founded by Lysimachus in 309/308 BC by the *synoikismus* of Cardia, Agora and Pactye. It remained the capital city of Lysimachia until Lysimachus' defeat at Coroupedium in 281 BC, after which it was abandoned entirely in 144 BC. Lysimachia which the Hellenistic kingdoms always desired to acquire, lost its importance as a small settlement after the 1st century AD. The "Agoraion Teichus/Macron Teichus" located at Kazanağzı and in use from Archaic to Byzantine period, continued to serve a strategic role in protecting the Thracian Chersonesus, its trade routes, and the capital city of Constantinople (Map 2).

Since the 8th century BC, the city of Agora has held significant strategic value due to its placement along the road network linking the peninsula with other regions of Thrace and the Black Sea, as well as its dominant position overseeing both coastlines. The fact that it was called Cherronesus/Chersonesus before the *synoikismus* and later named Agora points to this importance and its continued function in the Hellenistic period.

Cardia is a harbour city overlooking the Melas Kolpos (Saroz Gulf) and connected to the main road, and ancient sources indicate that it was one of the most important cities of the peninsula in its period. Pactye, on the Hellespontus coast, is smaller in size and, unlike the other cities of the peninsula, is a harbour city that does not dominate the strait. The fact that it is rarely mentioned in sources and defined as the neighbourhood of Lysimachia after the *synoikismus* supports this remark.

Cardia, on the coast, continued to serve as the harbour of Lysimachia at Melas Kolpos with its slipway stil preserved and visible today (Map 4). Pactye is located at Maltepe Höyük today; the harbour is not visible due to alluvial fill. In addition to this evidence, the distribution of finds and the comparison with Bolayır and Bakla Burnu suggest that the harbour of Pactye was smaller and of secondary importance to Cardia.

Methods

The discovered stamps and potsherds have been evaluated by comparing them with shipwrecks and excavation data. Additionally, museum catalogues have also been used as a basis for dating. Thirty-six finds have been considered, excluding unreadable and identical examples from the fifty-eight stamps. One of these is on a red-slipped jug handle piece (No. 36), jug (No. 35) and another could belong to handles of small Thasian amphora or lagynos (No. 15), while the other fifty-five stamps are on amphorae.

Mende, Parmeniskos group, Thasos/Thasian type, Acanthus, Alexandria Troas are evaluated under the "North Aegean" amphorae stamps, while Rhodes and its peraea, Cos, Cnidus, Nikandros group (Metropolis-Ephesus-Miletus) are evaluated under "South Aegean" section. Only one, from Heraclea Pontica, is categorised in the "Black Sea" group. The illegible stamps or whose production site cannot be determined are interpreted under the "Unknown Origin" section.

The determination of the illegible stamps are specified according to the clay (Munsell Soil Color Charts (2010)) and form of rim or handles. The most clearly visible conditions of the stamps (copies, photographs or drawings) are presented in the images of the catalogue. The earliest Mendean and Thasos/Thasian type stamps are listed chronologically. Although Mende, Parmeniskos group (Macedonia and Chalkidike), and Acanthus in the Chalkidike peninsula are in the same geographical region, the Acanthian stamps found during the surveys are generally dated to the end of the 4th century BC and are listed before the Alexandria Troas in the "North Aegean" group.

During the collection of the surface finds, the fields were numbered and catalogued as follows: T1-T20 for the acropolis of Lysimachia and the ancient polis of Agora before capital city of Lysimachia; A1-A21 for Çoban Çeşme locality; B1-B30 for south of Çoban Çeşme and east of the area that may be the acropolis of Agora/Lysimachia (Map 3). At Maltepe Höyük (Pactye), finds were collected from the “summit”, the “northern slope”, and half of its “south” side, which has been destroyed due to a limestone quarry. At Bakla Burnu (Cardia), the fields are numbered as T1-T25 (Map 4).

With the *synoikismus* in 309/308 BC, the cities of Cardia, Agora and Pactye were united and became the harbours and acropolis of the capital of Lysimachia. For this reason, Cardia-Bakla Burnu, Agora-Bolayır or Pactye-Maltepe Höyük have been described as the site of the stamps that can be dated before the *synoikismus*. The stamps dated after the *synoikismus* are identified as Lysimachia/Cardia-Bakla Burnu, Lysimachia/Agora-Bolayır and Lysimachia/Pactye-Maltepe Höyük with their field numbers.

North Aegean Amphora Stamps

Mende and Parmeniskos Group

Mende, on the Chalkidike peninsula, was a city known for its wine, which later being merged via *synoikismus* and renamed Cassandria. Mende had been producing amphorae since the middle of the 5th century BC and is known to have stamped its amphorae between the end of the 5th - 4th centuries BC (Salviat, 1990: 457; Papadopoulos & Paspalas 1999: 161, 174; Cankardeş Şenol, 2006: 140). Wine production was intensive throughout the Chalkidike Peninsula and particularly in Mende, and Mendean wine was especially popular (Papadopoulos & Paspalas 1999: 165; Lawall 2010: 161-162). It has been suggested that the earliest stamps were influenced by coin types and can be dated to the Late Archaic-Early Classical periods (Papadopoulos & Paspalas 1999: 165-170).

Although fragments of amphorae originating from various production centres in the northern Aegean have been identified, there have been scarce findings of amphorae from Mendean production at Cardia, Agora, and Pactye (Bektaş, 2021: 196, 287, fig. 61 no. C48-C49). Similar examples of the letter *E* (No. 1) in a rectangular stamp on the neck fragment, in terms of size and clay type are seen in Mendean amphorae[1].

The amphora stamp, partially visible within the rectangular frame (No. 2), is similar to Mendean productions in terms of texture of clay and shape of the handle. It is considered that it may have been produced in the Chalkidike peninsula (Parmeniskos group)[2] due to the presence of anepigraphic stamps utilising symbols such as the Satyros head, juvenile head, caduceus, crater, and floral symbols, similar to those found in Mendean amphorae in addition to its dense micaceous clay type (Papadopoulos & Paspalas 1999: 165, 172; Cankardeş Şenol, 2006: 140-141; Lawall, 2010: 161).

No 3 is worn and the letters and the oval cross-sectioned handle fragment from Cardia bears a graffito inscription reading *M* and *I* (No. 3)[3]. The form of No. 3 closely resembles that of amphorae associated with the Parmeniskos group (Akamatis, 2000: 45-48, A3690, ΠΑΡ.73, 75-8, 88, 92).

Figure 1
a/b: Bakla Burnu. Mende (No. 1)

[1]Monachov 1999, 212 fig. 81 no. 1; Lawall 2010, 161-162, pl. 94 no. 6 (third quarter of the 5th-middle of the 4th centuries BC); Μπαχλάς 2018, 858, pl. 5 no. 164 and 2050 (5th - third quarter of the 4th centuries BC); Lawall & Lejpunskaja et al. 2010, 384 on the suggestion of Chalkidike and Mende as the place of production of the Parmeniskos group; On the general use of the term "Mendean wine" for wines from the Chalkidike peninsula, see Papadopoulos & Paspalas 1999, 161, 174; Lawall 2004a, 241-243.

[2]The Parmeniskos group is thought to have been produced in Macedonia (Papadopoulou 2019, 324), but there are various opinions about the place of production. Whitbread 1995, 210-219; for the Torone suggestion see Papadopoulos & Paspalas 1999, 172; for the suggestion of Chalkidike and Mende for the Parmeniskos group see Lawall 2007, 56; Lawall & Lejpunskaja et al. 2010, 384.

[3]This stamp was initially read as *ΔΛI* by the author, but considering the other parallels of stamps and handle form, it has been interpreted that it might be *M* and *I*. Moreover, a comparable example of *ΔΛI* was unearthed during the excavations in Athens and dated by Grace to the 5th–1st centuries BC (Grace 1956, 174, pl. 79 no. 248).

No: 1 (Figure 1)

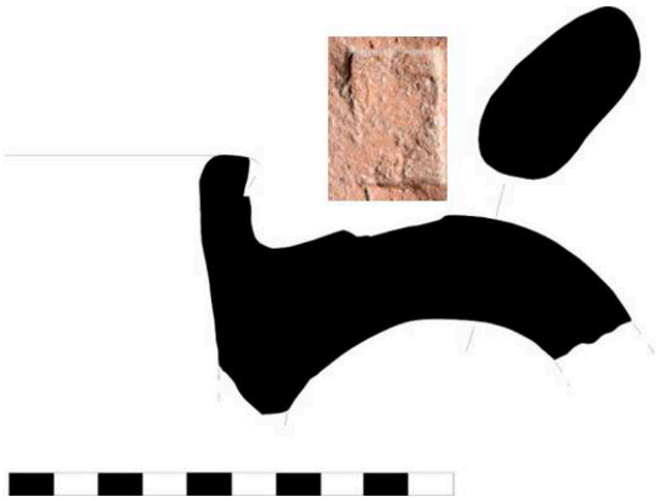
Find place: Cardia-Bakla Burnu T18

Stamp: length 1.1 cm, width 1.4 cm rectangular.

E

Clay: Pale red (2.5 YR 5/8 red). Hard. Contains fine to coarse silver mica and fine to medium gold mica. Dens fine to medium-sized lime and coarse white stone. Dense and medium-sized brown inclusions. Porous.

Figure 2
a/b: Bolayır. Mende (No. 3)



No: 2 (Figure 2)

Find place: Agora-Bolayır T17

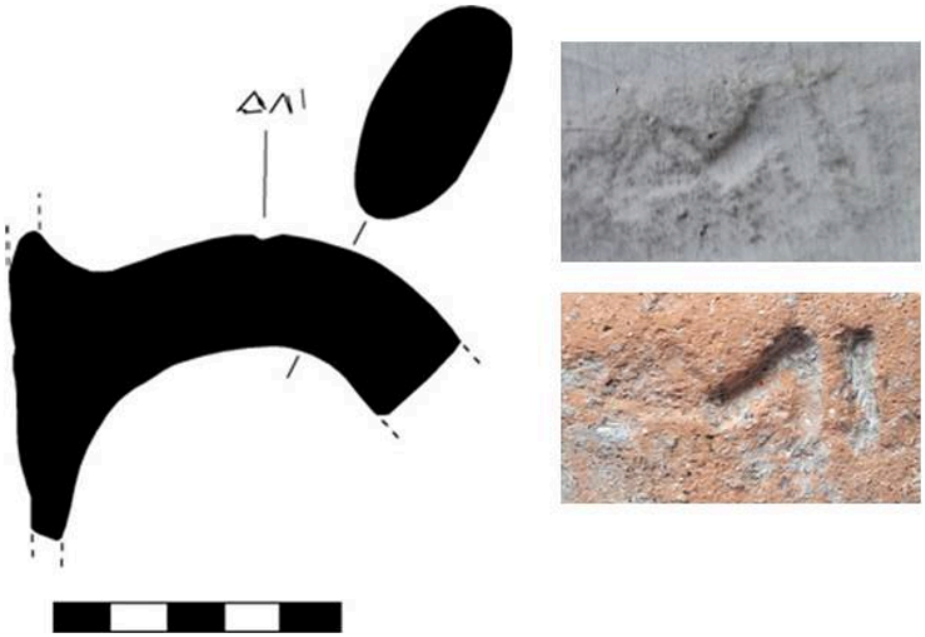
Stamp: lenght 2 cm, width 0.8 cm rectangular. Left and lower side worn. Amphora is vertical.

[.....] ?

amphora

Clay: Orangish red (5 YR 6/8 yellowish red). Medium hard. Very dense fine to coarse white and black particles, and lime inclusions. The surface show increasing density of silver and gold mica on the surface. Dense fine to large porous. The surface texture is finely rough.

Figure 3
a/b/c: Bakla Burnu. Parmeniskos Group (No. 3)



No: 3 (Figure 3)

Find place: Cardia/Lysimachia-Bakla Burnu T20

Stamp: height: 0,3 width: cm 0,4 unframed. Abbreviated name ?. Graffiti.

M I

Clay: Brownish orange (5 YR 5/8 yellowish red). Hard. Medium density of lime, white particle (stone ?), silver and gold mica. Very low density of black granule. Porous.

Thasos/Thasian Type

From the late 6th century BC to the Hellenistic period, Thasos, known for producing amphorae, became famous for its various quality wines (Salviat, 1986: 145-146). It is known that Thasos stamped its amphorae and roof tiles starting from the early 4th century BC and continued to use stamps until the second half of the 2nd century BC (Tzochev, 2016: 1, 7). Although not certain, it has been suggested that there could be stamped handles (proto-stamps?) dating from the late 5th century BC to the first half of the 4th century BC (Grace & Savvatianou-Petropoulakou 1970: 355 note 6; Tzochev, 2016: 1, 7; for early Thasian types (proto-stamps) in the 5th century BC, see Garlan 1999, 54-57, 59-64 (proto Thasian type). The main types of stamps are divided into 6 groups (Garlan, 1999: 54-57; Lawall 1999, 192- 3, 210; Cankardeş Şenol 2006, 86-88) and within the Garlan's new clasification Thasian stamps were divided into 16 groups (Garlan, 2004-2005: 323-327). Studies on Athenian Agora finds have been evaluated within seven engravers (E1-E7) and 13 periods by Tzochev (Tzochev, 2016: 26-45, 99-200).

An officer's term could vary, being shorter or longer than a year and the scarcity of epigraphic sources make establishing the chronology of Thasos quite challenging (Tzochev, 2016: 46-47). Furthermore, although the style of letters on stamps remained consistent throughout the 4th and 3rd centuries BC, noticeable changes in the rendering of certain letters (*A, Θ, E, Ω, X*, and *Y*) occured after the 200s BC[4]. Within the

[4]Cankardeş Şenol 2006, 86; Tzochev 2016, 46 and note 8; 50-51 (discusses changes in letters based on official names, providing detailed information about the use of the lunar and the barred sigma with).

collection, there is a wide variety of types, and numerous different objects are depicted on the stamps. These include the prow of a ship, dolphins, fishes, seashells, grape clusters, cornucopia, altars, mirrors, amphora, altars, pitchers, kantharoi, human and deity figures, and the types found on the coins. Thasos stamps feature the genitive *Θασίων/Θάσίον* ethnicon, as well as the names of officials (eponym/magistrate) and fabricants.

Thasian stamps from the most common group found at Bolayır, with twenty-one examples. Although a large quantity of "Thasos" or "Thasian type" amphorae were recovered from Bakla Burnu, no stamped examples have yet been found or identified. That being said, some stamps are not very clearly legible, and based on the handle's form and clay, as well as the objects and the letters are visible on the stamp, it can be said that they are of Thasos production.

Among the finds, there is a stamp that can be dated early period (410-340 BC), bearing the name of fabricant *Ἀλθημ(ένης)* (No. 4). In the middle, a beak-mouthed jug can be seen, and on the edge, the letters *Ἀλθ*[...] are inscribed vertically (Grace, 1956: 123 note 8, pl. 55 no. 32-33 (410-340 BC).

The stamp depicting an altar in the centre has only the letter *Ἀ*[...] (No. 5), and comparisons could be made with similar examples based on the type of the altar dated to the middle of the 4th century BC (Bon & Bon 1957, no. 384 (Aristophanes); Garlan 1999, Figure 1 no. 2 (TH 6119)).

The island of Thasos, which has quite diverse types of amphorae and stamps, also has stamps where the name of the fabricant or official cannot be identified. An example of this is a stamp with a torch device in the centre and the letters "[...]*τασ*[...]" in the lower line along with the ethnicon in the upper line (No. 6). Although it has been determined that the short-flamed torch type was used in the late 4th century BC, it is not yet possible to say which fabricant or official it belongs to (Lawall, 2010: 163, pl. 94 no. 10 (320-270 BC)). An example with a torch type, the position of the letters, and a partially impression on the left side was recovered from Gordion, though it could not be identified by the researcher because it was worn (Bon & Bon 1957, 427, no. 1780 (Gordion SS10); For Histria stamp, Avram 1996, pl. 14 no 187). Another example of this stamp, from a different die, was also found in Gordion (330-270 BC) (Lawall, 2010: 163, pl. 94 no. 10).

The partially preserved stamps from Pactye (No. 7) and Agora (No. 8) represent some of the earliest identified specimens. The stamp from Pactye, stylistically similar to those attributed to *Φειδίππος*, features a central club, with an ethnicon inscribed on the upper line and the letters *Ι* and *Δ* legible on the lower line (Debidour 1979, Figure 4 no. 2 (club)). Other dies attributed to *Φειδίππος* with fish (dolphin), official name *Δαμάστης* on upper line, and the ethnicon along the left edge, also exhibit similarities with specimen No.6 (Bon & Bon 1957: 169, no.531; Garlan, 1999: 238, 242, no. 718 Group F2 350-345 BC). The No.7 stamp is significantly worn, and its left side is broken, which complicates its interpretation; nonetheless, it bears resemblance to both of Debidour's examples, with the ethnicon placed on the upper line, and the dies presented by Bon & Bon and Garlan, displaying different symbols and the official name *Δαμάστης*. In Tzochev's study of Athenian Agora stamps, the official *Φειδίππος* is dated to ca. 273-256 BC (chronological period VII) and official *Δαμάστης II* is dated to ca. 364-338 BC (chronological period II) (Tzochev, 2016: qTable 2).

The Agora find (No. 8) consists of two lines, with only the left side preserved. In the official *Σκύμνος I* stamps, the letter *Θ* of the Thasos ethnicon can be observed in the upper line, while the *"[....]νος"* is seen written retrograde in the lower line[5]. The same stamp of *Σκύμνος I* with upper line ethnicon and lower line retrograde name from Thasos and Parion with different devices (Debidour, 1979: 285, 291, 300-301, Figure 3 no. 3; Keleş & Alkaç & Akkaş 2021: 41-42, no. 25 (vase); no. 26 (caduceus) ca. 292- ca. 274 BC). Based on the

[5]Μετάγονος (official), Μέλινος (fabricant), Κρατίνος (official), *Σκύμνος II* and *III?* (official), last letters of these names are *"–νος"*, but these stamps doesn't bear retrodgrade name or ethnicon.

excavation stratigraphy of the Silenos Gate and Zeus Gate, the stamps of *Φειδίππος* (No. 7) and *Σκύμνος I* (No. 8) have been dated to the late 4th century BC by Debidour (Debidour, 1979: 285, 291, 300-301, Figure 3 no. 3 (Skymnos I), Figure 4 no. 2 (Pheidippos)). Fabricants Pheidippos and Skymnos stamps take part in Garlan's classification under groups C, E1, F2, and G1, without making a distinction between Skymnos I and II. However, similar to the Pactye and Agora ones, these stamps are not found in his publication (Garlan 1999, 152 (Grup C-370's BC), 182 (Grup E1-365-360 BC), 242 (Grup F2-350-345 BC), 257 (Grup G1-347-334 BC)); Alternatively, Tzochev suggests the possibility of a third official based on stamps made from different dies in his study (Tzochev, 2016: 78).

Garlan and Blondé compared the vessels and objects depicted on the Thasian stamps with the artefacts from the Thasos Museum. As a result of this study, they suggest that the artefacts in the museum and the stamps belong to same dates (Garlan & Blondé, 2004: 128-135, Figure 17c - Figure 17d). A single-handled pitcher/pithos similar to the one on the heavily worn stamp (No. 9) was seen both in this publication and identified in the Heraion Teichus excavation (335-330 BC) (Yağız, 2009: 467). Another example of a stamp was unearthed in the Qiryat Shemona excavation in Israel, with an *HB* monogram at the top of the stamp (Finkielsztejn, 2012: 137, Figure 8.1). The stamp, belonging to the "Late Thasos" group (Garlan, 2004-2005: 269 315), bears the name *Αἰσχρίων* which is suggested to be the name of an official (Finkielsztejn, 2012: 137). Since no letters are visible on the Bolayır handle (No. 9), it is not possible to determine whether the official is Aischrion I or II (333-second quarter of the 3rd century BC). In Garlan's classification, dates around 299 BC (Group VI) to 268 BC (Group X) are suggested for Aischrion I and II. Besides Garlan's dating recommendation for different die of both (I and II) are within Group VI (299-296 BC), Group IX (281- 273 BC) and Group X (ca. 272-268 BC) (Garlan, 2004-2005: 324-326).

The No. 10 stamp also differs from other Thasos amphorae regarding handle type. It has an oval shape and is of a size that could belong to a large amphora. In early Thasos stamps, a secondary stamp within a rectangle contained an object that could be a ring or a wheel (Pridik 1917, 42, no. 125, pl. 8 no. 4; Bon & Bon 1957, 81, nos. 85-87). On a stamp found in southern Russia, the inscription *Ἀριστα*[...] can be legible, though very few examples of this have been found. The suggested date is 330-270? BC by Bon & Bon (1957: 81, pl. VIIII no. 125 (infra 273)).

No. 11 stamp is another rare type. This stamp, which features the letter *N* and a round embossed device beneath it, is quite worn and therefore difficult to decipher. One of the suggestions is *Αἰσχρίων* (official), whose stamp bears a pomegranate and the monogram *HB;* the placement of the letters, especially *N,* is comparable to that of No.11 (Bon & Bon 1957: no.117). However, based on the position of the *N* and size of the stamp, it may alternatively be a stamp of the official *Κριτία*[ς] (Bon & Bon 1957: 279, no. 1067; Avram, 1996: 159, Table XIV, pl. XLIV no. 587), dated by Avram to 310-293 BC or 316-295 BC (Avram, 1996: 159, Table X, pl. XLIV no. 587; Table XIV).

In the centre of the No. 12 stamp, there is a cornucopia device. The upper line contains the Thasos ethnicon, while the first four letters of the official's name *Ἰσόδικος*, can be legible in the lower line (316-295 BC) (Avram 1996: Table 1-2 (Histria and Callatis)). Stamps with this name, featuring a cornucopia and dolphin device in the centre from Callatis and Nessebar, are very rare and dated to 4th–3rd centuries BC (SEG, 30 (1980), 809, 7). In Garlan's classification, the official's stamp with the cornucopia device is known within 'Group V,' which also includes the Zeus type stamp, although it is not explicitly mentioned (309-300 BC) (Garlan, 2004-2005: 324). Other stamp examples have been published by Pridik, (1917: pl. 7 V no. 28) and Bon & Bon (1957, no: 175 (Th 1219-600).

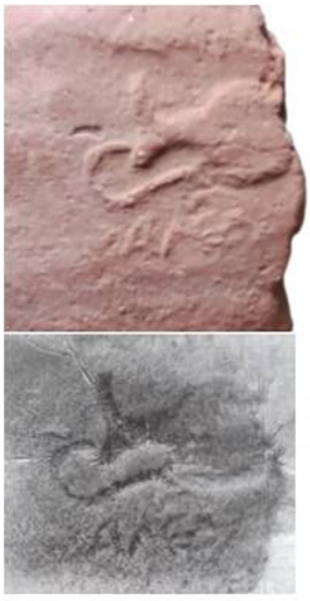
No. 13 is worn and the ethnicon *Θασίων* can be read as genitive on the upper line, but the fabricant or officer name is not preserved on the lower line or short edges. According to Pridik in the stamp of the

fabricant *Ἀριστόδικος*, the device in the centre (eel ?) is not known (Pridik, 1917: 38 (no. 58), Figure 4 no. 2; Bon & Bon 1957, 127, no.321). If the No. 13 is same die in Bon & Bon and Pridik's publication, fabricant Aristodikos have been classified by Garlan in Group F1 and the related officer is Φανόκριτος (Garlan, 1999: 201 (360-350 BC)). Conversally Aristodikos has been identified as official by Tzochev dated to ca. 292- ca. 274 BC (2016, Table 2,). On stamps found in Thasos and Histria, it is thought that the device in centre baget (baguette recourbée) and name of *Πουλυάδης* is placed on upper line (Bon & Bon, 1957: 349, no. 1393; Avram, 1996: 140, pl. 32 no. 427 (*Πουλυάδης*) dated to 286-274 BC; Tzochev 2016, 156 no.267 (unidenfied device- *Πουλυάδης*).

A stamp that could belong to the fabricant *Χαιριμένης* (Garlan, 1999: 201, 242, Grup F1-F2) or the official *Χαιρέας* (Gallet de Santerre, 1952: 277, no: 1714; Bon & Bon 1957: 411, 1692) has been found from Bolayır (No. 14). Due to the position of the letters and the type of the depiction of a grape cluster device, it resembles the stamps of the aforementioned fabricant (Garlan, 1999: 201, 242 (fabricant *Χαιριμένης*, Grup F1 (360-350 BC)-F2 (350-345 BC). Stamps belonging to *Χαιρέας*, featuring a grape cluster in the centre, have been found in Histria and classified under the official's name (274-256 BC) (Avram, 1996: Tablo VIII,10-11 (Odessus and Callatis 294-287 BC or 274-256 BC).

In 255-242 BC, there were nine known types of stamps belonging to the official *Νικάνωρ I* (No. 15). The purpose and meaning of the abbreviation *ΗΓΗ* (ήγη or ηγη) on the short side are unknown, but it is thought to be an abbreviation of a patronym (Bon & Bon 1957: 313 no. 1221 (beginning of the 4th century BC); Tzochev 2016, 75-76, Table 2 ca. 255- ca. 242 BC). Another distinguishing feature of this handle fragment, compared to other Thasos productions, is the high density of silver mica and the oval cross-section of the handle, which is thinner than that of other Thasian amphorae. These features, along with its form, suggests that it is likely a lagynos handle.

Figure 4
a/b: Bolayır. Thasos (No. 4)



No: 4 (Figure 4)

Find place: Lysimachia/Agora-Bolayır B23

Stamp: preserved length 2 cm, width 2.3-3.4 cm rectangular. Lower edge broken. Beak-mouthed jug placed vertically. Fabricant.

[.....]

beak-mouthed jug Ἀλθ[....]

Clay: Yellowish red (5 YR 5/8 reddish yellow). Medium hard. Dusty surface. Dense lime inclusion. Less dense fine silver and golden mica, and sand. Porous.

Figure 5
5 a/b: Bolayır. Thasos (No. 5)

No: 5 (Figure 5)

Find place: Lysimachia/Agora-Bolayır B7

Stamp: preserved length 3 cm, width 2.1 cm rectangular. Lower edge broken. Altar in horizontal position.

[.....]

altar

Ἀ[.....]

Clay: Pale orange (5 YR 5/8 yellowish red). Medium hard. Dusty surface. Densely fine lime particles. Less dense silver mica and sand. A few and fine porous.

Figure 6
a/b/c: Bolayır. Thasos (No. 6)

No: 6 (Figure 6)

Find place: Lysimachia/Agora - Bolayır B23

Stamp: Preserved length 3 cm, width 2.3 cm rectangular. Right half is broken. Partially impressed on left. Torch to the left in centre. Barred sigma.

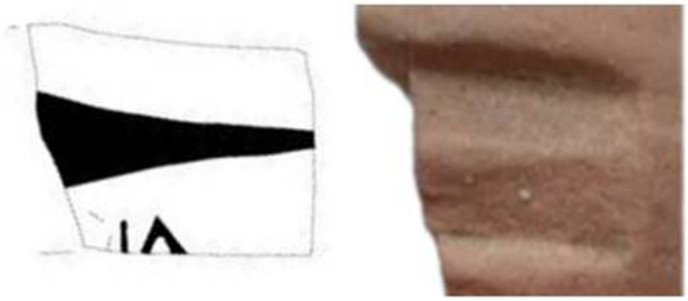
Θασίων

torch

[....]τασ[...]

Clay: Orange (7.5 YR 7/6 reddish yellow). Medium hard. Dense fine to coarse gold mica. Less dense fine to medium lime. Very few and fine black particle and porous.

Figure 7
a/b: Maltepe Höyük. Thasos (No. 7)



No: 7 (Figure 7)

Find place: Pactye-Maltepe Höyük north

Stamp: preserved length 2.3 cm, width 1.7 cm rectangular. Left side is broken. Club or fish to the left and upper line worn. Fabricant *Φειδίππος* or official *Δαμάστης II.*

[.....]

device

[....]ιδ[....]

Clay: Pale light orange (7.5 YR 6/6 reddish yellow). Very hard. Medium density fine to coarse lime. Very few and fine to coarse chamotte. The surface has a medium density of fine silver mica. Few and fine porous.

Figure 8
a/b: Bolayır. Thasos (No. 8)

No: 8 (Figure 8)

Find place: Agora-Bolayır T2

Stamp: preserved length 1.3 cm, width 2.3 cm rectangular, upper left corner and lower right edge partially preserved. Barred sigma, omicron and nu are retrograde in the lower line. Official.

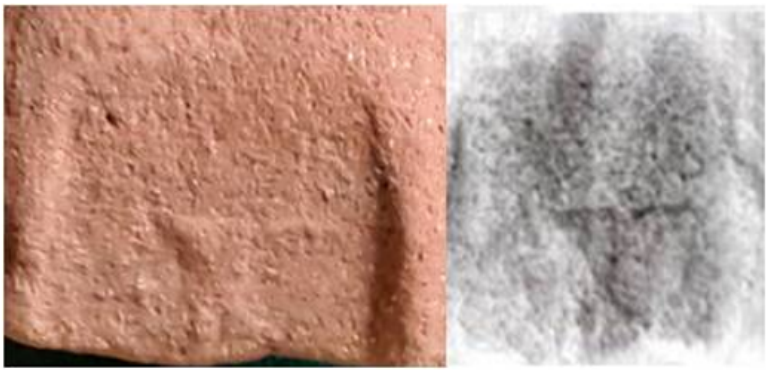
Θ[ασίων]

[device ?]

[.....]νος

Clay: Pale orange (5 YR 6/8 reddish yellow). Medium hard. Dense lime and very dense gold and silver mica. Less dense black particle (sand). Very few and fine porous.

Figure 9
a/b: Bolayır. Thasos (No. 9)



No: 9 (Figure 9)

Find place: Lysimachia/Agora-Bolayır B10

Stamp: preserved length 2 cm, width 2.3-3.4 cm rectangular. Lower half broken and worn. Vertical jug in the centre.

[.....]

jug ?

[.....]

Clay: Yellowish red (5YR 5/8 yellowish red). Medium hard. Dusty surface. Dense lime inclusion. Low density silver mica and sand. Porous.

Figure 10
Bolayır. Thasos (No. 10)

No: 10 (Figure 10)

Find place: Lysimachia/Agora-Bolayır B12

Stamp: preserved length 1.9 cm width 1.7 cm rectangular, double impression. Left side is broken.

wheel/ring

Clay: Exterior is brownish orange (7.5 YR 6/6 reddish yellow), core is greenish brown (10 YR 6/4 light yellowish brown). Hard. Dense lime and ston inclusions. Surface is densely gold mica. Few and fine porous.

Figure 11
Bolayır. Thasos (No. 10)

No: 11 (Figure 11)

Find place: Lysimachia/Agora-Bolayır B9

Stamp: preserved length 1.9 cm, width 2 cm rectangular. Left side broken. A letter nu, is probably combined with another letter next to the unidentified object. Official *Κριτία*[ς] or official *Αἰσχρίων* ?.

[.....]

N[.] pomegranade ?

[.....]

Clay: Yellowish red (5 YR 5/8 reddish yellow). Medium hard. Dusty surface. Densely lime inclusions, low density sand, silver and gold mica. Porous.

Figure 12
a/b: Bolayır. Thasos (No. 12)

No: 12 (Figure 12)

Find place: Lysimachia/Agora-Bolayır A21

Stamp: preserved length 2.6 cm, width 2 cm rectangular. Cornucopia to the left. Barred sigma, retrograde sigma. Official.

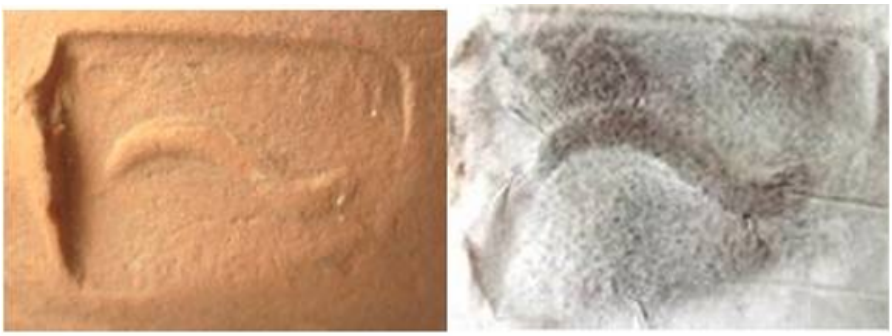
Θα[σίων]

cornucopia

Ἰσόδι[κος]

Clay: Reddish-orange (5 YR 5/8 yellowish red). Medium hard. Dusty surface. Dense fine to coarse lime. Medium density sand, gold and silver mica. Medium density porous.

Figure 13
a/b: Bolayır. Thasos (No. 13)



No: 13 (Figure 13)

Find place: Lysimachia/Agora-Bolayır A10

Stamp: length 3 cm, width 2.1 cm rectangular. Lower line is worn. Official *Ἀριστόδικος* ?.

Θα[σί]ων

device ?

[.....]

Clay: Pale orange (5 YR 5/8 yellowish red). Medium hard. Dusty surface. Dense and fine grained lime. Low density silver mica and sand. Very few porous.

Figure 14
a/b: Bolayır. Thasos (No. 14)

No: 14 (Figure 14)

Find place: Lysimachia/Agora-Bolayır A21

Stamp: length 3.3 cm, width 2.4 cm rectangular and worn. Horizontal grape cluster to the left in the middle. fabricant *Χαιριμένης* or the official *Χαιρέας*.

Θα[σί]ων

grape cluster

[Χ]αιρ[...]ς

Clay: Orange (5 YR 6/8 reddish yellow). Medium hard. Dusty surface. Dense lime and silver mica. Medium density sand and porous.

Figure 15
a/b: Bolayır. Thasos (No. 15)

No: 15 (Figure 15)

Find place: Lysimachia/Agora-Bolayır B1

Stamp: preserved length 1.1 cm, width 1.4 cm rectangular. Horizontal sprinkler to left in the middle. Lower edge preserved. Barred sigma. Official.

[Θασίων]
sprinkler
[Νικάν]ωρ | Ἡγη

Clay: Brownish orange (5 YR 5/8 yellowish red). Hard. Very dense silver mica and few lime. Low density porous.

Acanthus

Some researchers have tentatively suggested a Thasian origin due to the similarity of Acanthian amphorae in clay and forms (Grace, 1956: 150-151). However, the large quantity of amphorae discovered in the necropolis excavations at Amphipolis and Acanthus has provided more information about their forms, and more detailed clay analyses have been carried out (Rhomiopoulou, 1986: 482-483; Cankardeş Şenol, 2006: 138; Garlan, 2006: 267; Filis 2013, 67). Amphipolis also used the same type of stamps on amphorae which were produced from gray clay (Rhomiopoulou, 1986: 483; Filis, 2013: 68; Lawall & Lejpunskaja et al. 2010, 377, pl. 272 L84- L85 (340-310 BC)).

Four stamps from the city of Acanthus, another wine and amphora producer on the Chalkidike peninsula, have been found in Bolayır and Bakla Burnu (Nos. 16-19). It is thought that the stamps, divided into three, four, or five sections, bear the initials of the fabricants and officials. They are named “wheel stamps” and they were mostly found in North Aegean and Black Sea settlements (Garlan, 2006: 266-267). In addition it was tought that the combination of letters could represent capacity, quantity or cost of amphora (Garlan, 2006: 269-274; Garlan, 2014: 188-200). Although it is not definitively known what these amphorae contained,

ancient sources mention the production of olive oil and wine in this region (Athenaios, *Deipnosophistai,* iii, 77).

The two stamps found (Nos. 16-17) are divided into four sections and, due to their low firing temperature, have a soft texture, a dusty surface and contains dense inclusions in clay. On No. 16, the letters *Π, E, Ω* can be seen, while the fourth letter is illegible. On No. 17, the letters *P* and *E* are legible. Since examples of these two stamps have not been identified from stratified excavations, their dates are generally based on the stamping system (340-310 BC) (Cankardeş Şenol, 2006: 137-139; Garlan, 2006: 269; Lawall & Lejpunskaja et al. 2010: 377, pl. 272, L84-L85).

The Acanthus stamp detected at Bakla Burnu (No. 18) has also been found in Histria. Due to the initial of names, full names of the fabricants or officials are unknown. The stamp bearing the letters *P, O, M, E* was found in the Black Sea city of Olbia and is the most frequently founded stamp belonging to the city (end of the 4th century BC) (Lawall & Lejpunskaja et al. 2010, 377, pl. 272/L84-L85). The excavations of Acanthian ceramic kilns, workshop deposits and commercial shops area are dated back to end of the 5th- 4th century BC (Filis, 2021: 452-453).

The other stamp from Prikubanskiy necropolis is (burial no 412) on the “Type II” Acanthian amphorae. It is believed that the letters *P* and *O* belong to the officer, while the letters below (*M* and *E*) indicate the capacity of the amphora *(Με(τρητής)),* which is approximately 35-39 liters. Burial no 412 has been dated to first half-middle of the 4th century BC (Garlan, 2014: 192-193, 200 Figure 7c-d; Monachov, 2021: 44, 48, 58 Figure 5).

The amphora (No. 19) with an oval form and preserved mouth features a round and worn stamp on the handle. The form has been classified as "Pridik type" of Thasos dated to beginning of the 4th century-325 BC (Irimia, 2004-2005: 369, 381, Figure 8 no. 7) or "Thasian type" (Lawall & Lejpunskaja vd. 2010, 377, 403, pl. 300 no. 363). A “wheel-stamped” amphora mouth and handle fragment have also been unearthed from Olbia. When compared to this find from Olbia, the Bolayır stamp (No. 19) is larger in diameter (Lawall & Lejpunskaja vd. 2010, 403, pl. 300 no. 363 (end of the 4th century BC)). Although it is evaluated within the Thasos/Thasian type stamp group, it should be considered that it might be an Acanthus stamp (Garlan, 2014: 200 Figure 7d; Filis, 2019: 251-252 Figure 6 - Figure 7 (end of the 5th - 4th century BC); Monachov 2021, Figure 5 (Type II)). Despite its similarity to Acanthus amphorae in terms of clay and form (No. 16, 17, 18), the larger size and illegibility of the stamp prevent a definitive conclusion. However, Garlan explains that the Acanthian stamps are 1 to 3 cm in diameter (325 BC) (Garlan 2014, 188). This explanation, and resemblance to Acanthian amphorae shape dated beginning 5th- 4th centuries BC supports the view that No. 19 might be an Acanthian amphora (Filis, 2019: 251-252 Figure 6 - Figure 7 (end of the 5th - 4th century BC); Filis 2021, 468 Figure 12A, 455).

Figure 16
a/b: Bolayır. Acanthus (No. 16)

No: 16 (Figure 16)

Find place: Agora-Bolayır B2

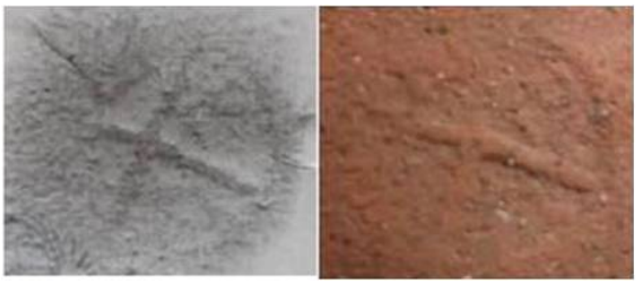
Stamp: diameter 1.8 cm round. Divided into four sections. The second letter is worn. Epsilon, pi, omega.

E [.]

Π Ω

Clay: Reddish yellow (7.5 YR 7/6). Soft. Dusty surface. Medium density silver mica, lime and black particles (sand ?). Very fine gold mica. Porous.

Figure 17
a/b: Bolayır. Acanthus (No. 17)



No: 17 (Figure 17)

Find place: Agora-Bolayır B2

Stamp: diameter 1.7 cm round. Divided into four sections. The second and fourth letters are worn. Rho, epsilon.

P [.]

E [.]

Clay: Reddish yellow (7.5 YR 7/6). Hard. Medium density silver mica, lime and black particles (sand ?). Porous.

Figure 18
Bakla Burnu. Acanthus (No. 18)

No: 18 (Figure 18)

Find place: Cardia-Bakla Burnu T17

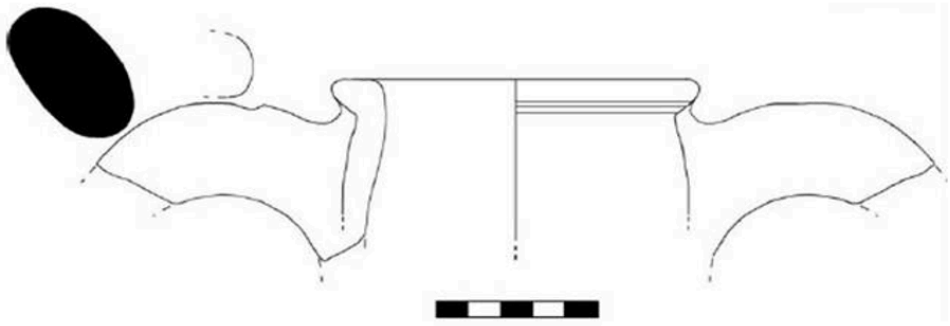
Stamp: diameter 1-1.6 cm round. Divided into four sections. Abbreviation. Rho, omicron, mu, epsilon.

P O

ME(

Clay: Yellowish red (5 YR 4/6). Medium hard. Very dense and fine silver mica; low density gold mica. Medium density lime. Low density of white and black particles. Porous.

Figure 19
Bolayır. Acanthus (No. 19)



No: 19 (Figure 19)

Find place: Agora-Bolayır A1

Stamp: diameter 2.1 cm round and worn.

[....] ?

Amphora rim diameter: 12 cm, height: 6 cm

Clay: Reddish yellow (7.5 YR 6/6). Medium hard. Dusty surface. Very dense and fine grained silver mica; low density gold mica. Medium density black and white inclusions. Porous surface.

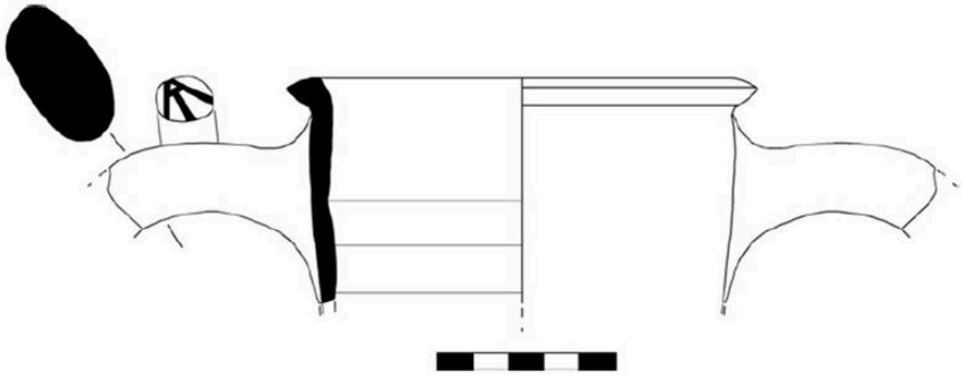
Alexandria Troas

Established by Antigonus in 310 BC under the name Antigoneia, the city was restructured about 10 years later by Lysimachus and renamed Alexandria Troas. Alexandria Troas amphorae are dated from 250 BC to the late 1st century BC in excavations of Assus and Troy (Panas & Pontes, 1998: 246, Figure 11 no. 70; Cankardeş Şenol, 2006: 54-55, fig. 47 (first half of the 3rd century BC)).

Only one example of a stamped amphora has been found in excavations, and due to similarities in clay and form, Grace suggested that it might be of Thasian origin (Grace, 1956: 147). The scarcity of these stamps suggests that the city's products were likely sold in local markets (Grace, 1956: 147; Panas & Pontes 1998, 234; Cankardeş Şenol, 2006: 54). In Troy, monogram in ligature stamps with the letters *A* and *T* are found less frequently, and due to their similarity with the rectangular type stamps of Alexandria Troas, it is thought that they were produced in this city (Panas & Pontes, 1998: 233-234; 246, Figure 11 no. 70).

There are two known types of stamps, and the type found in Bolayır from Alexandria Troas features the letters *A* and *T* in ligature form within a circle (No. 20, No. 21). While the Troy finds have a grayish white slip on the surface, no slip is observed on the Bolayır samples. Although the clay of the two handle fragments is generally similar, they differ in the inclusions of mica and black particles, and the light gray colour change in the thin layer beneath the surface (No. 21). These stamps are significant as they indicate that Alexandria Troas amphorae might contain different inclusions.

Figure 20
Bolayır, Alexandria Troas (No. 20)



No: 20 (Figure 20)

Find place: Lysimachia/Agora-Bolayır B1

Stamp: diameter 1.6 cm round. Monogram in ligature. Alpha and tau.

Diameter of the amphora rim: 12 cm, height 6.4 cm

A, T

Clay: Reddish yellow (5 YR 5/8 yellowish red). Medium hard. Dusty surface. Medium density lime and white particles. Low density silver and gold mica. Medium density fine to medium porous.

Figure 21
Bolayır, Alexandria Troas (No. 21)

No: 21 (Figure 21)

Find place: Lysimachia/Agora-Bolayır B5

Stamp: diameter 1.6 cm round. Monogram in ligature. Alpha and tau.

A, T

Clay: There are black particle instead of the white inclusion of No. 20. There is a thin layer of light gray (7.5 YR 5/1 gray) under the surface (7.5 YR 7/6 reddish yellow). The colour of the inner core is the same as No. 20.

South Aegean Amphora Stamps

Rhodes and Rhodian Peraea

Although Rhodes is famous for its wine, it is known that it not only traded wine but also exported sesame, olive oil, almonds, rose oil, dried figs, cabbage, barley, and carob (Athenaios, *Deipnosophistai*, I, 27F; Plinius, *Naturalis Historiae*, xiii, 59, xv, 13). Rhodian amphorae show a wide distribution area similar to Thasos and Cnidus. In Rhodes, which produced amphorae continuously by the end of the 4th century BC, the stamping system continued until the Augustan period.

Even though it started wine trading after Cnidus, Rhodes gradually surpassed it and reached a prominent position in a wide area from the Black Sea to North Africa and Syria. Its stamping types and amphorae forms were imitated in many regions. Researchers have determined that Rhodes continued to use monograms and symbols for stamping until the early 1st century AD (Finkielsztejn, 2000a: 413-414; Cankardeş Şenol, 2006: 111; Cankardeş Şenol, 2015a: 18). The stamps of Rhodes are examined in 7 periods (Grace, 1985: 42; Grace, 1986: 551-565; Grace & Savvatianou-Petropoulakou, 1970: 286; Finkielsztejn, 2001: 196-197 Table 22.1-2; Cankardeş Şenol, 2015a: 21).

In the 240s BC (Grace, 1934: 307; for 234 BC see Finkielsztejn, 2001: 196, Tablo 22.1); Cankardeş Şenol, 2006: 65-66; Cankardeş Şenol, 2015a: 19), the names of months began to be used on the amphora stamps. The annually appointed officer (eponym), who was also the priest of Helios (in Dorian dialect Halios), was responsible for supervising and controlling wine production and commercial activities (Grace, 1948: 144; Cankardeş Şenol, 2015a: 19). The names of these officials began with the preposition Ἐπί, which means "in the period of —" (Grace, 1934: 197).

A stamp from Pactye with the identifiable name of an official (No. 28) has been found. Although no stamped examples have been discovered from Cardia yet, eleven stamps have been detected from the Agora, one of which is an official stamp (No. 27).

Two stamps that can be dated to Period I have been picked up in Bolayır (No. 22, No. 23). During Period I, monograms, ligatures, and abbreviated names also appear on Rhodian stamps (Cankardeş Şenol, 2006: 105). A ligatured monogram stamp with the letters *M, A, E,* and *o* (No. 22) was identified in Kaunos and has been evaluated within Period I of Rhodes in terms of form, clay, and slip (Schmaltz, 2016: 346-347, KA 805-806). One of the earliest Rhodian stamp dated to Period Ib (c. 270-c. 247 BC), carrying the name of the fabricant *Ὀνασίμος I* (No. 23), has been identified (http://www.amphoralex.org/timbres/database.php).

Stamps of the fabricants *Ζήνων I* (No. 24), *Ἀριστίων* (No. 25)[6], and *Ἀγοράναξ* (No. 26) have been discovered in Bolayır. Among the *Ζήνων I* stamps found, only one is in the catalogue, and there are two fabricants named Zenon in Rhodes, with No. 24 belonging to Zenon I (c. 246-c. 210 BC). The difference between Zenon I and Zenon II is that the rose, the symbol of Rhodes, is depicted more realistically by Zenon I. Another distinction is two hats of Dioscuri under the rose on Zenon II's stamps (Grace, 1934: 235, no. 77; Säflund, 1980: 367, no. 8-9; http://www.amphoralex.org/timbres/database.php (Alexandria Museum Benaki Collection-Delos Find-c. 246-c. 210 BC)).

An example of the fabricant *Ἀριστίων*'s stamps (No. 25) with a die error on the lower edge (No. 25) was found in the Cyprus excavations, and three stamps belonging to this fabricant are dated to Period III (Nicolaou, 2005: 138, no. 377 (c. 209-c. 161 BC); Schmaltz 2016, 213-214, KA 507-509;http://www.amphoralex.org/timbres/eponymes/accueil_epon/affiche_LRF_un-nom.php (Period III/c. 198-c. 161 BC)). On the stamp of

[6]Three stamps of the fabricant Aristion have been discovered in Bolayır but only one of them is discussed, Bektaş 2021, 150, 268, Map 15.

the fabricant *Ἀγοράναξ* (No. 26), the month name *Θεσμοφόριος* can be read in the genitive in the lower line[7].

Two stamps bearing the name of an official (eponym) have been found in Bolayır and Maltepe Höyük (Nos. 27-28). The name *Ἀγλούμβροτος* in genitive is written in two lines (No. 27). There are ten stamps without month names dated to c. 198-c. 190 BC (Period IIIa) (http://www.amphoralex.org/timbres/eponymes/accueil_epon/affiche_L_un-nom.php; Cankardeş Şenol, 2015a: 74-75, no. 002).

The stamp found in Maltepe Höyük (No. 28) belongs to the official *Ἀγεμάχος* and has three lines (Period IIIc). Although the last line is illegible, it is thought to possibly contain the month name *Ἀγριάνιος* or *Θεσμοφόριος* based on comparisons with his known stamps dated to c. 182-c. 174 BC (http://www.amphoralex.org/timbres/eponymes/accueil_epon/affiche_L_un-nom.php (online) (Alexandria Museum Benaki Collection-Delos Find) (Period IIIc); Cankardeş Şenol 2015a, 35-36, no. 003).

Figure 22
Bolayır, Rhodos (No. 22)

No: 22 (Figure 22)

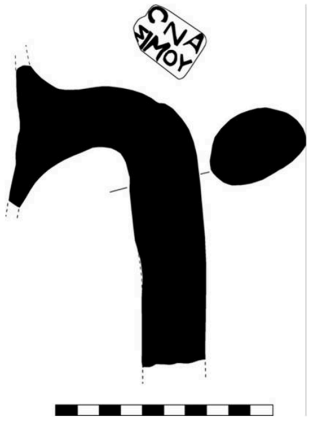
Find place: Lysimachia/Agora-Bolayır T1-T2

Stamp: diameter 1.7 cm round. monogram in ligature. Mu, alpha, epsilon and minuscule omicron.

M, A, E, o

Clay: Reddish yellow (7.5 YR 7/6). Hard. Very slightly dense gold mica and lime, less dense fine porous. Slip: Thick layer. Pinkish white.

Figure 23
Bolayır, Rhodos (No. 23)



[7] Panas & Pontes, 1998: 225, 240 no: 8 (c. 220-c. 100 BC); http://www.amphoralex.org/timbres/eponymes/accueil_epon/affiche_LRF_un-nom.php (online) (Alexandria Museum Benaki Collection-Delos Find) (Period III/c. 198-c. 161 BC).

No: 23 (Figure 23)

Find place: Lysimachia/Agora-Bolayır B12

Stamp: length 3.1 cm, width 2 cm rectangular. Two lines. Fabricant. Related eponyms (Cankardeş Şenol, 2017: 187-188): Αγέσρατος (c.262-c. 247 BC), Αἰνησίδαμος (c. 245 BC). RF-ΟΝΑΣΙΜΟΣ 01-004 (Centre Alexandrin d'Étude des Amphores - Affichage du résultat de la requête).

Ὀνα-

σίμου

Clay: Reddish yellow (7.5 YR 7/6 reddish yellow) Hard. Very little gold mica, lime and black particle. Porous.

Slip: Thick layer of pinkish white.

Figure 24
Bolayır, Rhodos (No. 24)

No: 24 (Figure 24)

Find place: Lysimachia/Agora-Bolayır B2

Stamp: preserved diameter 2 cm round. Lower half is broken. Rose in the centre. Fabricant. Related eponyms (Cankardeş Şenol, 2017: 187, 189-190, 192-195, 197-198, 201): Ἀρετακλῆς (c. 235 BC), Ἑξάκεστος (c. 234 BC), Ἀριστευς (c. 233-c. 220 BC), Δαήμων (c 233-c. 220 BC), Εὐκλῆς II (c. 233- c. 220 BC), Καλλικράτης I (c. 233-c 220 BC), Καλλικρατίδας I (c. 233-c. 220 BC), Νικασαγόρας (c. 233- c. 220 BC), Νίκων (c. 233-220 BC), Παυσανίας I (c. 233- c. 220 BC), Φιλοκράτης (c. 233- c. 220 BC), Φιλώνδας (c. 233- c. 220 BC), Ἀγλώκριτος (c. 197 BC).

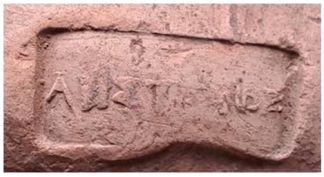
[Z]ήνωνος

rose

Clay: Reddish yellow (7.5 YR 7/6 light red). Medium hard. Dusty surface. Very little gold mica, lime and black inclusions. Porous.

Slip: Pale brown (2.5 YR 8/3 pink).

Figure 25
Bolayır, Rhodos (No. 25)



No: 25 (Figure 25)

Find place: Lysimachia/Agora-Bolayır B1 and B4

Stamp: preserved length 3.5 cm, width 1.5 cm rectangular. Single line. Lower frame has printing error. Fabricant. Related eponyms Cankardeş Şenol, 2017: 193-197, 199): Θεύδωρος II (c. 203-c. 199 BC), Θευφάνης

II (c. 203-c. 199 BC), Δορκυλίδας (c. 198 BC), Θαρσίπολις (c. 196 BC), Ἰασικράτης (c. 190 BC), Κλευκράτης I (c. 174/172 BC), Νικαγόρας I (c. 172/170 BC). RF-ΑΡΙΣΤΙΩΝ-006 (Centre Alexandrin d'Étude des Amphores - Affichage du résultat de la requête).

Ἀριστίωνος

Clay: Reddish yellow (7.5 YR 7/6). Hard. Very little gold mica, lime and black granules. Porous.

Slip: Thick layer of white slip (2.5 Y 8/2 pale brown).

Figure 26
Bolayır, Rhodos (No.26)

No: 26 (Figure 26)

Find place: Lysimachia/Agora-Bolayır B12

Stamp: length 3.4 cm, width 1.4 cm rectangular. Two lines. Upper line fabricant, lower line month name. Fabricant. Related eponyms (Cankardeş Şenol 2017, 188-198, 200-201): Ξενόφαντος I (c. 210 BC), Ἀριστωνίδας (c. 209-c. 205 BC), Ἁρμοσίλας (c. 209- c. 205 BC), Ἀρχοκράτης I (c. 209-c. 205 BC), Εὐφράνωρ (c. 209-c. 205 BC), Μυτίων (c. 209- c. 205 BC), Ἀστυμήδης I (c. 204 BC), Εὐκρατίδας (c. 203-c. 199 BC), Θεύδωρος II (c. 203-c. 199 BC), Θευφάνης II (c. 203-c 199 BC), Κλέαρχος (c. 203- c. 199 BC), Παυσανίας II (c. 203- c. 199 BC), Δορκυλίδας (c. 198 BC), Θαρσίπολις (c. 196 BC), Σώδαμος (c. 195 BC), Σώστρατος (c. 194 BC), Κλειτόμαχος (c. 193 BC), Θέστωρ (c. 192 BC), Δαμόθεμις (c. 191 BC), Ἰασικράτης (c. 190 BC), Κρατίδας (c. 187 BC), Ἱέρων I (c. 186 BC), Τιμασαγόρας (c. 184 BC), Φιλόσαδαμος II (c. 183 BC), Κλεώνυμος II (c. 182 BC), Αἰνησίδαμος II (c. 179/177 BC), Αἰνήτωρ (c. 178/176 BC), Καλλικράτης II (c.177/175 BC), Δαμοκλῆς II (c. 176/174 BC), Καλλικρατίδας II (c. 175/173 BC), Κλευκράτης I (c. 174/172 BC), Ἀρατοφάνης I (c. 169/167 BC), Ἀριστόδαμος II (c. 166/164 BC), Νιασαγόρας I (c. 172/170 BC), Σύμμαχος (c. 174/173 BC). RF-ΑΓΟΡΑΝΑΞ-ΘΕΣΜΟΦΟΡΙΟΣ-012 (Centre Alexandrin d'Étude des Amphores - Affichage du résultat de la requête).

Ἀγοράνακτος

Θεσμοφορίου

Clay: Reddish yellow (7.5 YR 7/6 light red). Hard. Very fine lime inclusion. Porous.

Slip: Thick layer of white slip (2.5 Y 8/2 pale brown).

Figure 27
a;/b: Bolayır, Rhodos (No. 27)

No: 27 (Figure 27)

Find place: Lysimachia/Agora-Bolayır B4

Stamp: Present length 3.4 cm, width 1.5 cm rectangular. Two lines. Eponym.

[Ἐπὶ Ἀγ]λουμ-

βρότου

Clay: Reddish yellow (7.5 YR 7/6). Hard. Very little gold mica, lime and black granules. Porous.

Slip: Thick layer white slip (2.5 Y 8/3 pale brown).

Figure 28
a/b: Maltepe Höyük, Rhodos (No. 28)

No: 28 (Figure 28)

Find place: Lysimachia/Pactye-Maltepe Höyük south

Stamp: length 3.6 cm, width 1.5 cm rectangular. The first line and last two letters of the second line are legible. Eponym. RE-ΑΓΕΜΑΧΟΣ-ΘΕΣΜΟΦΟΡΙΟΣ-004 (Centre Alexandrin d'Étude des Amphores - Affichage du résultat de la requête).

Ἐπί Ἀγεμά-

[χ]ου

[Θ]ε[σμοφορί]ου

Clay: Reddish yellow (7.5 YR 7/6) Hard. Very little gold mica, lime and black particles. Porous.

Slip: Thick layer of white slip (2.5 YR 8/3 pale brown).

Cos

It has been determined that Cos produced amphorae from the 5th century BC to the 2nd century AD, and its Classical period amphorae are classified into three types (Cankardeş Şenol, 2006: 101-102). Furthermore recent researches on Cos island have provided evidence that amphora production lasted until the Late Roman period (Hein & Georgopoulou et al. 2008, 1049; Diamanti 2024, 2-3). Dressel 2-4 amphorae are which modeled after Type I and Type II twin-handled amphorae (Finkielsztejn, 2004: 153; Cankardeş Şenol, 2006: 101-105; Elmalı, 2024: 1135).

Stamps from Cos are seen on the twin handles (bifides). Due to the discovery of only handle fragments, it is not possible to classify them as Type I or Type II. On the twin handle, the fabricant's name abbreviation *Ἀγαθα(* (short for Ἀγαθᾶναξ, Ἀγαθάγγελος, Ἀγάθανδρος or Ἀγαθαμερίς) is found under the club of Heracles (No. 29) (Cankardeş Şenol, 2006: 102-103 (2nd–1st centuries BC); Elmalı 2024, 98 (beginnig of the 2nd century BC)). Another example shows the name *Ἀντι[...]* and a club beneath it on a twin handle (No. 30). The continuation of the name starting with *Ἀντι-* is unknown. However, it is generally dated to the early 2nd century BC based on the Ephesus stratigraphy (last quarter 3rd through middle of 2nd century BC) in which it was found (No. 29) (Lawall, 2007: 30 Table 1, 55, pl. 12 no. AH). A different stamp, also with a club underneath, was found in Halicarnassus and is suggested to belong to the fabricant *Ἀντίφιλος* (2nd–1st centuries BC) (Cankardeş Şenol & Uzala, 2023: 95 no.21, Figure 23a-b; Elmalı, 2024: 157-158). Another possible names are Ἀντίνοος (Elmalı, 2024: 147-148 ; https://www.britishmuseum.org/collection/object/X__12223 (200 B.C-50 BC) and Ἀντιφάνης (Elmalı, 2024: 154 (the second half of the 3 century-first quarter of the 2nd century BC)), who used a club device under name.

Figure 29
Bolayır, Cos (No.29)

No: 29 (Figure 29)

Find place: Lysimachia/Agora-Bolayır B4

Stamp: length 1.6 cm, width 1 cm rectangular. Club to left below single line. Fabricant. ΚΟ-ΑΓΑΘΑ(-005 (Elmalı 2024, 101).

Ἀγαθα(

club

Clay: Pale orange (2.5 YR 6/8 light red). Very hard. Medium dense lime, black grains, gold and silver mica. Very few and very fine porous.

Slip: Yellowish white (10 R 8/3 very pale brown) of thick-layer slip.

Figure 30
a/b: Bolayır, Cos (No. 30)

No: 30 (Figure 30)

Find place: Lysimachia/Agora-Bolayır B5

Stamp: length 3.4 cm, width 1.2 cm rectangular. Club to left below single line. The letters at the end of the line are erroded. Fabricant *Ἀντίφιλος*, Ἀντιφάνης or Ἀντίνοος. ΚΟ-ΑΝΤΙΝΟΟΣ-002, ΚΟ-ΑΝΤΙΦΑΝΗΣ-002 or ΚΟ-ΑΝΤΙΦΙΛΟΣ-002.

Ἀντι[.....]

club

Clay: Pale orange (2.5 YR 6/8 light red). Very hard. Medium dense lime, gold and silver mica. Very few and very fine porous.

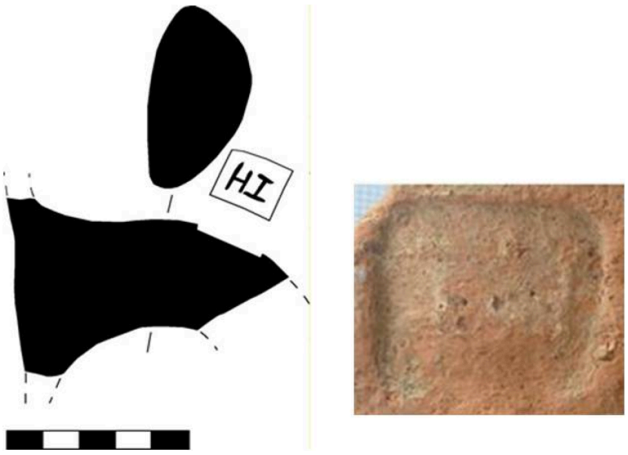
Cnidus

Cnidus produced amphorae from the Archaic period until the 7th century AD. From the end of the 4th century BC to the middle of the 1st century BC, its amphorae were stamped (Tuna, 1987: 314-316; Tuna, 1988: 143-144; Empereur, 1988: 161; Cankardeş Şenol, 2006: 70; Tuna & Sakarya, 2017: 149-150). The stamp types are evaluated within seven periods (Empereur & Hesnard, 1987: 17-71; Jefremow, 1995: 61-81; Cankardeş Şenol, 2006: 72-77). The fabricant *Ζήνων* used the abbreviation ZH(in two finds belonging to Group B, which were recovered from fields B12 and A21 in Bolayır (No. 31, B159) (Empereur & Picon, 1986: 123, Figure 32 (end of the 3rd- beginning of the 2nd century BC); Cankardeş Şenol, 2006: 73-74 (c. 280-c. 240 BC); Cankardeş Şenol, 2015b: 171, 178-179, Figure 19a-b, 20a-b, 21a-b (not later than the middle of the 3rd century BC); Madzharov & Stoyanov, 2018: 145-146 (beginning and middle of the 3rd century BC); for the B159 see, Bektaş, 2021: 270, pl. 47 and Map 15).

In the later stamps, during Roman rule and under Mithridates' dominance, the city's ethnicon was used in abbreviation (Jefremow, 1995: 81 (Group VIII/b); Cankardeş Şenol, 2006: 76-77 (Period VII (circa 78-end of the

1st century BC), fig 85 (1st century BC)). A stamp with the abbreviation *Kvι(* (No. 32) was collected from Cardia, which functioned as the port of Lysimachia. A comparable specimen was unearthed in an olive oil workshop in Alone Abba, Israel, alongside coins dated to the early 2nd century BC. Although Finkielsztejn dated this stamp to the 1st century BC (Porat & Frankel & Getzov et al. 2012, 67, 84, Figure 14), the abandonment of Lysimachia in 144 BC raises the possibility of an earlier production date. This hypothesis is based on the morphological resemblance of the handle form to early Cnidian amphora types (Cankardeş Şenol, 2015b: 184, Figure 34c), as well as the observation that the handle (No. 32) is significantly thicker than the stamped handle from Alone Abba.

Figure 31
a/b: Bolayır, Cnidus (No. 31)



No: 31 (Figure 31)

Find place: Lysimachia/Agora-Bolayır B12

Stamp: length 1.7 cm, width 1 cm rectangular. Fabricant name abbreviated.

Zη(

Clay: Pale orange (2.5 YR 6/8 light red). Medium hard. Dusty surface. Medium density fine to medium lime and black granules. Low density gold mica. Dense porous.

Figure 32
Bakla Burnu, Cnidus (No. 32)

No: 32 (Figure 32)

Find place: Lysimachia/Cardia-Bakla Burnu T8

Stamp: preserved lenght 1.7 cm, width 2 cm rectangular. Imperfect impression on lower and left edge. Retrograde nu.

Kvı(

Clay: Reddish yellow (2.5 YR 6/8 light red). Medium hard. High density of lime. Less density of transparent and brown grains. Porous.

Nikandros Group

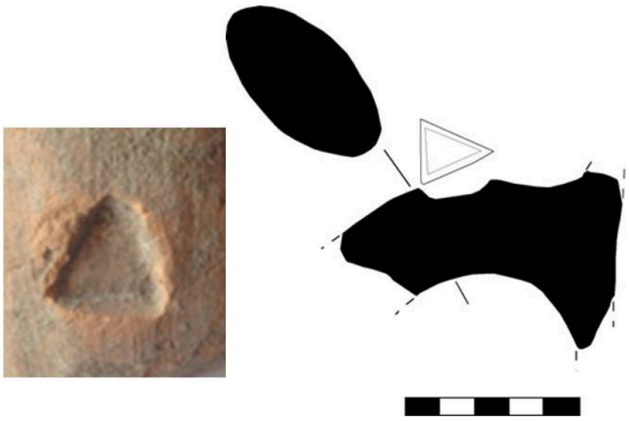
The amphorae of Cos with single-handled (monofide) types are referred to as the 'Nikandros group' because the name 'Nikandros' (genitive) was first seen on them (Grace & Savvatianou-Petropoulakou, 1970: 365; Finkielsztejn, 2000b: 210). They are known to have been found in many regions such as Athens, Assus, Pergamon, Ephesus, Delos, Metropolis, Patara, and Cabyle. Additionally, they have been identified in excavations in the Southern Levant and in the Benaki collection (Finkielsztejn, 2000b: 210; Finkielsztejn, 2004: 156; Cankardeş Şenol, 2010: 128). Due to the similarity of their form and the names on the stamps to those on Coan amphorae, it is thought that they were produced in this region during the second half of the 2nd century BC, when Cos had commercial and political influence in Western Anatolia (Grace & Savvatianou-Petropoulakou, 1970: 365-367; Gassner, 1997: 107; Finkielsztejn, 2000b: 210 (he suggested the date middle of 2nd century BC); Finkielsztejn, 2004: 153,158; Lawall, 2004b: 177; Cankardeş Şenol, 2006: 165-166; Lawall, 2007: 48-49, pl. 2 no. AH 45; Cankardeş Şenol, 2010: 126-127). Recent research and clay analyses support the view that amphora production existed in Ephesus and its surroundings (Gassner, 1997: 105-113; Cankardeş Şenol, 2001: 102-103; Finkielsztejn, 2004: 160; Lawall, 2004b: 177 dn 50-51; Bezeczky, 2013: 195).

Lawall dated the earliest examples of the amphorae form to the first quarter of the 3rd century BC and the latest examples to the early 1st century BC (Lawall, 2004b: 179-180 Figure 4, 187 Table 2). He suggests that the stamps bearing names first appeared in the third quarter of the 2nd century BC and continued into the 1st century BC (Gassner, 1997: 107; Lawall, 2004: 184-186; Lawall, 2007: 30 Table 1). Although the monogrammed stamps are dated to the end of the 4th century BC (Grace & Savvatianou-Petropoulakou, 1970: Lawall, 2007: 49), the finds from Ephesus are dated between the third quarter of the 3rd and the early 2nd century BC, while in Chios, they are dated to after the middle of the 3rd century BC (Lawall, 2007: 49).

Research has been conducted on various types of amphorae that might have been produced in Ephesus, the Maeander Valley, and around Kuşadası, and it has been found that the Nikandros group with mushroom-shaped mouths share similar characteristics with Local Aegean Type 1-2. The clay type is mainly divided into three groups (Fabric A-C) (Bezeczky, 2013: 26-31, Figure 17). However, an evaluation of the finds from Metropolis in Torbalı revealed that different clays were used simultaneously by the same workshops (Cankardeş Şenol, 2001: 101-102, 106-107, no. 9-10). It has been suggested that, in addition to production in Ephesus and Metropolis-Kuşadası, they might have also been produced in Miletus (Lawall, 2007: 48 and footnote. 23).

The stamp found in Cardia consists of the letter Δ (No. 33). In general, it is dated to the end of the 3rd century BC to the second half of the 2nd century BC (Cankardeş Şenol, 2006: 166 (second half of the 2nd century); Lawall, 2007: 49-50, pl. 2 no: AH 45 (end of the 3rd- 2nd centuries BC); Cankardeş Şenol, 2010: 131-132 (middle and second half of the 2nd century BC).

Figure 33
a/b: Bakla Burnu, Nikandros Group (No. 33)



No: 33 (Figure 33)

Find place: Cardia/Lysimachia-Bakla Burnu T20

Stamp: height 2 cm triangular frame.

Δ

Clay: Pale orangish yellow (5 YR 7/6 reddish yellow). Medium hard. Dense lime and black particles. Porous.

Black Sea Amphora Stamps

Sinopean amphora found from Lysimachia, is dated to the second half of the 4th to middle of the 3rd centuries BC (Bektaş, 2021: 79, 229 pl. 8, A35) and Heraclea Pontica amphorae have been found very rarely in the capital Lysimachia and its ports. The only stamped example is a Heraclea Pontica amphora collected from Bakla Burnu. No stamps have yet been identified on amphora from other Black Sea centres that are known to have produced stamped amphorae.

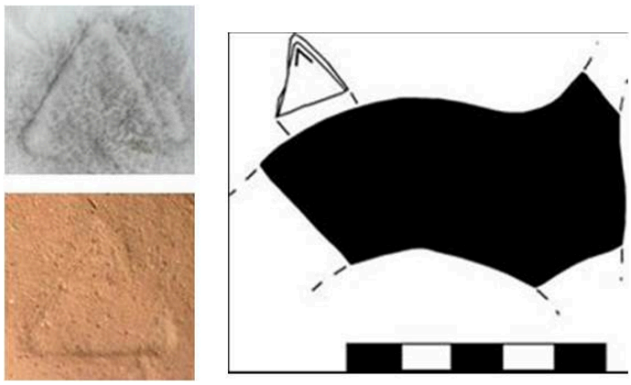
Heraclea Pontica

Heraclea Pontica, located in modern-day Karadeniz Ereğli, is renowned for its smooth and fragrant wine. It is known from recent excavations and research that from the late 5th century BC to the first quarter of the 4th century BC, they produced stamped amphorae (Kac, 2003: 271-272; Monachov, 1999: 188, 193; Monachov, 2003: 124; Doğer, 2004: 173; Cankardeş Şenol, 2006: 36; Petrova, 2011: 103-104; Balabanov & Garlan & Avram, 2016: 55). The characteristic feature of Heraclea Pontica is its englyphic stamps, but it also has relief (non-englyphic) stamps, which have been classified under seven groups (Kac, 2007: 234-235; Balabanov & Garlan & Avram, 2016: 79-95). Even though studies on amphorae have increased, their distribution area is not yet fully known, but they have been identified in Thracian poleis, Gordion, North Aegean, and Black Sea cities (Lawall, 2010: 162; Balabanov & Garlan & Avram, 2016: 36 Fedoseev, 2016: 6-7, 36).

Triangular stamps with the Δ monogram are also seen on “Nikandros group” amphora (see above). The Bakla Burnu find (No. 34), with its handle form and traces of red slip, indicate it belongs to a Heraclea Pontica amphora (Petrova, 2011: 102, Figure 1 no. 2). A similar example of the stamp has been found on a fully preserved amphora dated to circa 390-370 BC in the Kolokitha necropolis (Petrova 2011, 102-103, Figure 1 no. 2). The amphora found in the tumulus at Kolokita has been classified as Type I by Zeest, Monachov, and Brashinsky, and dated to the late 5th century BC to the early 4th century BC (Zeest, 1960: 100; Monachov, 2003: 126-132, pl. 86-99; Petrova, 2011: 102-103). Recent studies show that the form and stamps of the amphora were produced in the early 4th to 3rd centuries BC and underwent very few changes (Monachov, 2010: 24; Balabanov

& Garlan & Avram, 2016: 54-57). However, they are smaller, and some forms resemble Thasian amphorae. Furthermore, the characteristics of the clay exhibit significant variation. While some examples contain a low density of inclusions, similar to Thasian amphorae, others, in some cases, display a high density of inclusions, akin to Sinopean amphorae (Balabanov & Garlan & Avram, 2016: 33-34).

Figure 34
a/b/c: Bakla Burnu, Heraclea Pontica (No. 34)



No: 34 (Figure 34)

Find place: Cardia-Bakla Burnu T20 (BaklaBr.11.T19-1)

Stamp: height 1.3 cm monogram

Δ

Clay: Surface is orange (2.5 YR 6/8 light red), core is pinkish light gray (2.5 YR 5/1 reddish gray). Hard. Dense lime, black grains and white stones. Very few porous.

Slip: Traces of red slip are visible on the neck. The slip is very poorly preserved.

Unknown Origin Amphora and Jug Stamps

No. 35 is a fragment of a stamped handle of unknown origin. The thin oval cross-section indicates that the handle may belong to a jug form rather than an amphora. The ligature monogram stamp with the letters *O, Y, K* or *Π* has not yet been found in any other excavations or surveys, so its origin or dating is not possible. Considering the historical process of the Agora and the capital city of Lysimachia, it would be correct to date it to the 4th- middle of the 2nd century BC.

Another find from Lysimachia (Bolayır) is a red-slipped jug handle (No. 36). The jug rim and handle fragment can be dated to the Hellenistic period due to its form and slip. The origin of the round and completely eroded stamp cannot be determined.

Figure 35
Bolayır, unknown origin (No. 35)

No: 35 (Figure 35)

Find place: Agora/Lysimachia-Bolayır B13

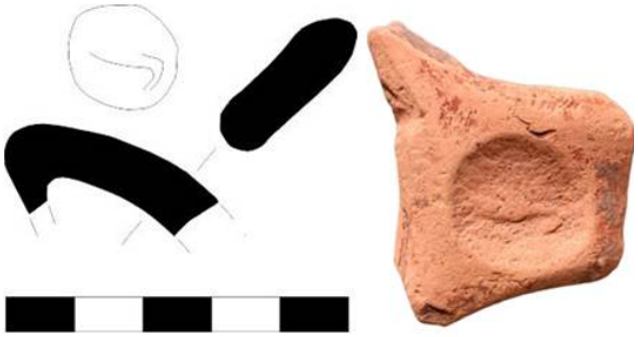
Stamp: diameter 1.7 cm round. Monogram in ligature

O , Y, K or Π ?

Clay: Pale orange (5 YR 6/6 reddish yellow). Medium hard. Low density of fine to medium lime. Very few and fine porous.

Slip: Thick layer of white slip (2.5 YR 8/3 pale brown).

Figure 36
a/b: Bolayır, unknown origin (No. 36)



No: 36 (Figure 36)

Find place: Agora/Lysimachia-Bolayır B1-B2

Stamp: diameter 1.7 cm round. Worn stamp

device ?

Clay: Yellow (7.5 YR 7/6-8/6 reddish yellow). Very hard. Low density and very fine lime and black grains. Very few and fine to medium porous.

Slip: Thin layer of discoloured slip, red (2.5 YR 3/6 dark red) and orange (2.5 YR 5/8 red).

Conclusions

Pottery, oil lamps, coins, and stamped amphorae discovered in surveys (2006, 2011, 2012) indicate that all findings align with the historical development of Cardia, Agora, Pactye, and the Hellenistic capital Lysimachia. Furthermore, a decline in the frequency of finds was noted due to the migration of Cardia's inhabitants, affirming its role as Lysimachia's harbour along the shore of Melas Kolpos.

While the finds and amphorae fragments dated before the *synoikismus* (309/8 BC) indicate the existence of Cardia (Bakla Burnu) as a strong city, it was observed through surface finds that the quantity of amphorae and other pottery groups increased in the capital (Lysimachia) after the *synoikismus*. This situation is important, as it shows that the commercial products arriving at the port of Cardia were transported to the central station (or autonomous city Agora/Cherronesus/Chersonesus), where the population was concentrated. Particularly, fragments of amphorae have been discovered at the Çoban Çeşme site located south of the acropolis (Lysimachia) and north of Pactye (Maltepe Höyük). This area may have served as the commercial hub (agora) of Agora (later transformed into the acropolis of Lysimachia).

Pactye became a neighbourhood of Lysimachia as stated in the ancient sources. Due to the intense destruction at Pactye and the alluviation of its harbour, it would not be proper to make a definite comment about it. Nevertheless, the fact that the percentage of Hellenistic period finds at Pactye is higher than that of Cardia coincides with the limited data in the ancient sources. On the other hand, the fact that the area that may have been the harbour is not in a very dominant position over the strait (Hellespontus) is also important in terms of showing that the harbour here is of less importance compared to Cardia. Considering the distribution of the finds, especially the amphora fragments, it would be more accurate to say that Cardia was the main commercial harbour. Cardia, which dominates Melas Kolpos, played an important role in the transportation of commercial goods from the Mediterranean and the Aegean to the Black Sea, and it can be assumed that this is where Cardia gained its power before 309/8 BC.

While the capital and its predecessor settlements in the strategic location of the North Aegean hosted amphorae from Mende, Parmeniskos group (Macedonia and Chalkidike), Thasos, Acanthus, Alexandria Troas, and possibly other northern Aegean regions, it is significant to note the presence of amphorae and stamped handles from Cnidus, Rhodes, Cos, and the Nikandros group (Metropolis-Ephesus-Miletus), which played a crucial role in trade. The gradual decrease in the number of Rhodian, Coan, Cnidian, and Nikandros group finds before the complete abandonment of the city in 144 BC, along with the absence of finds indicating a period after this date, aligns with ancient sources and survey data. On the other hand, the amphorae dated from 196 BC to the middle of the 2nd century BC indicate the failure of the repopulation attempt of the Seleucid Kingdom and signal the destruction of Diegylis (144 BC). The discovery of ceramics and amphorae dated after the destruction of Lysimachia implies that the city lost its significance and had an unclear position under Roman administration, as it became *ager publicus*.

Both potsherds and amphora fragments show that the finds originating from the Black Sea were less favoured in commercial products. In contrast, the amphorae fragments from Thasos, Acanthus, Mende, Parmeniskos group (Macedonia and Chalkidike), Alexandria Troas, Rhodes, Cnidus, Cos, and the Nikandros group (Metropolis-Ephesus-Miletus) were preferred before and after the *synoikismus*. The few Heraclea Pontican and Sinopean amphorae from surveys support these observations.

It is known that Lysimachus provided or donated grain to various cities. Lysimachus dominated the grain-rich Thrace, with the capital he established becoming a key centre for the trade and redistribution of this resource. However, his selection of these three cities for the capital likely led him to favour the Melas Kolpos–Cardia harbour trade route, which had already been in use before 309/8 BC, as well as the Agora, through which the land route connecting the peninsula to the Thracian interior passed. Additionally, the location of Pactye on the strait coast and the peninsula's fortification by the Agoraion Teichus/Macron Teichus (Kazanağzı locality) must have played a role in this strategic decision.

The fact that the stamped examples of amphorae and jug fragments of unknown origin (Nos. 35-37) do not give a profile makes it difficult to suggest a place of production based on their form. Nevertheless, it is important data in terms of showing the distribution area. It is also thought that it will be useful for the evaluation of amphorae or jugs bearing these stamps in the future.

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Author Details Göknur Bektaş
[1] Istanbul University, Faculty of Letters, Department of Archaeology Istanbul, Türkiye
0000-0003-2953-392X gknrbkts@gmail.com

References

Ancient Sources

Athenaios (1927), *Deipnosophistai*, Ch. B. Gulick (Trans.), E. Capps, T. E. Page & W. H. D. Rouse (Eds.), London: Loeb Classical Library, Harvard University Press.

Plinius (1960), *Naturalis Historiae*, H. Rackham (Trans.), T. E. Page, E. Capps, W. H. D. Rouse, L. A. Post, & E. H. Warmington (Eds.), London: Loeb Classical Library, Harvard University Press.

Polybios (1960), *Historiai*, W. R. Paton (Trans.), T. E. Page, E. Capps, W. H. D. Rouse, L. A. Post, & E. H. Warmington (Eds.), London: Loeb Classical Library, Harvard University Press.

Livius (1935), *Ab Urbe Condita*, J. C. Yardley (Trans.), London: Loeb Classical Library, Harvard University Press.

Appianos (1899), *Syriaka*, H. Whiten (Trans.), London: Loeb Classical Library, Harvard University Press.

Modern Sources

Akamatis, G. M. (2000). *ΕΝΣΦΡΑΓΙΣΤΕΣ ΛΑΒΕΣ ΑΜΦΟΡΕΩΝ ΑΠΟ ΤΗΝ ΑΓΟΡΑ ΤΗΣ ΠΕΛΛΑΣ ΑΝΑΣΚΑΦΗ 1980-1987, ΟΙ ΟΜΑΔΕΣ ΠΑΡΜΕΝΙΣΚΟΥ ΚΑΙ ΡΟΔΟΥ*, Athens: Ἡ ἐν Ἀθήναις Ἀρχαιολογικὴ Ἑταιρεία.

Avram, A. (1996). *Les timbres amphoriques* (Vol. 1, Thasos). (Histria, 8.1). Bucharest and Paris: Enciclopedica.

Balabanov, P., Garlan, Y., & Avram, A. (2016). *Les timbres amphoriques Grec d'Héraclée Pontique et de quelques autres centres de production* (Pontica 48-49 Suppl. 4). Constanta: Muzeul de Istorie Naţională şi Arheologie Constanţa.

Bektaş, G. (2021). *Şehir devletinden başkente: Gelibolu Yarımadası'nda kurulmuş olan Kardia, Agora, Paktye şehir devletlerinin Lysimakheia başkentine dönüşmesi sürecinin yüzey buluntuları aracılığıyla irdelenmesi* (Unpublished doctoral thesis). Istanbul University, Istanbul.

Bezeczky, T. (2013). *The Amphorae of Roman Ephesus* (Forschungen in Ephesos 15/1). Vienna: Austrian Academy of Sciences Press.

Bon, A.M. & Bon, A. (1957). *Les timbres amphoriques de Thasos* (Études Thassiennes 4). Paris: École française d'Athènes.

Cankardeş Şenol, G. (2001). Metropolis'den Hellenistik Döneme ait bir grup amphora mührü. *Olba,* 4, 101-115.

Cankardeş Şenol, G. (2006). *Klasik ve Hellenistik Dönem'de Mühürlü Amphora Üreten Merkezler ve Mühürleme Sistemleri*. Istanbul: Ege Yayınları.

Cankardeş Şenol, G. (.2010). Nikandros group: Matrix studies on the amphora stamps of the group. *Olba,* 18, 125-139.

Cankardeş Şenol, G. (2015a). *Lexicon of Eponym Dies on Rhodian Amphora Stamps* (Vol. 1, Eponyms A). (Études Alexandrines 33). Alexandria: Centre d'Études Alexandrines.

Cankardeş Şenol, G. (2015b). Early Cnidian amphora exports to Alexandria, Egypt. In E. Laflı & S. Patacı (Eds.), *Recent Studies on the Archaeology of Anatolia* (pp. 169-192). (BAR International Series 2750). Oxford: Archaeopress.

Cankardeş Şenol, G. (2017). *Lexicon of Eponym Dies on Rhodian Amphora Stamps* (Vol. 4, Eponyms T-X). (Études Alexandrines 33). Alexandria: Centre d'Études Alexandrines.

Cankardeş Şenol, G. & Uzala, G. (2023). "Halikarnassos'tan amphora mühürleri-II: Eski Çeşme Mahallesi kazıları. *Cedrus, 11*, 79-104.

Cohen, G. M. (1978). *The Seleukid Colonies: Studies in Founding, Administration, and Organization.(* Historia 30). Wiesbaden: Franz Steiner Verlag.

Debidour, M. (1979). Réflexions sur les timbres amphoriques thasiens. In École française d'Athènes (Ed.) *Thasiaca* (pp. 269-314). (Bulletin de Correspondance Hellénique Suppl. 5). Paris: École française d'Athènes.

Diamanti, C. (2024). *Late Antique stamped amphorae as evidence for imperial policy. The Halasarna workshop, Cos Island.* Oxfordshire: Archaeopress Publishing.

Doğer, E. (2004). *Antik Çağ'da Bağ ve Şarap*, İstanbul: İletişim Yayınları.

Elmalı, G. (2024). *Hellenistik Dönem'de Kos Adasi'nda Amphora Üretimi Ve Mühürleme Sistemleri*, (Unpublished doctoral thesis). T.C. Ege Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir.

Empereur, J.-Y. (1988). Producteur d'amphores dans les ateliers de Reşadiye (Peninsule de Datça). *Araştırma Sonuçları Toplantısı,* 6, 159-163.

Empereur, J.-Y. & Hesnard, A. (1987). Les amphores hellenistiques. *Céramiques Hellénistiques et Romaines, 2,* 17-71.

Empereur, J.-Y. & Picon, Y. M. (1986). A la recherche des fours d'amphores. In J.Y. Empereur & Y. Garlan (Eds.), *Recherches sur les Amphores Grecques* (pp. 104-126). *(Bulletin de Correspondance Hellénique* Suppl. 13). Paris: École française d'Athènes.

Fedoseev, N. F. (2016). *ИЗ СОБРАНИЯ ВОСТОЧНО-КРЫМСКОГО ИСТОРИКО-КУЛЬТУРНОГО МУЗЕЯ-ЯАПОВЕДНИКА КОЛЛЕКЦИЯ КЕРАМИЧЕСКИХ КЛЕЙМ: From the Collection of Estern Crimean Historical Ana Cultural Museum-Reserve Collection of Ceramic Stamp*. КЕРАМИЧЕСКИЕ КЛЕЙМА. ГЕРАКЛЕЯ ПОНТИЙСКАЯ: Ceramic Stamps. Heraclea Pontica (Vol. II). Kerch.

Filis, K. (2013). Transport amphorae from Akanthos. In L. Buzoianu, vd. (Eds.), *PATABS III; Production and trade of amphorae in the Black Sea / Production et commerce amphoriques en Mer Noire, Actes de la table ronde internationale de Constanta, 6-10 Octabre 2009* (pp. 67-87). (Pontica 46, Suppl. 2). Constanta: National History and Archaeology Museum.

Filis, K. (2019). Τα τοπικά εργαστήρια και οι εισαγωγές εμπορικών αμφορέων στο Βόρειο Αιγαίο στους κλασικούς χρόνους. Εμπορικά δίκτυα και αγορές καταναλωτικών αγαθώ. In E. Manakidou & A. A. Avramidou (Eds.), *Η κεραμικη της κλαςικης εποχης ςτο Βορειο αιγαιο και την περιφερεια του (480–323/300 π.χ.) / Classical Pottery of the Northern Aegeaa and its Periphery (480–323/300 BC)* (pp. 243-261). Thessaloniki: University Studio Press.

Filis, K. (2021). The Akanthian workshops and the production of transport amphoras. In Z. Μπόνια & J. Y. Perreault (Eds.), *Άργιλος, 25 χρόνια έρευνας Οργάνωση πόλης και χώρας στις αποικίες του βορείου Αιγαίου, 8ος – 3ος αι. π.Χ. Πρακτικά του συνεδρίου της Θεσσαλονίκης, 25-27 Μαΐου 2017 / Argilos, 25 années de recherches organisation de la ville et de la campagne dans les colonies du Nord de l'Égée, VIIIe – IIIe siècles av. n.è. Actes du colloque de Thessalonique, 25-27 mai 2017* (pp. 451-469). (Argilos 3). Athens: The Canadian Institute in Greece.

Finkielsztejn, G. (2000a). Chronologie et diffusion des dernieres amphores timbrees rhodiennes: Etude preliminaire, *Rei Cretariae Romanae Fautorum Acta, 36*, 407-415.

Finkielsztejn, G. (2000b). Amphores importées au Levant Sud ă l'epoque hellénistque. In *É Επιστημονικη Συναντηση για την Ελληνιστικη κεραμικη: χρονολογικά προβλήματα, κλειστά σύνολα, εργαστήρια: πρακτικά (pp. 207-220).* Athens: Ministry of Culture.

Finkielsztejn, G. (2001). *Chronologie détaillée et révisée des éponymes amphoriques rhodiens, de 270 à 108 av. J.- C. environ* (BAR International Series 990), Oxford: British Archaeological Reports.

Finkielsztejn, G. (2004). Koan amphorae imported in the Southern Levant in the Hellenistic period. In K. Höghammer (Ed.), *The Hellenistic polis of Kos: State, economy and culture. Proceedings of an international seminar organized by the department of archaeology and ancient history, Uppsala University, 11-13 May, 2000* (pp. 153-164). (Boreas 28). Uppsala: Department of Archaeology and Ancient History, Uppsala University.

Finkielsztejn, G. (2012). A Thasian amphora stamp. In M. Fischer & Z. Herzog & O. Lipschits (Eds.), *Qiryat Shemona (S) Fort and Village in the Hula Valley* (pp. 137-138). (Salvage Excavation Reports 7). Tel Aviv: Emery and Claire Yass Publications.

Gallet de Santerre, H. (1952). Chronique des fouilles et découvertes archéologiques en Grèce en 1951: Thasos. *Bulletin de Correspondance Hellénique,* 76, 251-278.

Garlan, Y. (1999). *Les timbres amphoriques de Thasos* (Vol. 1, Timbres protothasiens et thasiens anciens). (Études thasiennes 18). Athens: École française d'Athènes.

Garlan, Y. (2004-2005). En visitant et revisitant les ateliers amphoriques de Thasos. *Bulletin de Correspondance Hellénique,* 128/129, 269-329.

Garlan, Y. (2006). Interprétation des timbres amphoriques «à la roue» d'Akanthos". *Bulletin de Correspondance Hellénique,* 130(1), 263-291.

Garlan, Y. (2014). Métrologie et épigraphie amphorique grecque. Le cas des timbres akanthiens «à la roue». *Dialogues d'Histoire Ancienne*, Suppl. 12, 185-200.

Garlan, Y. & Blondé, F. (2004). Les représentations de vases sur les timbres amphoriques thasiens. In J. Eiring & J. Lund (Eds.), *Transport amphorae and trade in the Eastern Mediterranean: Acts of the international colloquium at the Danish Institute at Athens, September, 26-29, 2002* (pp. 123-136). (Monographs of the Danish Institute at Athens 5). Athens: Aarhus University Press.

Gassner, V. (1997). *Das Südtor der Tetragonos-Agora: Keramik und Kleinfunde* (Furschungen in Ephesos 13/1/1). Vienna: Publishing House of the Austrian Academy of Sciences.

Grace, V. (1934). Stamped amphora handles found in 1931-1932. *Hesperia,* 3(3), 197-310.

Grace, V. (1948). Rhodian jars in Florida. *Hesperia,* 17(2), 144-147.

Grace, V. R. (1956). Stamped Wine Jar Fragment. In L. Talcott & B. Philippaki & R. Edwards & V. R. Grace (Eds.), *Small Objects from the Pnyx II (pp. 113-189).* (*Hesperia* Suppl. 10). Princeton: American School of Classical Studies at Athens.

Grace, V. (1985). The Middle Stoa dated by amphora stamps. *Hesperia, 54 (1)*, 1-54.

Grace, V. R. (1986). Some amphoras from a Hellenistic wreck. In J.-Y. Empereur & Y Garlan (Eds.), *Recherches sur les amphores grecques* (pp. 551-565). (*Bulletin de Correspondance Hellénique* Suppl. 13). Paris: École française d'Athènes.

Grace, V. & Savvatianou-Petropoulakou, M. (1970). *Les timbres amphoriques grecs, dans L'îlot de la maison des comédiens, Exploration archéologique de Délos XXVII,* Paris. 277-382.

Hein, A. & Georgopoulou, V. & Nodarou, E. & Kilikoglou, V. (2008). Koan amphorae from Halasarna-investigations in a Hellenistic amphora production centre. *Journal of Archaeological Science, 35,* 1049-1061.

Irimia, M. (2004-2005). Descoperiri Getice în Zona Adâncata (Com, Aliman, Jud. Constanta). *Pontica, 37-38*, 319-384.

Jefremow, N. (1995). *Die Amphorenstempel des hellenistischen Knidos* (Quellen und Forschungen zur Antiken Welt 19). Munich: Tuduv.

Kac, V. I. (2003). A new chronology for the ceramic stamps of Herakleia Pontike. İn P. Guldager Bilde & J. M. Højte & V. F. Stolba (Eds.), *The Cauldron of Ariantas. Studies Presented to A. N. Ščeglov on the Occasion of His 70th Birthday* (Black Sea Studies, 1) (pp. 261-278), Aarhus: University Press.

Kac, V. I. (2007). *ГРЕЧЕСКИЕ КЕРАМИЧЕСКИЕ КЛЕЙМА ЭПОХИ КЛАССИНИЗМА (опым комплексноso иэучения)* (Bosporos Studies, XVIII) , Simferopol.

Keleş, V. & Alkaç, E., & Akkaş, İ. (2021). *Parion'da Amphora ve Lagynos Mühürleri, Graffito ve Dipinto Yazıtlar* (Parion Studies IV). İstanbul: Ege Yayınları.

Lawall, M. L. (1999). Studies in Hellenistic Ilion: Transport amphoras from the Lower City. *Studia Troica,* 9, 187-224.

Lawall, M. L. (2004a). Nothing to do with Mendaian amphoras? Athenaeus 11.784c. In R. B. Egan & M. Joyal (Eds.), *Daimonpylai: Essay in Classics and the Classical Tradition Presented to Edmund G. Berry (pp. 241-249)*. Winnipeg: University of Manitoba Centre for Hellenic Civilization.

Lawall, M. L. (2004b). Archaelogical context and Aegean amphora chronologies: A case study of Hellenistic Ephesos. In J. Eiring & J. Lund (Eds.), *Transport amphorae and trade in the Eastern Mediterranean. Acts of the international colloquium at the Danish Institute at Athens, 26-29 September 2002* (pp. 171-188). (Monograpihs of the Danish Institute at Athens 5). Aarhus: Aarhus University Press.

Lawall, M. L. (2007). Hellenistic stamped amphora handles. In V. Mitsopoulos Leon & C. Lang-Auinger (Eds.), *Die Basilica am Staatsmarkt in Ephesos*, *Funde klassischer bis römischer Zeit* (pp. 28-60). (Forschungen in Ephesos 9/2/3), Vienna: Publishing House of the Austrian Academy of Sciences.

Lawall, M. L. (2010). Pontic, Aegean and Levantine amphorae at Gordion. In D. Kassab Tezgör & N. Inaishvili (Eds.), *PATABS I: Production and trade of amphorae in the Black Sea. Actes de la table ronde internationale de Batoumi et Trabzon, 27-29 Avril 2006* (pp. 159-165). (Varia Anatolica 21). Istanbul: Institut Français d'Études Anatoliennes-Georges Dumézil.

Lawall, M. L. & Lejpunskaja, N.A. & Diatroptou, P.D. & Samojlova, T. L. (2010). Transport amphoras. In N.A. Lejpunskaja & P.G. Bilde & J.M. Højte & V. V. Krapivina & S. D. Kryžickij (Eds.), *Lower City of Olbia (Sector NGS) in the 6th century BC to the 4th century AD* (pp. 355-405). (Black Sea Studies 13/2). Aarhus: Aarhus University Press.

Madzharov, K. T. & Stoyanov, T. (2018). New evidence on the chronology of the so-called Zenon B group amphorae of Knidos. In I Valchev (Ed.), *Stephanos Archaeologicos ad 80 Annum Professoris Ludmili Getov* (pp. 141-149). (Studia Archaeologica Universitatis Serdicensis Suppl. 6). Sofia: St. Klimens Ohridski University Press.

Monachov, S. J. (1999). ГРЕЧЕСКН АМФОРЫ В ПРНЧЕЕРНОМРЬЕ Комплексы Керамнческон тары VII-II веков до н. Э., Saratov: Saratov State University.

Monachov, S. J. (2003). *ГРЕЧЕСКИЕ АМФОРЫ В ПРИЧЕРНОМОРЬЕ, ТИПОЛОГИЯ АМФОР ВЕДУЩИХ ЦЕНТРОВ-ЭКСПОРТЕРОВ ТОВАРОВ В КЕРАМИЧЕСКОЙ ТАРЕ*. Moscow: Изд. Киммерида.

Monachov, S. Y. (2010). New series of amphorae from southern Pontic poleis 4th-first of the 3rd centuries B.C. In D. Kassab Tezgör & N. Inaishvili (Eds.), *PATABS I: Production and Trade of Amphorae in the Black Sea: Actes de la Table Ronde Internationale de Batoumi et Trabzon, 27-29 Avril 2006* (pp. I23-127). (Varia Anatolica 21). Istanbul: Institut Français d'Études Anatoliennes-Georges Dumézil.

Monachov S. Y. (2021). Typology and chronology of Akanthian amphorae. *The Lower Volga Archaeology Bulletin*, 20(2), 43-65.

Μπαχλάς, Β. (2018). Ενσφράγιστοι εμπορικοί αμφορείς του Πιερικού Ηρακλείου και της χώρας Λειβήθρων / Stamped Trade Amphorae from the Ancient Cities of Pierikon Herakleion and Leivithra. In *Θ' Επιστημονικη συναντηση για την Ελληνιστικη κεραμικη Θεσσαλονικη 5-9 Δεκεμβρίου 2012, / 9th scientific meeting on Hellenistic pottery Thessaloniki, December 5-9th 2012,* Proceedings (pp. 857-880). Athens: Photolio A.E.

Munsell Soil Color Charts (2010).

Nicolaou, I. (2005). *Stamped Amphora Handles from the House of Dionysos* (Paphos 5). Nicosia: Dept. of Antiquities.

Panas, Ch. I. & Pontes, H. R. (1998). Stamped amphora and Lagynos handles from Troia (1889-1995 Season). *Studia Troica,* 8, 223-262.

Papadopoulou, E. (2019). Πέλλα: Δρόμος Καναλιού. Ενσφράγιστες λαβές

της ομάδας Παρμενίσκου, In Ν. Ακαμάτης & Α. Βουβουλής & Α. Λαφτσίδης & Ν. Πουλακάκης (Eds.), *Τῷ διδασκάλῳ Τιμητικός τόμος για τον καθηγητή Ιωάννη Ακαμάτη*. Thessalonice, 317-324.

Papadopoulos, J. K. & Paspalas, S. A. (1999). Mendaian as Chalkidian wine. *Hesperia*, 68(2), 161-188.

Petrova, A. (2011). Storage Amphorae from Tumulus 8 on Kolokita Promontory, Apollonia Pontica. In C. Tzochev & T. Stoyanov & A. Bozkova (Eds.), *Patabs II: Production and trade of amphorae in the Black Sea, Acts of the international round table held in kiten, Nessebar and Sredetz, September 26-30, 2007* (pp. 101-109). Sofia: Bulgarian Academy of Sciences.

Porat, L. & Frankel, R. & Getzov, N. & Hadad, S. & Finkielsztejn, G. & Syon, D. (2012). "מכבש הקורה הארץ-ישראלי לאור ממצא בית הבד באלוני אב / The Lever Press es of Eretz Israel in the Light of the Alone Abba Oil Press. *Atiqot,* 70, 51-86.

Pridik, E. M. (1917). *Inventory-catalogue of the stamps on handles and necks of amphorae, and on bricks of Hermitage collection.* Petrograd: Publishing House of the Russian Academy of Sciences.

Rhomiopoulou, C. (1986). Amphores de la Nécropole D'Acanthe. In J.Y. Empereur & Y. Garlan (Eds.), *Recherches sur les amphores grecques: Actes du colloque international organise par le centre national de la recherche scientifique, l'Universite de Rennes II et l'Ecole française d'Athenes (Athenes, 10-12 septembre 1984)* (pp. 479-483). (Bulletin de Correspondance Hellénique Suppl., *13)*. Athens: École française d'Athènes.

Robert, L. (1955). Inscriptions des Dardanelles. *Hellenica, 10,* 266-282.

Säflund, M. L. (1980). *Stamped Amphora Handles* (Labraunda II/2). Stock holm: Paul Åström Publishers.

Salviat, F. (1986). Le vin de Thasos. Amphores, vin et sources écrites. In J. Y. Empereur & Y. Garlan (Eds.)*, Recherches sur les amphores grecques; actes du colloque international organise par le centre national de la recherche scientifique, l'Universite de Rennes II et l'Ecole française d'Athenes (Athenes, 10-12 septembre 1984)* (pp. 145-196). (Bulletin de Correspondance Hellénique Suppl. 13). Athens: École française d'Athènes.

Salviat, F. (1990). Vignes et vins anciens de Maronée à Mendé. In École française d'Athènes (Ed.), Μνήμη Δ.[Πόλις και χώρα στην αρχαία Μακεδονία και Θράκη. Μνήμη Δ. Λαζαρίδη. Πρακτικά αρχαιολογικού συνεδρίου, Καβάλα 9-11 Μαΐου, 1986];, (pp. 457-477). Thessaloniki: Hypourgeio Politismou, École Française d'Athènes.

Schmaltz, B. (2016). *Die hellenistischen amphorenstempel von Kaunos* (Asia Minor Studien 79), Bonn: Dr. Rudolf Habelt.

SEG. (1980). Supplementum epigraphicum graecum (Leiden 1923-) 30.

Tuna, N. (1987). Ionia ve Datça Yarımadası Arkeolojik Yüzey Araştırmaları, 1985-1986. *Araştırma Sonuçları Toplantısı*, 5 (1), 314-316.

Tuna, N. (1988). Datça Yarımadası Arkeolojik Yüzey Araştırmaları, 1987. *Araştırma Sonuçları Toplantısı,* 6, 143-144.

Tuna, N. & Sakarya, İ. (2017). Stamped Amphora Handles from the Hellenistic Wineries at Ancient Burgaz. *Epigraphica Anatolica,* 50, 149-166.

Tzochev, C. (2016). *Amphora stamps from Thasos*, (The Athenian Agora 37). Princeton: American School of Classical Studies at Athens.

Whitbread, I. K. (1995). *Greek Transport Amphorae. A Petrological and Archaeological Study*. Athens: British School at Athens.

Yağız, O. (2009). Heraion Teikhos Damgalı Amphora Kulpları. *Araştırma Sonuçları Toplantısı*, 26 (3), 457-472.

Zeest, B. (1960). *КЕРАМИЧЕСКАЯ ТАРА ЪОСПОРА*, Moscow: Издательсво Академии Наук СССР.

Online Source

Le Centre Alexandrin d'Étude des Amphores: The Alexandrian Centre for Amphora Studies, J. Y. Empereur (Ed.): http://www.amphoralex.org/chron_amphorique/chronamphora.php

The British Museum: https://www.britishmuseum.org/collection/object/X__12223

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Research Article

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A Group Imported from Acemhöyük: Black-Glazed Pottery from the Hellenistic Period

Burcu Tüysüz [1]

[1] Nevşehir Hacı Bektaş Veli University, Faculty of Arts and Sciences, Department of Archaeology, Nevşehir, Türkiye

Abstract *In this first study on the Hellenistic period culture of Acemhöyük, the Black Glazed Pottery among the imported pottery of the settlement were evaluated. This article, the Black Glazed Pottery were dated, introduced to the scientific world and the socio-economic structure of Acemhöyük in that period and the relations between the regions were tried to be understood. In this study, the Black Glazed Pottery found at Acemhöyük has been dated and introduced to the scientific world, and an attempt has been made to understand the socio-economic structure of Acemhöyük during that period as well as its interregional interactions. The Acemhöyük samples in the form of kantharoi and bowls were dated to the last quarter of the 4th century BC and the 3rd century BC. Their production characteristics suggest that they were produced in West Anatolia/North Ionia. This information reveals that Acemhöyük had direct or indirect relations with Western Anatolia at the mentioned date and that Acemhöyük had a place in the regional trade network in the 3rd century BC. These data have demonstrated that Acemhöyük established direct or indirect relations with Western Anatolia in the 3rd century BC and that it was part of the regional trade network during this period.*

Keywords Hellenistic Period · Acemhöyük · Cappadocia · Black Glazed Pottery · Imported Pottery

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Corresponding author: Burcu Tüysüz burcutuysuz@nevsehir.edu.tr

Introduction

Acemhöyük is located within the borders of Yesilova Yeşilova Town, 18 km northwest of Aksaray Province, southeast of the Salt Lake (Özgüç, 1968: p. 2) (Figure 1).

Figure 1

Acemhöyük and Sites with Black Glazed Pottery in Central Anatolia

The settlement of Acemhöyük consists of two parts; mound and the Lower Town. The mound is 650x550 m in diameter and 20 m in height (Kamış & Şener, 2022: 348). The dimensions of the Lower Town have not been determined for the time being. However, the soundings carried out at different points of the Lower Town, which attracts attention with its size, have shown show that this settlement surrounded the mound and spread over a much larger area than the mound during the Assyrian Trade Colonies Age (Kamış & Şener, 2022: 348).

The first scientific excavations began in 1962 and have continued uninterruptedly until today. For more than 60 years, the excavations were carried out under the direction of Prof. Dr. Nimet Özgüç between 1962-1989 and Prof. Dr. Aliye Öztan between 1989-2019. The studies have been carried out under the direction of Assoc. Prof. Dr. Yalçın Kamış since 2020.

The results of the excavations at Acemhöyük have demonstrated demonstrate that the Lower Town was inhabited only during the Assyrian Trade Colonies Age, while the mound was inhabited from the Early Bronze Age onwards until the Roman Period with some interruptions (Özgüç, 1968: 3). According to the order of the stratification based on the archaeological information, the earliest stratum XII and V belong to the Early Bronze Age; and the IV-Ith strata belong to the Assyrian Trade Colonial Age (Kamış & Şener, 2022: 350-372; Şener, 2024: 3). The settlement, which ended at the end of the Assyrian Trade Colonial Age, resumed during the Classical Period and continued until the 1st century AD (Öztan, 2012: 66). From this date onwards, the settlement shifted to today's Aksaray city centre, which was formerly called Garsaura but was rebuilt by Arkhelaos, the king of Cappadocia, and renamed Arkhelais (See. Plin. HN., 6.3.8; Joseph., AJ., 17, 339).

Acemhöyük represents one of the largest cities of Central Anatolia with the Early Bronze Age and Assyrian Trade Colonies Age settlements mentioned above. Archaeological findings obtained from these settlements helped to understand the historical development of the region by providing information on the social, economic and cultural structure of these periods (Kamış, 2017; Kamış, 2018; Kamış, 2022a; Kamış, 2022b; Şener 2024). For this reason, studies at the mound have long focused on these two periods and the Hellenistic Roman settlements have not been the subject of a detailed study until today. Therefore, research on this period has been initiated in order to contribute both to the complete understanding of the stratigraphy of Acemhöyük and to the elucidation of the Hellenistic Period culture of Central Anatolia. This study includes the results of the first research on the Hellenistic-Roman Periods.

Acemhöyük in Hellenistic-Roman Periods

At Acemhöyük, the mound was abandoned at the end of the Assyrian Trade Colonies Age and the settlement resumed during the Hellenistic Period. The settlement pattern of the mound completely changed with this period. Accordingly, the mound, which hosted a dense and extensive settlement during the Early Bronze Age and Assyrian Trade Colonial Age, was inhabited in a more limited area during the Hellenistic-Roman Period.

The archaeological information on the Hellenistic-Roman Period settlements was obtained during the extensive excavations carried out for the Assyrian Trade Colonies Age levels. The information obtained during these excavations revealed that the settlements of this period were concentrated especially on the hills to the south of the mound (Figure 2). The southeastern and southwestern elevations, the southern slope and the surroundings of the Assyrian Trade Colonies Age palace, now called Sarıkaya Palace, are the areas where the Hellenistic-Roman Period settlements were identified. Archaeological studies indicate that the Hellenistic-Roman Periods in these areas consisted of at least two successive building levels (Figure 2 - Figure 3).

Figure 2

Acemhöyük Topographic Map and Sarıkaya Palace

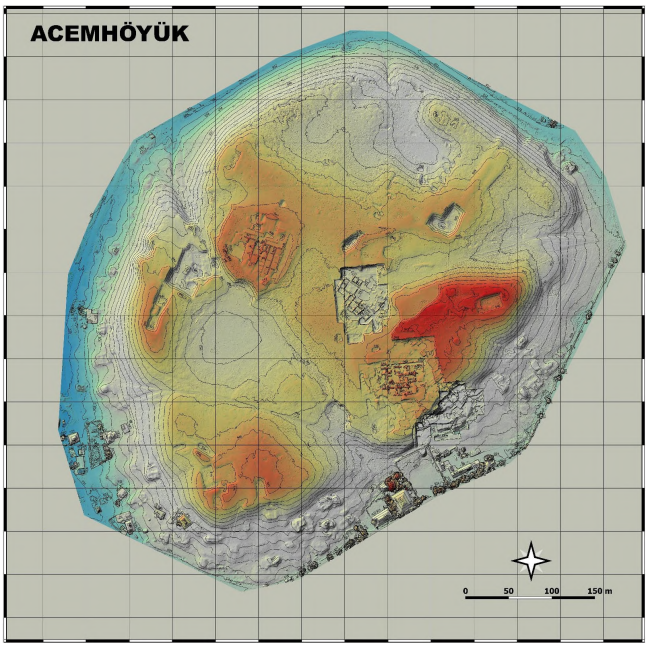
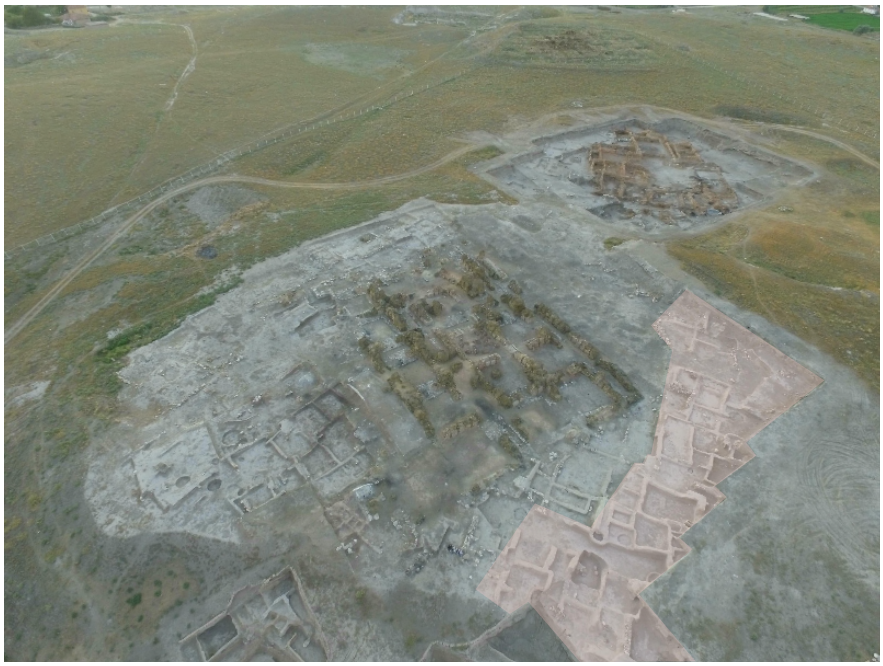


Figure 3
Acemhöyük South Slope Hellenistic Period Remains



The architectural remains of these levels are represented by mudbrick walled buildings with stone foundations. The buildings have courtyards, interconnected multi-roomed rooms and the rooms have quadrangular plans.

The archaeological materials associated with these structures include pottery, terracotta figurines and their moulds, animal-shaped drinking vessels, oil lamps, coins (Kızılkaya, 1990)[1], ivory and metal artefacts (Öztan, 2012: 66).

Among the archaeological materials mentioned above, pottery constitute the most dense group of finds. Preliminary studies on pottery have shown that Acemhöyük pottery can be divided into two groups: regional/local production and imported production. Among these groups, imported pottery, which give clues about Acemhöyük's interregional commercial and cultural relations, were evaluated first. The imported groups, which are also the subject of this study, are represented by Black Glazed Pottery at Acemhöyük for the time being.

Black Glazed Pottery

Black Glazed Pottery are one of the most common groups of the Hellenistic Period. This group was developed by Athenian potters in the late 6th century BC, inspired by the elegant and shiny appearance of Persian metal vessels (Miller, 1997: 136-137; Cook, 1960: 143). A metallic lustre was achieved on the surface of the pottery by means of a black slip obtained by several stages of firing[2]. This made them one of the most popular products of the period, both aesthetically and functionally.

The most characteristic feature of the Attica Black Glazed Pottery is their clay and slip structure. The clays of these ceramics are in shades of red, brown or pink and very well refined, fine sandy. Although the slips vary in tone and quality throughout the period, they are generally black, mostly glossy but sometimes matt (Farnsworth & Simmons, 1963: 389; Rotroff, 1982: 14; Rotroff, 1997: 10-11). The decorations on them are

[1]The coin of the Classical Period consists of one coin of Klenderis dating between 450-400 BC.

[2]For black slip and firing methods, see Farnsworth & Simmons, 1963, p. 389; Noble, 1960, pp. 310-311.

palmette and roulette ornaments especially on the tondos of the open vessels (Talcott, 1935: 487; Rotroff, 1997: 37-38). Some of the specimens also have banded reserves (Sparkes & Talcott 1970: 17-18) under the bases or on the outer surfaces, which may be included in the ornamental elements.

Although Black Glazed Pottery were initially produced in Athens, they were also produced in different centres outside Athens (Smyrna: Cook, 1965; Pergamon: Schäfer, 1968; Ephesos: Mitsopoulos-Leon, 1991; Daskyleion: Tuna-Nörling, 1999; Tralleis: Civelek, 2001; Sardeis: Rotroff & Oliver, 2003; Troia: Tekkök-Biçken, 1996; Gordion: Stewart, 2010; Tarsus: Jones, 1950; Knidos: Kögler, 2010; Klazomenai: Hasdağlı, 2010). However, the clays and slips of the Black Glazed Pottery produced outside Athens never achieved Athenian quality. However, imitations called "Atticizing", which are almost identical in form and slip to Athenian products, were also produced (Berlin & Lynch 2002). Atticizing ceramics can be distinguished by their production techniques and clay characteristics. The clay colours of these ceramics vary in shades of pale red, brown, brownish red. The clay colour of some examples is grey or brown in the core and pink or red around the core due to firing. The clay structures are also porous and mica and lime inclusions can be observed.

Black Glazed Pottery have spread over a very wide area in ancient geography since their introduction. In the centres within the distribution area, both examples imported from Athens and locally/regionally produced examples are observed. Sparkes-Talcott states that Black Glazed Pottery were found in Italy, Sicily, Bulgaria, Germany, France, Spain, the Nile Valley, Nubia, Babylon, Susa, Northern Syria, Palestine, Cyprus and the western parts of the Persian Empire (Sparkes & Talcott, 1970: 16). Anatolia is one of the areas where these pottery were both produced and found. These pottery were found especially in the metropolises along the coastline. However, Central Anatolia has recently been added to the find centres of imported Black Glazed Pottery. With the recent studies, these ceramics come from the excavations of Dorylaion (Yedidağ, 2024: 14-30); Gordion (Stewart, 2010: 156-157, Cat. No. 71–83, 95–97, 123, 125–130, 132, 133, 144, 153, 154, 158-160, 162); Çatalhöyük (Zoroğlu, 2007: 13-21); Kaman-Kalehöyük (Matsumura, 2007: 97-110, Fig. 23), Alişar (Waage, 1937: 74, 76, Pl. VII, 3, Fig. 81, 2, Fig. 86, 5); Kınıkhöyük (D'Alfonso *et al.,* 2014, Fig. 11) and Kültepe (Tüysüz, 2021: 161-177) (Figure 1). Acemhöyük is another centre in Central Anatolia where Black Glazed Pottery were recovered.

Black Glazed Pottery from Acemhöyük

Black Glazed Pottery of Acemhöyük were recovered from the Hellenistic Period buildings in plan squares SA/TA-42-43, ZA/42 above Sarıkaya Palace during the 1968 excavations (Figure 2). There is no detailed information about the archaeological contexts of these ceramics. Nevertheless, the evaluated ceramics are very important as they are the first concrete evidence of Acemhöyük's interregional communication network in the Hellenistic Period.

Black Glazed Pottery from Acemhöyük have a homogeneous structure in terms of clay and slip properties. The clay colours are mostly red and brown and in one example pink. The clay colours of some sherds vary in and around the core due to firing. (Cat.no 3, 6, 8, 11, 14). The clay of some sherds, which are mostly well refined, contains lime (Cat. nos. 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15) and mica (Cat. nos. 9, 10, 11, 12, 13). The surfaces are slipped in different shades of black and are either matt or glossy. The slip is red only in three samples (Cat. nos. 9, 12, 13).

The analysed pottery are represented by two different forms: incurved rim bowls and kantharos.

Incurved Rim Bowls

The bowl examples belong to the incurved rim group, also known as *echinus* bowls in the literature (Edwards, 1975: 29; Rudolph, 1978: 216; Rotroff, 1997: 161). In general, this form has an incurved rim, spherical body and ring base. Bowls of this form were used as tableware (Schäfer, 1968: 37; Sparkes & Talcott, 1970: 131–

132; Rotroff 1997: 156–161). This type of bowls is one of the most common forms found in Hellenistic Period settlements. And they have been documented with their typological development thanks to the stratigraphic information obtained from many centres[3].

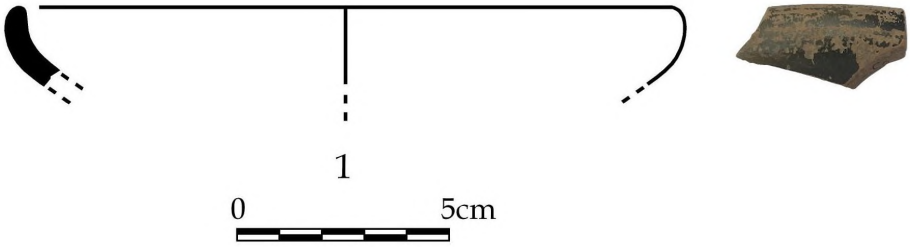
The most detailed information on the form origin and type development of black glazed bowls is provided by Athens-based studies, one of the most important sources of the literature (Sparkes & Talcott, 1970: 130-132; Edwards, 1975: 29; Rotroff, 1997: 161). These studies reveal that bowls with incurved rims were first produced in the 5th century BC as a continuation of single-handled bowls. This form became widespread rapidly from the 4th century BC, but lost its popularity from the last quarter of the 3rd century BC. Hellenistic examples are divided into three groups as *Shallow Classical Type*, *Shallow Hellenistic Type* and *Deep Type* according to the development of form and decoration (Rotroff, 1997: 161). The examples in the *Shallow Classical Type* have similar characteristics with the bowls of the Classical Period. Produced intensively in the last quarter of the 4th century BC and the first quarter of the 3rd century BC, the tondo of this type of bowls is decorated with roulette and four palmette motifs inside the roulette. On the exterior surface, the junction of the body and the base is decorated with a reserved band and the base is chamfered. The bowls of the second type, the *Shallow Hellenistic Type*, are much simpler than those of the *Shallow Classical Type*. Bowls of this type, popular in the last quarter of the 4th century BC and the middle of the 3rd century BC, have undecorated tondos and exterior surfaces, and flat bases. The slips are thin and there are also semi-slipped examples within the type. The bowls in the last group, the *Deep Type*, have a deeper body structure than the first two types. Popular in the 3rd century BC, this type was used intensively until the 3rd quarter of the 2nd century BC.

The bowls recovered from the Acemhöyük excavations belong to the *Shallow Classical Type* or *Shallow Hellenistic Type* group according to this typology (Figure 4, Figure 5, Figure 6). The samples are represented by eight sherds, all of which are rim, body and base fragments. The rim diameters are between 15 and 20 cm. A general analysis of the form schemes shows that the rim is incurved inverted and the body is shallow. The bases should be ring-shaped according to the complete examples found in different centres. Although these bowls are similar in terms of the general form scheme, they have some differences in terms of the stylistic features of the rim and body structures. According to these differences, Acemhöyük bowls can be divided into three groups.

Group 1 (Cat. no. 1) Fig.4

In the first group of bowls, the rounded rim is gently turned inwards. In other words, the rounded rim rises as a continuation of the body. And it shows a slight inclination inwards. The body is rather shallow compared to the other groups.

Figure 4
Photographs and drawings of black-glazed pottery found at Acemhöyük



[3]For the typological development of bowls with inverted rims, see Tarsus: Jones, 1950: 155-157; Ephesus: Mitsopoulos-Leon, 1991: 18-19; Pergamon: Schäffer, 1968: 37-38; Troia Tekkök-Biçken ,1996: 20; Knossos: Coldstream, 1999: 335.

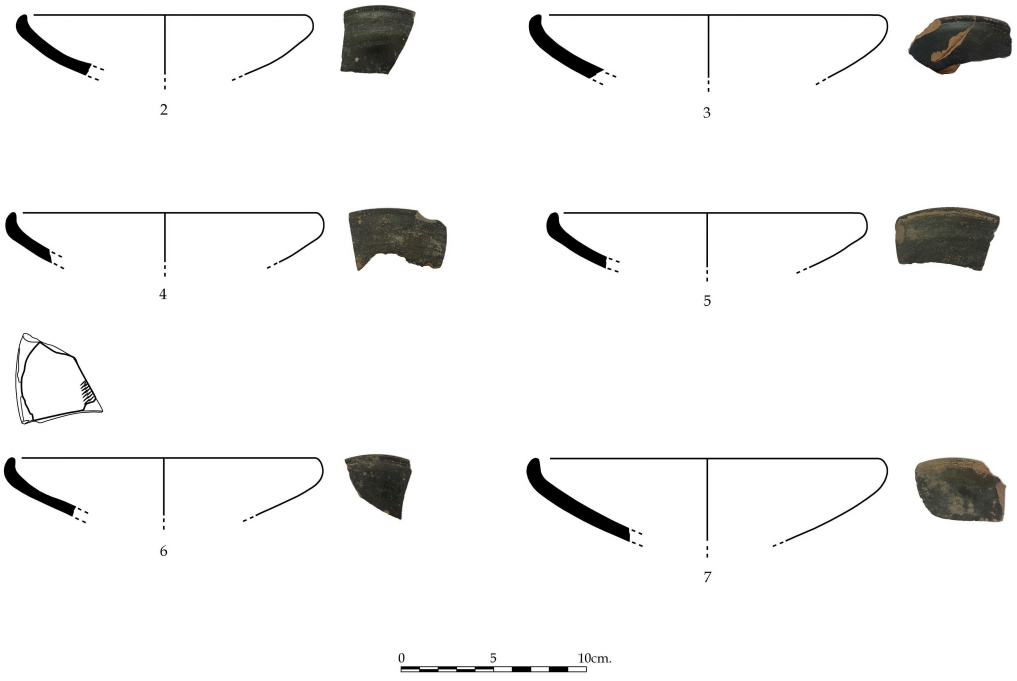
This example can be dated with reference to the rim and body form. Both Attic and local productions of this sherd have been found at many Hellenistic sites. In this respect, Cat. no. 1, with its slightly incurved rim and shallow body form, is in parallel with the examples from the Athenian Agora (Rotroff, 1997: Fig. 63, 965), which are included in the *Shallow Classical Type* bowls group and dated to 325-300 BC, and from Kerameikos (Knigge, 2005, Abb. 41, 674.), which are dated to the end of the fourth century BC. Accordingly, bowls of similar form are dated to the late fourth and early third centuries BC at Smyrna Kadifekale (Granata, 2015, Cat.no. 6), Smyrna Agora (Aktaş, 2011: 127, Cat.no. 28) and Nif (Olympos) Mound (Bilgin, 2015, Pl III, 20; Bilgin, 2017, Lev. 8, 51); to the third quarter of the third century BC at Pergamon Asklepieion (Boehringer, 1968, Taf. 65, 111); to the late fourth century BC at Aigai (Gürbüzer, 2017, Figure 3, 1-2.) and Knidos (Doksanaltı, 2006, Cat.no. 672); to 300-250 BC at Phokaia Maltepe Tumulus (Saygıner, 2019, Fig. 35, Cat. no. 251); to the third century BC and the last quarter of the third century at Troia (Berlin, 1999, Pl. 4, 112; Tekkök 2000, Pl. 4, 35), and to the second quarter of the fourth century BC at Nagidos (Durukan & Körsulu 2007, Cat.no. 43). Examples with similar typological characteristics were also found in Central Anatolia. These examples were found at Şarhöyük Dorylaion (Yedidağ, 2024, Lev. 5 SF1) in the early third century BC and at Gordion (Stewart, 2010, Cat.no. 79) in layers dating to 333-235 BC. According to the similar examples found in different centres, the Acemhöyük find, Cat. no. 1 can be dated to the late fourth century BC and third century BC.

Group 2 (Cat. no. 2-7) Figs. 5.2-7

The second group of bowls has a sharper incurved rim. This sharpness is emphasised by the hard profile below the lip edge. The body structures are deeper than the first group. Nevertheless, the body structures are compatible with the shallow Hellenistic bowls. In this group, Cat. no. 6 in this group preserves a roulette on the tondos.

Figure 5

Photographs and drawings of black-glazed pottery found at Acemhöyük



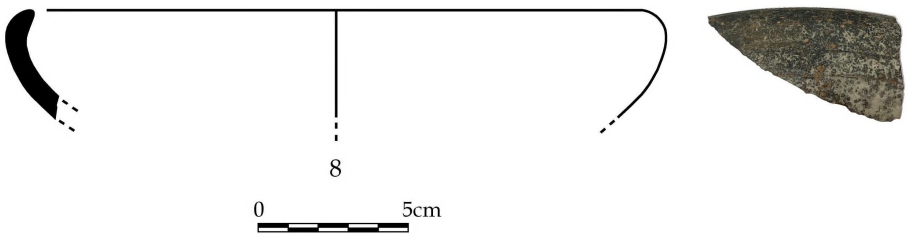
Group 2 bowls are stylistically comparable to those of the Athenian Agora (Rotroff, 1997, Figs. 63, 972, 977, 978, 980, 982) from contexts dated between 300-275 BC. Bowls with similar forms have also been found at Khios, Paphos and Chersonessos. These bowls were dated to the Early Hellenistic Period at Khios (Anderson,

1954, Fig. 15, 115); to the early third century BC at Paphos (Hayes, 1991, Fig. II, 3), and to the third century BC at Chersonessos (Zolotarev, 2006, Figure 4, 4, Figure 7, 1). Similar shaped examples were also found in Corinth. However, it is stated that there is no chronological development for these bowls and that the form was used from the end of the fourth century BC to the 1st century BC (James, 2018, Fig. 25). A similar time frame has been suggested for bowls from Anatolia. These bowls have been dated to the third century BC at Smyrna Bouleuterion (Alkan, 2019, Cat. no. 33); to the first half of the second century BC at Ephesos (Mitsipoulos-Leon, 1991, Taf. 3, 14); last quarter of the fourth century BC to the middle of the third century BC Nif (Olympus) Mound (Bilgin, 2017: Lev. 8 52, 53); to the third quarter of the third century BC at Pergamon Asklepieion (Boehringer, 1968, Taf. 64, 119); to the last quarter of the third century at Troia (Tekkök, 2000: Pl. 4, 33); to the third and second centuries BC at Labraunda (Hellström, 1965, Pl. 33, 64); to the late fourth century BC at Tarsus (Jones, 1950, Fig. 180, A), and to the second quarter of the fourth century BC-early third century BC at Nagidos (Durukan & Körsulu, 2007, Cat.no. 41). The most stylistically similar examples with the second group bowls of Acemhöyük were found at Kültepe (Tüysüz, 2022, Pl. 3, 13-14, Pl. 88, 44-50). The examples from Kültepe, which are considered to be of Western Anatolian production, resemble the Acemhöyük bowls in terms of production as well as stylistic characteristics. Formally similar bowl fragments were also found at Dorylaion (Yedidağ, 2024, Pl. 6 SF8) and Çatalhöyük (Zoroğlu, 2007: Pl. 9, Figure 7). The Dorylaion samples are dated to the last quarter of the fourth century BC, while the Çatalhöyük and Kültepe bowls are dated to the third century BC. Considering the date range presented for similar finds, it can be concluded that Cat. nos. 2-7 can also be dated to the third century BC.

Group 3 (Cat. no. 8) Fig. 6

The rim of the bowl in the last group is thinned and has a distinctly incurved form. The example belonging to this group has a deeper body structure compared to the other groups. (Figure 6).

Figure 6
Photographs and drawings of black-glazed pottery found at Acemhöyük

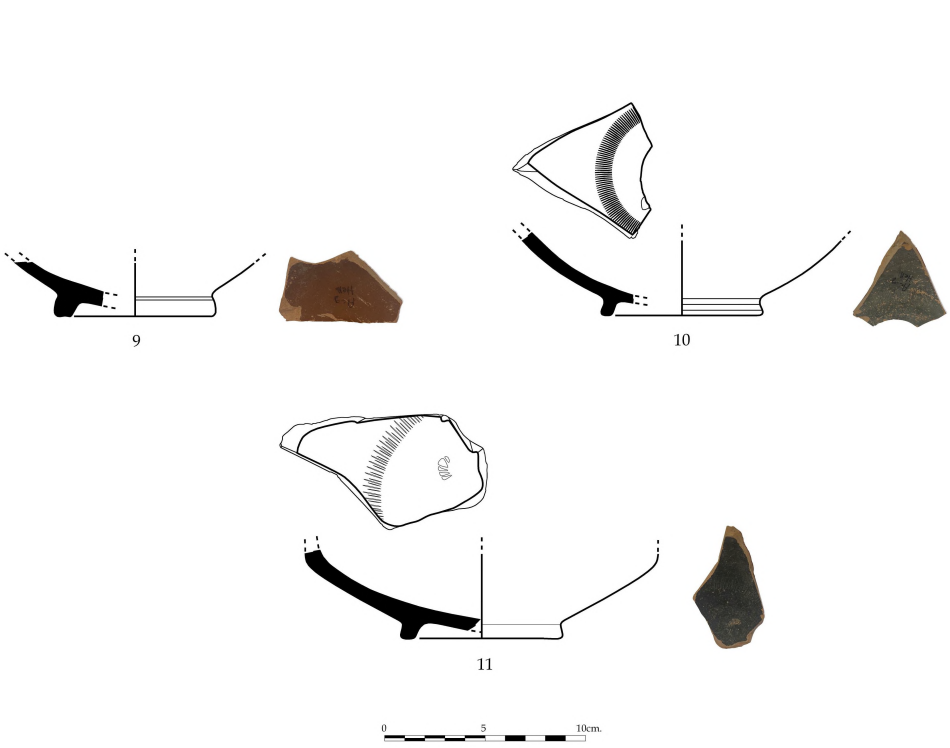


Cat. no. 8 is generally characterised by the form of bowls from the third century BC. Accordingly, bowls with similar rim and body shapes are dated to 300-275 BC at the Athenian Agora (Rotroff, 1997, Figs. 63, 996, 1001), to the late third and early second century BC at Corinth (Edwards, 1975, Pl. 2, 26, 30; James, 2018, Figs. 25, 162, 166.) and to the Early Hellenistic Period at Khios (Anderson, 1954, Fig. 15, 193). Examples that can be compared with the Acemhöyük bowl in general terms have been found at Nif (Olumpus) Mound, Pergamon, Ephesos, Patara, Knidos, Tarsus, Assos, Troy, Sardis and Dorylaion. Among these, Nif (Olympus) Mound bowls dated to MÖ 300-200 (Bilgin, 2017: Lev. 9), Pergamon Asklepieion bowls (Schäfer, 1968, Taf. 4, C18-C19) were found in the phase dated to 230-190 BC. At Ephesos (Mitsipolous-Leon, 1991, Taf. 2, A4, A8), black glazed bowls of similar form, dated to the mid-3rd century BC and considered to be locally produced, continued to be used in the mid-2nd century BC. Among other centres, similar bowls are dated to the 300's BC at Patara (Işın, 2008, Taf. 40, 3); to the late fourth and first half of the third century BC at Knidos (Doksanaltı, 2006, Cat.

no. 417); to the Early Hellenistic Period at Tarsus (Jones, 1950, Fig. 178, 7); to the Hellenistic Period at Assos (Sezgin, 2010, Cat. no. 688); and to the second and third quarter of the second century BC at Troia (Tekkök-Biçken, 1996, Figure 3 A4-A5); late fourth century BC at Sardis (Rotroff & Oliver 2003, Pl. 5, 14) and early third century BC at Dorylaion (Yedidağ, 2024, Pl. 5 SF4). Considering the similar finds, Cat. no. 8 can be dated to the third century BC.

Apart from the rim, three base sherds belonging to the bowl form were also found (Figure 7 .9-11). The sherds recovered as body and base have a base diameter of 8 cm. The bodies are shallow and the bases are in the shape of a low ring. The seating plane of the pedestal is flat in all three examples. Cat. no. 10-11 preserved some of the roulette and palmette decorations on the tondo.

Figure 7
Photographs and drawings of black-glazed pottery found at Acemhöyük



In order to date these bases, the form characteristics of the bowl bases should be analysed. Accordingly, in the bowl pedestals of the last quarter of the fourth century, the body- pedestal transitions are banded in the colour of the clay and the seating planes are profiled with a concave groove. However, it is observed that these decorative features were abandoned on the bowls produced in the third century BC. The reserve area in the body- pedestal transitions of the bowls produced in this period was removed and the pedestal seating planes were flattened (Rotroff, 1997: 161-163). Considering the typological developments mentioned here, Figure 7.9 is dated to the last quarter of the fourth century BC and Figure 7.10-11 should be dated to the third century BC.

Kantharos (Cat. no. 12-15) Figs. 8.12-15

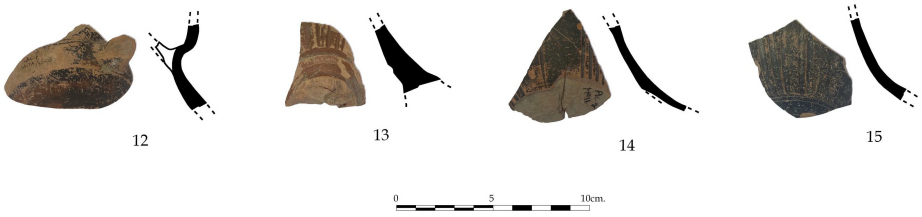
Another form belonging to the Black Glazed Pottery Group found at Acemhöyük is the kantharos used as drinking vessels (Figure 8.12-15). This form has been preferred since the early periods and was used

frequently especially during the Archaic, Classical and Hellenistic Periods (Rotroff, 1997: 83). The grouping and dating of the kantharos, which are divided into numerous sub-types according to their rim, body and handle profiles, are based on the typology developed on the basis of the finds from the Athenian excavations with intact contexts. According to the grouping based on the Athenian finds, the Hellenistic kantharos are divided into two groups: *Classical Kantharoi* and *Hellenistic Kantharoi*. Within each group, sub-types were formed according to the rim, body and handles (Rotroff, 1997: 83-119). *Classical Kantharos*, as the name suggests, were in use from the late fourth century BC to the early third century BC, continuing the form characteristics of the Classical Period (5th and 4th century BC) kantharos. Their main features are a neck with a concave profile below the rim and a sharp shoulder at the transition from the neck to the body. *Hellenistic Kantharos* were in use from the middle of the third century BC. Unlike the *Classical Kantharos*, this type is characterised by a deep body form that descends straight from the rim to the lower body. Both types have a wide distribution in the ancient geography and are represented by numerous examples from the sites where they were recovered.

Body sherds belonging to the kantharos form were also recovered from Acemhöyük. Among these finds, Figure 8.12 represents the neck, shoulder and handle fragment; Figure 8.13-15 represent the lower body fragment. Figure 8.13-15 are fluted with concave profiles on their outer surfaces.

Figure 8

Photographs and drawings of black-glazed pottery found at Acemhöyük



The fact that these examples are only body fragments makes it difficult to determine typologically to which group or subtype they belong. However, Figure 8.12 with its concave neck and sharp body form at the transition from the neck to the shoulder, and the fluted body features of when the fluted body features of sherds Figure 8.13-15 are taken into consideration, it can be said that these examples belong to the *Classical Kantharos* group. Based on this evaluation, the Acemhöyük samples should have a thick rim with a flat or moulded thick rim, a long concave neck, an oval body narrowing towards the bottom, and a profiled high ring base, as in *Classical Kantharos* forms. The two opposite handles should be attached to the body, starting below the rim and ending on the shoulder[4].

It is very difficult to date the Acemhöyük kantharos recovered as body fragments. However, a general date can be suggested according to the chronological range of the *Classical Kantharos* in different centres. Accordingly, the *Classical Kantharos* found in Athens, where Black Glazed Pottery were developed and became the fashion of the period, are dated to the last quarter of the fourth century BC and mostly to the third century BC (Rotroff, 1997, Figs. 1-116). Formally similar kantharos and their fragments have been dated to the late fourth and early third centuries BC at Kadıfekale in İzmir (Granata, 2015, Cat. no. 1); to the late

[4] For the form see: Thompson, 1934: 319, Figure 5, A27-A28; Cook, 1965: 146-147, Figure 3; Schafer, 1968: Taf. 5, C24; Sparkes & Talcott, 1970: 286-287, Figure 7, 717; Mitsopoulos-Leon, 1991: 34, 44, 80, 84, Taf. 21, B5-B6, Taf. 101, F49, F52; Rotroff, 1997: 242-244, Figure 1-9; Dusenbery, 1998: 208-211, S131A/788, H13B, XS-191; Knigge, 2005: 187, Taf. 111, 563; Rotroff & Oliver, 2003: 20, Pl. 4, 7.

fourth century BC at Sardis (Rotroff & Oliver, 2003: 20, Pl. 4, 7) and to 333-275 BC at Gordion (Stewart, 2010: Figs. 207, 154, 155, 159). The katharos found at Kültepe and Alişar in the neighbourhood of Acemhöyük belong to the first quarter of the third century BC (Waage, 1937, Fig. 86, 5; Tüysüz, 2022, Pl. I, 1-3). Similar examples of this type of *Classical Kantharoi* were also found at Ephesos and Kerameikos (Mitsopoulos-Leon, 1991, Taf. 23 B13, Taf. 24, B15; Knigge, 2005, Abb. 36, 660). Considering the date range suggested for similar finds, the Acemhöyük kantharos can also be dated to the end of the fourth century BC and the beginning of the third century BC.

Conclusion

In this study on the Hellenistic Period of Acemhöyük, the imported Black Glazed Pottery found in the settlement were evaluated. Black Glazed Pottery are a group of ceramics that were started to be produced by Athenian potters in the late 6th century BC, inspired by Persian metal vessels. These potteries spread over a wide geography in time and became one of the most popular types of ceramics in the Hellenistic world. The interest in the vessels increased so much during the period that local examples were produced in most Hellenistic settlements. These pottery, which were found in many geographies including Anatolia, also created a market for themselves in Central Anatolia. Studies have proved that at Dorylaion, Gordion, Çatalhöyük, Kaman-Kalehöyük, Alişar Alisar, Kültepe and Alisar, both imported samples from Attica and local samples produced in Anatolia were used. For the first time, this study reveals that Black Glazed Pottery also found buyers at Acemhöyük and more importantly, Acemhöyük was a part of the trade network of the region in the Hellenistic Period.

Acemhöyük Black Glazed Pottery are represented by the inverted rimmed bowl and kantharoi forms. According to the comparative dating, the earliest sherds are a rim of the bowl with inverted rim and base, a kantharos dating between the last quarter of the fourth century BC and the third century BC. The other bowl examples are dated to the third century BC.

These finds make important contributions to the chronology of Acemhöyük. The Hellenistic Period settlement, which was previously mentioned only between the lines in reports and studies, has been concretised with the finds examined in this study, supported by archaeological data. These black slipped sherds dated to the Early Hellenistic Period proved that the Hellenistic settlement at Acemhöyük started from the early phases of the period.

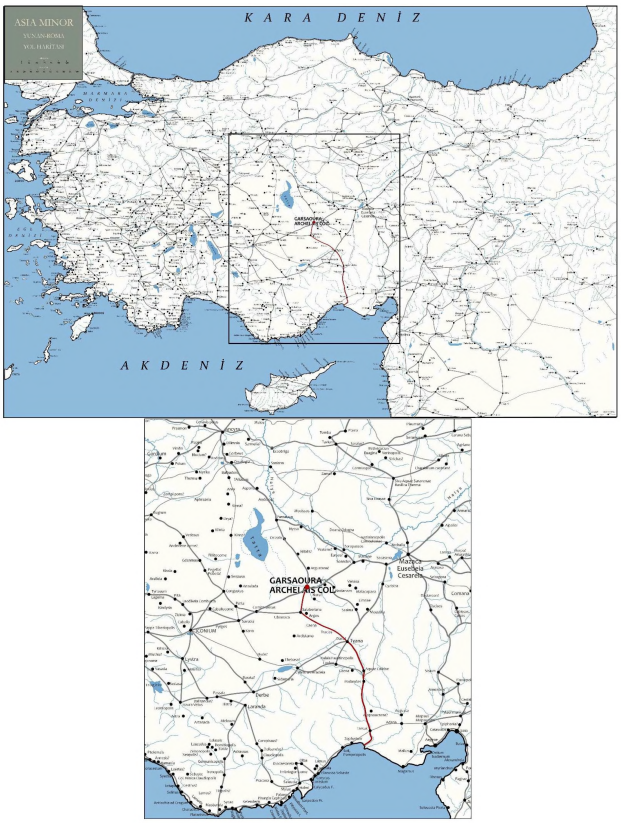
The Black Glazed Pottery of Acemhöyük has a homogeneous structure in terms of clay, clay additives and surface characteristics. The clays show transitions between brown, red and pink tones. On the walls of some sherds there are grey and red colour differences in the core and around the core due to firing. There are lime and mica inclusions in most but not all of the samples. The slip is in shades of black on both surfaces and red on only three sherds. The slip is either matt or glossy. These details, which have so far been determined by macroscopic observations, resemble the characteristics of Western Anatolia/Northern Ionia productions (Cook, 1965: 143). This suggests that these ceramics were imported from Western Anatolia/Northern Ionia.

Considering the geographical location of Acemhöyük, the presence of ceramics produced in Western Anatolia/Northern Ionia should be regarded as normal. Acemhöyük is located at the intersection of routes connecting different regions of Anatolia. Studies conducted to date have determined that the geography of Acemhöyük and Aksaray lies on important roads stretching from east to west and north to south across Anatolia (French, 1993; French, 1998; Kamış, 2022: 780). The question of which route Western Anatolia/Northern Ionia ceramics took to reach the Aksaray region raises two possible routes. The first route is a land route, which includes the route proposed by D. French in relation to the 'King's Road' (French, 1998: Figure 8, Figure 9). This route constitutes a historical main axis extending from Western Anatolia to the

central settlements of Central Anatolia. The Royal Road enabled trade caravans departing from the western coasts to reach the vicinity of Aksaray (ancient Garsaura/Arkhelais) via Phrygia and Lycaonia. A second route that could be considered more likely is the sea route and the port of Tarsus[5]. The most important factor supporting this idea is that, after the port of Tarsus, the Cilician region had the shortest and safest passageways to Central Anatolia (Alkım, 1959). This route connecting the Mediterranean Sea with Central Anatolia is noteworthy both in terms of geographical accessibility and historical usage intensity. Starting from the Port of Tarsus, the route passing through the pass known as 'Kilikia Pylai' (Kilikia Gates) in ancient sources and today as the Gülek Pass was also a frequently preferred route in ancient times. This road starts from Tarsus, crosses the Gülek Pass, and then reaches Aksaray (Garsaura/Arkhelais) via Pozantı (ancient Padandos) and Niğde (Tyana). It is thought that the imported materials examined in this study also reached Acemhöyük via this road (Figure 9a-b)[6].

Figure 9

Possible trade route of Acemhöyük and Aksaray



This study also contributes to research aimed at understanding the socio-economic structures of the Kingdom of Cappadocia and the settlements affiliated with it, many aspects of which remain unclear. The period between the last quarter of the 4th century BC and the 3rd century BC was a historical era in which struggles between Alexander's generals took place throughout Cappadocia, followed by the establishment of the Cappadocian Kingdom under the Seleucids and then the Independent Cappadocian Kingdom (Günaltay, 1987: 257-278; Tekin, 1998: 194-225; Speidel, 2019: 105-118; Bilge, 2022: 43-104). By the 3rd century BCE, the end of the wars between the generals, the stabilisation of the Independent Kingdom of Cappadocia, and the

[5]See Port of Tarsus Arıcı-Göçmen 2022.

[6]W.B. Calder-G.E. Bean's Asia Minor Road Map has been revised by Associate Professor M. Bilgin.

successful political policies implemented by the Cappadocian kings laid the groundwork for an environment of prosperity and peace in the region.

Previous studies have revealed that commercial activities increased during this period, particularly in settlements affiliated with the Kilikia Strategias, thus demonstrating that Cappadocia was not an isolated region as previously believed, but rather had a structure open to regional and foreign trade (Tüysüz, 2022: 390-391). The ceramic fragments evaluated in this article, which are predominantly dated to the 3rd century BCE, also indicate that settlements affiliated with the Garsauria Strategia participated in commercial activities by establishing interregional connections

In addition to these ceramics, coins found at Acemhöyük and imported Hellenistic-period ceramics discovered at Büyük Deller, one of the fortified settlements of Garsauria, are other important findings that indicate regional trade in the Aksaray settlements (Kızılkaya, 1990; Tüysüz et al. 2024). In addition, Strabo's description of Garsaura as a village-city (κώμηπόλις) and his statement that 'it is said that this place was once the metropolis of the country' are quite important for understanding the regional position of Aksaray during the Hellenistic period. Furthermore, the fact that King Arkhelaos of Cappadocia rebuilt the city and renamed it Arkhelais, and that it later gained the status of a Roman colony during the reign of Emperor Claudius, must be attributed to Aksaray's location at the crossroads of important transportation routes, Strab., 12.2.6; Plin. HN., 6.3.8).

When these data are considered together, it becomes clear that Aksaray's participation in interregional trade during the Hellenistic Period was a natural and expected development within both the historical and geographical context.

Finally, the ceramics evaluated in this study are important as they are the first concrete evidence for the commercial activities of Acemhöyük. These finds indicate that Acemhöyük was a part of regional trade during the Hellenistic Period. Acemhöyük, which has been reflecting the cultural and commercial connections brought about by its geographical location since the beginning of the third millennium BC (Kamış, 2022a: 780), must have continued this feature in the Hellenistic Period. Excavations and studies to be carried out at Acemhöyük during the Hellenistic Period in the coming periods will contribute to obtaining more detailed information on these issues.

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Author Details Burcu Tüysüz
[1] Nevşehir Hacı Bektaş Veli University, Faculty of Arts and Sciences, Department of Archaeology, Nevşehir, Türkiye
0000-0003-3935-6373 burcutuysuz@nevsehir.edu.tr

References

Aktaş, R. (2011). *İzmir Agora Kazısı Siyah Firnisli Seramikleri.* (unpublished master's thesis). İzmir: Ege Üniversitesi.

Alkan, G. (2019). *Smyrna Agorası Bouleuterion Seramikleri.* (unpublished master's thesis). İzmir: Dokuz Eylül Üniversitesi.

Alkım U. B. 1959, "Güney-Batı Antitoros Bölgesinde Eski Bir Yol Şebekesi", *Belleten XXIII*, 59-73.

Anderson, J. K. (1954). Excavation on the Kofina Ridge, Chios. *British School at Athens,* 49, 128–72.

Arıcı, S., Göçmen, İ. (2022) Kydnos Nehri ve Tarsus., *Arkhaia Anatolika* 5, 288-304.

Berlin, A. (1999). Studies in Hellenistic Ilion: The Lower City. Stratified Assemblages and Chronology. *Studia Troica, 9,* 73-115.

Berlin, A., Lynch, K. (2002). Going Greek: Atticizing Pottery in the Achaemenid World. *Studia Troica*, 12, 167-175.

Bilge, E. (2022). *Hellenistik Dönem Kappadokia Krallığı Tarihi, Coğrafyası ve Sikkeleri*. Ankara: Gece Kitaplığı Yayınları.

Bilgin, M. (2015). Pottery Finds from Nif-Olympus / Nif-Olympos'dan Seramik Buluntular. In E. Laflı, S. Patacı (Eds.). *Recent Studies on the Archaelogy of Anatolia (pp. 27-40).* BAR International Series 2750.

Bilgin, M. (2017). Keramik Buluntular. In M. Peker, C. Baykan, D. Baykan (Eds.), *Nif Dağı Ballıcaoluk (2008-2016) Prof. Dr. Elif Tül Tulunay Onuruna* (pp. 32-119). İstanbul: Homer Kitapevi.

Boehringer E. (1968). *Altertümer von Pergamon Das Asklepieion Band XI 1.* Berlin: Deutsches Archaologisches Institut.

Civelek, A. (2001). *Tralleis Nekropolisi Buluntuları Işığında Hellenistik ve Roma Dönemi Seramiği*. (unpublished doctoral dissertation). İzmir: Ege Üniversitesi.

Coldstream, J. N. (1999). Knossos 1951-1961: Classical and Hellenistic Pottery from the Town, *BSA, 94*.

Cook R.M. (1960). *Greek Painted Pottery***,** Chicago: Quadranngle Books.

Cook, J. M. (1965). Fourth-Century Black Glaze. *British School at Athens, 60*, 143–153.

D'Alfonso, L., Gorrını, M. E. & Mora C. (2014). Archaeologıcal Excavations At Kınık Höyük Prelımınary Report Of The Thırd Campaıgn (2013). *Athenaeum, 102(2),* 565-585.

Doksanaltı, E. M. (2006). *Knidos Kap-Krio Kazı Alanı*. (unpublished doctoral dissertation). Konya: Selçuk Üniversitesi.

Durukan, M., & Körsulu, H. (2007). Hellenistik Dönem Seramikleri. In S. Durugönül (Ed.), *Dağlık Kilikia'da: Bir Antik Kent Kazısının Sonuçları; Nagidos; Results of an Excavation in an Ancient City in Rough Cilicia* (pp. 155-228). Antalya: Suna-İnan Kıraç Akdeniz Medeniyetleri Araştırma Enstitüsü Yayınları.

Durukan, M. (2015). Geç Antik Çağ'da Doğu Akdeniz'deki Ekonomik Gelişmenin Nedenleri. *Adalya* XVIII, 241-257.

Dusenbery, E. B. (1998). *Samothrace The Nekropolies, The Nekropolies and Catalogues of Burials-Catalogues of Objects by Categories*, Samothrace II, New Jersey.

Edwards, G. R. (1975). *Corinthian Hellenistic Pottery*, Vol. VII (III), New Jersey: The American School of Classical Studies at Athens.

Farnsworth, M., Simmons I. (1963) "Coloring Agents for Greek Glazes", *AJA, 67*, 389-396.

French D. (1993). Acemhöyük, Colonia Archelais and Road-Knots. In M. J. Mellink, E. Porada, T. Özgüç (Eds.), *Aspects of art and Icconography: Anatolia and Its Neighbors Studies in Honor of Nimet Özgüç* (pp. 201-207). Ankara: Türk Tarih Kurumu Basımevi.

Gassner, V. (1997). *Das Südtor der Tetragonos-Agora Keramik und Kleinfunde, Forschungen in Ephesos XIII/1/1.* Wien: Verlang der Österrichischen Akademie der Wissenschaften.

Granata, A. (2015). Black Glazed Pottery and West Slope Pottery from Kadifekale. In A. Ersoy & G. Şakar (Eds.), *Smyrna/ İzmir Kazı ve Araştırmaları*, I: *Çalıştay Bildirileri* (pp.79-94). İzmir: Ege Yayınları.

Günaltay, Ş. (1987). *Yakın Şark IV-II. Bölüm.* (*Romalılar Zamanında Kapadokya, Pont ve Artaksiad Krallıkları*), Ankara: Türk Tarih Kurumu Basımevi.

Gürbüzer M. (2017). Aigai'den Bir Bothros, *Arkeoloji Dergisi, XXII*, 245-262.

Hasdağlı, İ. (2010). *Klazomenai HBT Sektörü Klasik Dönem Tabakalarının Değerlendirilmesi*. (unpublished doctoral dissertation). İzmir: Ege Üniversitesi.

Hayes, J. W. (1991). *Paphos, III: The Hellenistic and Roman Pottery*. Nicosia: Department of Antiquities.

Hellström, P. (1965). *Labraunda*, II/ 1: *Swedish Excavations and Researches: Pottery of Classical and Later Date Terracotta Lamps and Glass*. Lund: CWK Gleerup.

Işın G. (2008). The Preliminary Report On The Hellenistic Pottery Of Patara From The 'Tepecik Hill' Excavations, *Asia Minor Studien 55*, 157-171.

James S. A. (2018). *Hellenistic Pottery: The Fine Wares (2018), Corinth, Vol. 7, No. 7*, Princeton: The American School of Classical Studies at Athens.

Jones, F. F. (1950). The Pottery. In Hetty Goldman (Ed.), *Excavations at Gözlü Kule, Tarsus The Hellenistic and Roman* (pp. 17-339). Princeton, New Jersey Joseph: Princeton University Press.

Kamış, Y. (2017). Erken Tunç Çağı'nda Acemhöyük ve Konya Ovası. In S. Özkan, H. Hüryılmaz, A. Türker (pp. 189-176). *Prof. Dr. Aliye Öztan'a Armağan*. İzmir: Ege Üniversitesi Basımevi.

Kamış, Y. (2018). Acemhöyük Buluntuları Işığında Erken Tunç Çağı Orta Anadolu'nun Güneyinde Çark Yapımı Seramiğin Ortaya Çıkışı. *Adalya*, 2, 63-8.

Kamış, Y. (2022a) Acemhöyük ve Erken Tunç Çağı Anadolu Ticaret Ağları. *Belleten 86-307*, 779-825.

Kamış, Y. (2022b). Acemhöyük'ten Bir "Suriye Şişesi", *Anatolian Research 26*, 41-63.

Kamış, Y. & Şener, T. (2022). MÖ III. Binyılda Acemhöyük. In M. Işıklı & E. Fidan & A. Türker & M.A. Yılmaz (Eds.), *MÖ III. Binyılda Anadolu* (pp. 347-374). İstanbul: Ege Yayınları.

Kızılkaya, Y. (1990). Acemhöyük Sikkeleri. *Belleten, 54 (211)*, 907-912.

Knigge, U. (2005). *Kerameikos Ergebnisse der Ausgrabungen XVII*. München: Deutsches Archäologisches İnstitut Press.

Kögler, P. (2010). *Feinkeramik aus Knidos vom mittleren Hellenismus bis in die mitlere Kaiserzeit (ca. 200 v. Chr. Bis 150 n. Chr),* Wiesbaden: Riechert Press.

Matsumura K. (2007). Animal and human Skeletons from Late Stratum II Pits at Kaman-Kalehöyük, *AAS XVI*, 97-110.

Miller, M. C. (1997). *Athens and Persia in the Fifth Century B.C.* Cambridge: Cambridge University Press.

Mitsopoulos-Leon, V. (1991). *Forschungen in Ephesos IX 2/2 Die Basilika am Staatsmarkt in Ephesos Kleinfunde.* Wien: Österreichischen Archäologischen İnstitut in Wien Press.

Noble, J. V. (1960). The Technique of Attic Vase-Painting. *American Journal of Archaeology, 64 (4),* 307–18.

Özgüç N. (1968). Acemhöyük Kazıları, *Anadolu, X*, 1-28.

Öztan, A. (2012). Acemhöyük (1962-1988, 1989-). In. O. Bingöl, A. Öztan, H. Taşkıran (Eds.), *Dil ve Tarih-Coğrafya Fakültesi 75. Yıl Armağanı Arkeoloji Bölümü Tarihçesi ve Kazıları (1936-2011) Anı-Armağan Serisi Ek III.2 Anadolu*, 59-66.

Plinius. *Naturalis Historiae*. (H. Rackham, trans.), London.

Rotroff, S. I. (1982). *Hellenistic Pottery, Athenian and Imported Moldmade Bowls The Athenian Agora*, *XXII*. Princeton: The American School of Classical Studies at Athens Press.

Rotroff, S. I. (1997). *Hellenistic Pottery, Athenian and Imported Wheelmade Table Ware and Related Material, The Athenian Agora XXIX*. Princeton, New Jersey: The American School of Classical Studies at Athens Press.

Rotroff, S. I., & Oliver, A. (2003). *The Hellenistic Pottery from Sardis: The Finds through 1994*. Cambridge: Harvard University Press.

Rudolph, W. W. (1978). Hellenistic Fine Pottery and Lamps from Above the House with Idols at Mycenae, *BSA, 73*, 213-234.

Saygıner H. (2019) *Phokaia Maltepe Tümülüsü Erken Hellenistik Dönem Seramiği*. (unpublished doctoral dissertation). İzmir: Ege Üniversitesi.

Schäfer, J. (1968). *Hellenistische Keramik aus Pergamon*, *Pergamenischen Forschungen Bant 2*. Berlin: Deutsches Archäologisches Institut.

Sezgin K. (2010) *Assos Kuzey Stoasının İnşası ve Kullanım Evreleri.* (unpublished master's thesis). Çanakkale: Çanakkale Onsekiz Mart Üniversitesi.

Sparkes, B. A., & Talcott, L. (1970). *Black and Plain Pottery of the 6th, 5th, and 4th Centuries BC The Athenian Agora*, XII. Princeton: The American School of Classical Studies at Athens Press.

Speidel, M. A. (2019). Hellenistik Kapadokya Krallığı. In *Hellenistik ve Roma Dönemlerinde Anadolu, Krallar, İmparatorlar, Kent Devletleri (pp.* 105–118). Istanbul: Yapı Kredi Yayınları.

Stewart, S. M. (2010), Gordion After the Knot: Hellenistic Pottery and Culture. (Doctoral dissertation). Ohio: University of Cincinnati.

Strabon. Strabon, *Geographika,* trans. A.Pekman, İstanbul, 1991.

Şener T. (2024). Acemhöyük Erken Tunç Çağı İdolleri. *Cedrus XII*, 1-16.

Talcott, L. (1935). Attic Black-Glazed Stamped Ware and Other Pottery from a Fifth Century Well. *Hesperia, 4(3),* 476-523.

Tekin, O. (1998). MÖ. IV-MS VI. yüzyıllar: Hellenistik Çağ ve Roma İmparatorluk Dönemi'nde Kapadokia Krallığı. In M. Sözen (Ed.), *Kapadokya (pp. 194-225).* İstanbul: Şahenk Vakfı Yayınları.

Tekkök Biçken, B. (1996). The Hellenistic and Roman Pottery from Troia: The Second Century BC. to the Sixth Century AD. (Doctoral Dissertation). Columbia: University of Missouri.

Tekkök Biçken, B. (2000). The City Wall of Ilion: New Evidence for Dating. *Studia Troica-10*, 85-95.

Thompson, H. A. (1934). Two Centuries of Hellenistic Pottery. *Hesperia,* 3(4), 311-480.

Tuna-Nörling, Y. (1999). *Daskyleion I, Die attische Keramik*. İzmir: Arkeoloji Dergisi VI.

Tüysüz, B. (2021). Preliminary Assessments of Black-Glazed Attic Pottery Found at Kültepe. In F. Kulakoğlu & G. Kryszat & C. Michel (Eds.), *Cultural Exchanges and Current Researches at Kültepe and Surroundings (pp. 161-177).* Brepols, Turnhout: Kültepe International Meetings 4, Subartu 46.

Tüysüz, B. (2022). Kültepe'nin Hellenistik Dönem Seramikleri, (Dokta Tezi). Denizli: Pamukkale Üniversitesi.

Tüysüz, B., Demirtaş, I., Çaylı, P. (2024). Büyük Deller Hellenistik Dönem Seramikleri Üzerine Ön Değerlendirmeler. *Seleucia*, XIV, 297-328.

Waage, F. O. (1937). Greek, Hellenistic and Roman Pottery from Alişar. In J. A. Wilson & T. G. Allen (Eds.), *The Alishar Hüyük Season of 1930-32 Part III* (pp. 74-77). Chicago: The University of Chicago Press.

Yedidağ T. Y. (2024). Phrygia Epiktetos Kentlerinden Eskişehir Dorylaion (Şarhöyük'ün) Hellenistik Devir Seramik Tipolojisi. (unpublished doctoral dissertation). İstanbul: Mimar Sinan Güzel Sanatlar Üniversitesi.

Zolotarev M. I. (2006). A Hellenistic Ceramic Deposit from the North-eastern Sector of Chersonesos, In V. Stolba and L. Hannestand (Eds.), *Chronologies of The Black Sea Area, In The Period c. 400-100 BC (pp. 193-216).* Denmark: Aarhus University Press.

Zoroğlu, C. (2007). *Çatalhöyük TP Klasik, Hellenistik, Roma Çağı Seramiği*. (unpublished master's thesis). Konya: Selçuk Üniversitesi.

Appendix

Catalog

In this study, Munsel Soil-Color Charts 2009 have been used. Abbreviations: RD: Rim Diameter; H: Height; WT: Wall Thickness; BD: Base Diameter.

Figure: 4.1 / 6.a

Form: Bowl

Sizes: RD: 15 cm **H:** 1.8 cm **WT:** 0.5 cm

Clay : Fragment of the side of the rim-body. The reddish yellow (5YR 6/6) clay is well refined, fine-grained, densely textured and hard. Inner and outer surfaces are very dark brown (10YR 2/2) glazed, shiny and smooth.

Figure: 4.2 / 6.b

Form: Bowl

Sizes: RD: 12 cm **H:** 3.2 cm **WT:** 0.5 cm

Clay : Fragment of the side of the rim-body. Light reddish brown (5YR 6/3) clay, slightly lime tempered, fine-grained, densely textured and hard. Inner and outer surfaces are glazed black (10YR 2/1), shiny and smooth.

Figure: 4.3 / 6.c

Form: Bowl

Sizes: RD: 18 cm **H:** 3.3 cm **WT:** 0.6 cm

Clay : Fragment of the side of the rim-body. The clay is pink (7.5YR 7/3) in the core, light red (2.5 YR 6/8) around the core, well refined, fine-grained, densely textured and hard. The inner and outer surfaces are glazed black (10YR 2/1), shiny and smooth.

Figure: 4.4/ 6.d

Name: Bowl

Sizes: RD: 16 cm **H:** 2.7 cm **WT:** 0.5 cm

Clay : Fragment of the side of the rim-body. Light reddish brown (5YR 6/4) clay, well refined, fine-grained, densely textured and hard. Inner and outer surfaces are glazed black (2.5Y 2.5/1), matt and smooth.

Figure: 4.5 / 6.e

Name: Bowl

Ölçüler: RD: 16 cm **H:** 2.9 cm **WT:** 0.5 cm

Tanım : Fragment of the side of the rim-body. Brown (7.5YR 5/2) clay, slightly lime tempered, fine-grained, densely textured and hard. The inner and outer surfaces are glazed black (2.5Y 2.5/1). Both surfaces are matt and smooth.

Figure: 4.6 / 6.f

Name: Bowl

Sizes: RD: 16 cm **H:** 3.1 cm **WT:** 0.5 cm

Clay : Fragment of the side of the rim-body. The clay is grey (5YR 6/1) in the core and light red (2.5 YR 6/6) around the core. The lime tempered paste is fine grained, dense textured and hard. The inner and outer surfaces are black (10YR 2/1) glazed, matt and smooth. The preserved part shows roulette decoration towards the tondo.

Figure: 4.7 / 6.h

Form: Bowl

Sizes: RD: 20 cm **H:** 4.4 cm **WT:** 0.7 cm

Clay : Rim-body sherd. Pale red (10R 5/3) clay, slightly lime tempered, fine-grained, densely textured and hard. The inner and outer surfaces are black (2.5Y 2.5/1) slipped, matt and smooth.

Figure: 4.8 / 6.g

Form: Bowl

Sizes: RD: 20 cm **H:** 3.5 cm **WT:** 0.6 cm

Clay : Fragment of the side of the rim-body. The clay colour is light red (2.5YR 6/6) in the core and a different shade of red (7.5 YR 6/4) around the core. The lime tempered paste is fine grained, dense textured and hard. The inner and outer surfaces are black (10YR 2/1) glazed, shiny and smooth.

Figure: 5.9 / 6.i

Form: Bowl

Sizes: BD: 8 cm **H:** 2.7 cm **WT:** 0.5 cm

Clay : Fragment of the side of the base-body. Light red (2.5YR 6/8) clay, slightly lime and mica tempered, fine grained, dense textured, hard. The slip is red (2.5YR 4/6) on the inner surface and dark red (2.5YR 2.5/2) on the outer surface. Both surfaces are shiny and rough.

Figure: 5.10 / 6.ı

Form: Bowl

Sizes: BD: 8 cm **H:** 3.8 cm **WT:** 0.5 cm

Clay : Fragment of the side of the base-body. Light reddish brown (5YR 6/4) clay, slightly tempered with mica and lime, fine-grained, densely textured, hard. Inner and outer surfaces are very dark grey (2.5Y 3/1) glazed, matt smooth. Tondo decorated with roulette and palmette.

Figure: 5.11 / 6.j

Form: Bowl

Sizes: BD: 8 cm **H:** 4.2 cm **WT:** 0.6 cm

Clay : Fragment of the side of the base-body. The clay is light red (2.5YR 6/8) in the core and light reddish brown (5YR 6/4) around the core. The clay is slightly mica and lime tempered, fine-grained, densely textured and hard. The inner and outer surfaces are black (2.5Y 2.5/1) glazed, matt and smooth. Tondo decorated with roulette and palmette.

Figure: 5.12 / 6.k

Form: Kantharos

Sizes: RD: - **H:** 4.3 cm **WT:** 0.4 cm

Clay : Fragment of the side of the body. Light red (2.5YR 6/6) clay, slightly tempered with mica and lime, fine-grained, densely textured, hard. Inner and outer surfaces are dark reddish grey (2.5YR 3/1) glazed, matt and smooth.

Figure: 5.13 / 6.l

Form: Kantharos

Sizes: RD: - H: 3.5 cm **WT:** 0.9 cm

Clay : Fragment of the side of the body. Light red (2.5YR 6/6) clay, slightly tempered with mica and lime, fine-grained, densely textured, hard. Inner and outer surfaces are red (10R 5/6) slipped, matt, rough.

Figure: 5.14 / 6.m

Form: Kantharos

Sizes: RD: - **H:** 6 cm **WT:** 0.3 cm

Clay : Fragment of the side of the body. The clay is light red (2.5YR 6/6) in the core, light brown (7.5 YR 6/4) around the core, well refined, fine-grained, densely textured and hard. The inner and outer surfaces are glazed black (7.5YR 2.5/1), slightly dull and smooth.

Figure: 5.15 / 6.n

Form: Kantharos

Sizes: RD: - **H:** 4.7 cm **WT:** 0.4 cm

Clay : Fragment of the side of the body. Light red (2.5YR 6/6) clay, slightly lime tempered, fine-grained, densely textured, hard. Inner and outer surfaces are black (7.5YR 2.5/1) slipped, matt, smooth.

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Research Article

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A Group of Alkaline Glazed Ceramics from the Mardin Museum

Murat Tosun [1]

[1] Kahramanmaraş Sütçü İmam University, Faculty of Humanities and Social Sciences, Department of Archaeology, Kahramanmaraş, Türkiye

Abstract This study investigates nine alkaline-glazed ceramics housed in the Mardin Museum, comprising four bottles, one pot, and four vases. The glaze characteristics of the bottles exhibit notable diversity: two feature a variegated greenish-blue glaze, one is double-glazed with a turquoise upper section and a dark blue lower section, complemented by vertical dark blue stripes beneath the turquoise glaze, and one is dark green. In contrast, the pot and vases are uniformly characterized by a turquoise glaze. The alkaline glaze was applied to the outer surfaces of the ceramics and extended to the necks on the inside. However, it was not used for the inner surfaces or certain base sections of some specimens. Based on analogical research, the bottles classified under Type 1 are dated between the 3rd/2nd century BCE and the 3rd century CE (Seleucid/Parthian–Early Sasanian periods). Meanwhile, those under Types 1.2 and 1.3 span from the 3rd/2nd century BCE to the first quarter of the 3rd century CE (Seleucid/Parthian periods). The pot, classified as Type 2, is dated to the 2nd century BCE–2nd century CE. The vases, categorized under Type 3, are attributed to the 1st–2nd century CE.

Keywords Alkaline Glaze · Seleucid-Parthian-Sasanian · Bottle · Pot · Vase

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Corresponding author: Murat Tosun muratsn@windowslive.com

Introduction

Studies on alkaline-glazed ceramics have been extremely limited to date, primarily due to the scarcity of complete or nearly complete examples. These ceramics are associated with the material cultures of the Seleucid, Parthian, and Sasanian periods. However, making a definitive distinction between these cultures based solely on glaze characteristics remains a significant challenge (Köhler, 2016: 41). Such differentiation is only possible when examples possess distinctive decorative features.

For instance, motifs resembling canine teeth are attributed to the Seleucid period (Wilkinson & Tucker, 1996: 216, Fig. 75.15-17; Curtis & Green, 1997: Fig. 63.462-463, 66.508-509, 68.542; Bieliński, 1998: Figure 2; Ur, 2010: Fig. B.31.17-22; Gavagnin, Iamoni & Palermo, 2016: Fig. 22.11; Ahmad, 2017: Figure 3). Similarly, diamond shapes with dot decorations and sawtooth motifs are linked to the Parthian period (Wilkinson & Tucker, 1996: 217, Fig. 76.1-8; Oates, 2005: Fig. 22.49-50, 54-55; Ur, 2010: Fig. B.33.1-3; Gavagnin et al., 2016: Fig. 23.8-10, 24; Wood & Greenacre, 2021: Fig. 1d; Ergürer & Ergürer, 2021: Fig. 2.7-9).

Animal motifs stamped onto ceramics, cavalry figures, and crosses have been classified as Sasanian in origin (Sarre & Herzfeld, 1920: Abb. 389-390; Adams, 1965: Fig. 14: 12B-C; Wilkinson & Tucker, 1996: 218, Fig. 77.6-9; Ur, 2010: Fig. B.35.6-7; Simpson, 2013: 114-116, Fig. 1-4, 7-13; Saber, Hamza & Altaweel, 2014: Fig. 14.1-2, 18.5; Gavagnin et al., 2016: Fig. 25.5-8; Ahmad, 2017: Fig. 8; Potts et al., 2019: Fig. 41). Other motifs, such as honeycomb patterns and bow designs, created through stamping or incising, are also common in Sasanian ceramics (Adams, 1965: Fig. 14: 12M; Nováček & Melčák, 2016: Fig. 7; Gavagnin et al., 2016: Fig. 25.11; Ahmad, 2017: Fig. 6; Nováček, 2022: Fig. 7b; Ahmad, 2017: Fig. 7).

Among these, glazed ceramics remain the most ambiguous examples, often interpreted as alkaline-glazed ceramics produced over a wide chronological range, from the Seleucid period to the end of the Sasanian period. These ceramics are typically characterized by surface coatings in green, blue, turquoise, or yellow.[1]

The use of glaze can be traced back to the 4th–3rd millennia BCE (Haerinck, 1983: 27). However, its application to ceramics emerged for the first time during the 1500s–1400s BCE. Subsequently, the development of alkaline glaze in the 8th–7th centuries BCE, extending into the Achaemenid period (6th–4th centuries BCE), marked a significant expansion in its usage, which continued until the 8th–9th centuries CE (Haerinck, 1983: 28; Schenk, 2007: 60; Hill, Speakman, Glascock & Neff, 2007: 422–423; Wood & Greenacre, 2021: 1; Hill, 2022: 391).

In the Early Islamic period, alkaline glaze was gradually replaced by lead-glazed ceramics in Mesopotamia, marking a notable transformation in glazed ceramic production.[2] This shift is particularly evident in the differential degradation patterns of these ceramics: alkaline-glazed ceramics exposed to soil moisture exhibit more intense surface deterioration compared to their lead-glazed counterparts (Hill, 2022: 389).

Although alkaline-glazed ceramics began to be used more extensively during the Achaemenid period (Gibson, 1975: 16; Moorey, 1978: 51), their most intensive use occurred during the Seleucid, Parthian, and Sasanian periods. While some evidence suggests that production may have taken place in both Northern and Southern Mesopotamia during the Seleucid and Parthian periods (Hannestad, 1983a: 87–105), it remains challenging to provide definitive information regarding the production centers of alkaline glaze across

[1] For the most recent research on this topic, see Hill, 2022.

[2] This situation is certainly applicable to the geography of Mesopotamia. During the Late Hellenistic-Early Roman Imperial Period, it is known that lead-glazed ceramics were produced, albeit briefly, in Anatolia (especially in light of the Tarsus Gözlü Kule, Perge, Pergamon, Antiokheia '?', Lampsakos '?'), similar to Medieval ceramics. While these ceramics did not find widespread use in the Eastern Mediterranean region, they were particularly prevalent in Europe during the Roman Period. For a detailed study on the use and distribution of lead-glazed ceramics in the Late Hellenistic and Roman Periods, see Atik, 1995, pp. 18-58; Fırat, 1999, pp. 19-20; Akyay-Meriçboyu, 2005; Greene, 2007.

Mesopotamia (Wood & Greenacre, 2021: 1–2, 12).[3] These ceramics typically feature a yellow, cream, or very pale brown body and are characterized by a heavily sand-infused paste (Schenk, 2007: 59; Hojabri-Nobari, Khosrowzadeh, Kouhpar & Vahdatinasab, 2011: 95, 104, Fig. 5; Gavagnin et al., 2016: 153; Vallet et al., 2020: 168, Fig. 14.12). Notably, green alkaline-glazed ceramics are the most common, while blue, turquoise, yellow, and white examples are less frequently observed (Gavagnin et al., 2016: 153–154). Occasionally, ceramics display bluish-white or silver-toned white hues, which appear along the edges or sometimes cover the entire surface due to firing conditions (Wood & Greenacre, 2021: 4, 8). These glaze characteristics, however, do not provide definitive insights into production locations. Moreover, it is currently not possible to distinguish between production techniques in Northern and Southern Mesopotamia based on typological differences.[4] The most commonly encountered forms of alkaline-glazed ceramics are bowls and plates, while amphorae, pots, jugs, bottles, and vases are less frequent (Gavagnin et al., 2016: 152–154, Fig. 23.11–12). Alkaline-glazed ceramics believed to originate from Mesopotamia have also been found in neighboring regions and more distant locations, such as Oman, Yemen, Egypt, Somalia, Kenya, Tanzania, India, and Sri Lanka (Schenk, 2007: 59, Figure 1). In Türkiye, such examples have been documented in limited regions, particularly in Upper Mesopotamian settlements like Kuriki Höyük in Batman (D'Agostino & Genç, 2018: 12–13, Fig. 10–12) and Gre Amer (Pulhan & Blaylock, 2013: 402–403, Fig. 20; Pulhan & Blaylock, 2016: 347–349; Pulhan & Blaylock, 2018: 124–125, Fig. 19), as well as in Dara (Anastasiopolis) in Mardin (Tosun, 2020: 236, 280–286, 288, 293, 295–297, 326, 353, Cat. Nos. 131–132, 237, 240, 243–244, 248, 257, 266, 278, 282–285, 346, 422).[5] Additional examples have been identified at Ilısu Höyük (Ökse et al., 2018, p. 141, nos. 1–12)[6] and Hasan Tartar Höyük near Silopi in Şırnak (Algaze, Hammer & Parker, 2012: 110–111, no. 15, Fig. 27:15).[7]

The four bottles, one pot, and four vases preserved in the Mardin Museum are identified as examples of alkaline-glazed ceramics. Among these, three bottles are classified as Type 1, the pot as Type 2, and the four vases as Type 3. The bottles classified under Type 1 can be further divided into three subtypes.

In this study, a total of nine ceramic pieces—comprising bottles, a pot, and vases—preserved in the Mardin Museum will be analyzed using analogy methods. The analysis will focus on their typology, paste, and alkaline glaze, drawing comparisons with examples from various excavation sites. Furthermore, the function of these ceramics, potential production center(s), and contextual information from the sites where they were discovered will be evaluated. These evaluations aim to provide insights into the chronological ranges of their usage.

Within this framework, an effort will be made to conclude their production and historical significance.

Findings Description and Evaluation

The alkaline-glazed ceramics housed in the Mardin Museum are categorized into three distinct types: bottles (Type 1), pot (Type 2), and vases (Type 3). These types will be analyzed below, focusing on their

[3] Petrographic analyses conducted on the clay composition of alkaline glazed ceramics have revealed the presence of mineral grains and rock fragments derived from volcanic and plutonic rocks. The detection of this raw material in the sediments of the Tigris River has led to suggestions that these ceramics may particularly originate from Northern or Central Iraq. See Hill, 2006: 36-37; Hill, 2022: 393.

[4] For detailed information, see Hannestad, 1983a: 87-105.

[5] For information on other unglazed Parthian and Sasanian ceramics from Dara, see Tosun, 2020: 232-246, 277-302, 325-341, 352-354, 361-368, 381-384, 387-390, 407-411. Surface surveys conducted in the districts of Derik and Mazıdağı in Mardin have also uncovered numerous Seleucid/Parthian, Parthian, and Sasanian glazed and unglazed ceramics. See Menteşe, 2023, Cat. No. 1-69. Additionally, for unglazed Parthian ceramics found at Mor Yakup Church in Nusaybin, Mardin, refer to Ergürer & Ergürer, 2021, Fig. 2-4. Furthermore, a significant number of unglazed Parthian-Sasanian ceramics have been discovered at Zerzevan Castle, located near Dara within the Çınar district of Diyarbakır province. See Ayus, 2021, Cat. No. 1-4, 16, 33, 57.

[6] For examples with the diamond-shaped stamp motif featuring dot decorations, see Ökse et al., 2018: 237, no. 404-405.

[7] For other unglazed Hellenistic, Seleukos, Parth, and Sasanian ceramics from the Silopi and Cizre regions in Şırnak, see Algaze et al., 2012: 110-111, Fig. 27:1-14, 16-21; Kozbe & Güngör, 2018: 81, Res. 12, Çiz. 12.

typology, distribution, production techniques, function, production centers, analogies, and chronological dating.

Bottles[8] (Type 1) (Fig. 1)

Four examples of bottle forms can be categorized into three sub-types based on their size, rim, body, and bases.

Type 1.1 (Fig. 1: Type 1.1)

The examples categorized as Cat. Nos. 1 and 2 under Type 1.1 measure 15.2 and 15.7 cm in height, featuring slightly pointed rims that flare outward and thicken towards the edges. They have long, concave necks, no shoulders, and vertically applied, slightly "S"-shaped handles on the necks, with bodies that expand from top to bottom and low conical bases. Similar types have been found at various sites, including Uruk/Warka in Iraq (Finkbeiner, 1991a: 578, Nr. 90; Finkbeiner, 1991b, Taf. 169.29a; Petrie, 2002, Fig. 8.29a), Nippur (Peters, 1898, Pl. VII.3), Tell Mahuz (Venco-Ricciardi, 1970-1971, Fig. 87.49, 54; 92.49-55) and Seleucia on the Tigris (Debevoise, 1934, Figs. 286, 290); Dura Europos in Syria (Toll, 1943, Fig. 23.Ph.I-96, I-146, 1938.4791, 1935-70); and Ram Hormuz, Susa, Chogha Mish, and Kabad/Luristan in Western Iran (Alizadeh et al., 2014, Pl. 161A; de Morgan et al., 1900, Fig. 226; Haerinck, 1983, Fig. 8.12-13, Pl. V.9; Delougaz & Kantor, 1996a: 8; Berghe, 1972, Figure 2).

The examples in Cat. Nos. 1 and 2 possess a clay color of 2.5Y 8/6 and include additives such as sand, lime, and very small pebbles.[9] Both exhibit a yellowish-green alkali glaze, which has cracked and flaked due to prolonged exposure to moisture. These technical characteristics can lead to variations in both clay and glaze colors during the firing process. Some typologically similar examples also display variations in clay and glaze color and structure. For instance, at Seleucia on the Tigris, a cream-colored clay example with a completely flaked dark green glaze leaves behind a white surface (Debevoise, 1934: 98, Nos. 286, 290), while another example with cream-colored clay and light gray sand additives shows a green glaze (Debevoise, 1934: 98, Nos. 286, 290). At Tell Mahuz, seven specimens with beige, yellow, and very pale brown paste and white and green glazes were observed (Venco-Ricciardi, 1970-1971: 451-453, nos. 49-55, Fig. 92.49-55). Additionally, a blue-glazed example from Nippur (Peters, 1898: 393, Figure 3) and a green-glazed example from Uruk/Warka (Finkbeiner, 1991a: 567, Cat. Nr. 90) exhibit similar variations.

Furthermore, at Dura Europos, a green-glazed example has been identified (Toll, 1943, p. 42). At Ram Hormuz, a cream-colored clay example with minimal straw additives has been reported (Alizadeh et al., 2014, Pl. 161A). At Chogha Mish, a brownish cream-colored example with a light greenish-blue glaze (Delougaz & Kantor, 1996b, Pl. 70B.747.341) shares similarities with the examples in Cat. Nos. 1 and 2. Nevertheless, these examples demonstrate that variations in clay composition and glaze coloration occur even among typologically similar artifacts. This suggests that typologically similar examples could have been produced in different centers, making it challenging to propose a specific production center for Type 1.1. Nevertheless, considering the similarities in typological features, it is reasonable to suggest that these ceramics were at least produced in a region centered around Mesopotamia and Western Iran. The clay colors and additives also indicate connections to the Mesopotamia and Western Iran regions. Therefore, it is likely that the ceramics acquired by the Mardin Museum originated from a settlement in these areas.

[8]The forms referred to as "bottles" are also described in some sources using the Greek term "Amphoriskos". See Finkbeiner, 1991a, pp. 567, 578, 597, 626, Kat. Nr. 90, 198, 295. In some sources, the term "bottle" is preferred. See Yule, 2009, p. 83, Fig. 7.

[9]The color of this clay and the additives are largely similar to those found in many alkaline glazed ceramics from Mesopotamia and Western Iran. See Haerinck, 1983, p. 43.

Due to their miniature sizes and narrow rims, the bottles in Cat. Nos. 1 and 2 were likely intended for storing liquid products.[10] No caps have survived to cover the rims of these bottles. This absence may result either from the use of organic materials to seal the rims, or from their recovery in graves, suggesting they might have originally lacked caps. Notably, examples found in graves may have been intentionally produced without caps to emit pleasant scents or left uncapped as offerings.[11]

Early excavations in Susa revealed examples of Type 1.1, but their dating has not been definitively established. This type has been associated with the Sasanian period based on the latest findings from Susa.[12] A similar unhandled glazed bottle found in Ctesiphon has also been dated to the Sasanian period (Upton, 1932: 194, Fig. 11). Based on Sassanid coins dated to the 3rd and early 4th centuries, recovered at Tell Mahuz, similar ceramic findings have been attributed to the Early Sassanid Period (Venco-Ricciardi, 1970-1971: 471-482, Fig. 85). Another example discovered during the Nippur excavations has been dated to the Seleucid period (Peters, 1898: 393, Fig. 3, Pl. VII.3), while examples from Uruk/Warka are attributed to the Seleucid/Parthian period (Finkbeiner, 1991a: 541, 567, 578, Cat. Nr. 90, Nrn. 90). Similarly, an example from Chogha Mish has been dated to the Parthian period (Delougaz & Kantor, 1996a: 8; Delougaz & Kantor, 1996b, Pl. 70B), and those from Dura Europos have been assigned to the Seleucid and Early Parthian periods, corresponding to the Hellenistic period (Toll, 1943: 42).

Examples from Failaka Island have been dated similarly to those from Dura Europos (Hannestad, 1983b, Pl. 29.301-302). A grave in Kabad/Luristan, where ceramic finds were accompanied by other dating artifacts, contained bottles resembling Type 1.1, found alongside drachmas attributed to Sasanian King Ardashir (224-241 CE). This strongly indicates that this type of bottle was in use during the early Sasanian period (Berghe, 1972: 6, Fig. 2, Pl. 1.3-4).

These findings suggest that bottles similar to Type 1.1 were used from the Seleucid and Early Parthian periods through the early Sasanian period, indicating a continuous production tradition lasting approximately 500 years (Yule, 2001: 155; Yule, 2009: 84) (Figure 4).

Type 1.2 (Fig. 1: Type 1.2)

The single example discussed under Type 1.2, Cat. No. 3, stands at a height of 8.2 cm and features an outwardly flared, pointed rim, a short concave neck, and an oval shoulder transitioning smoothly into the body. The body widens from top to bottom, culminating in a low ring base. Compared to Type 1.1, it is smaller and features a shorter neck, a more pronounced shoulder, and a bulkier body. Similar examples have been found at numerous archaeological sites, such as Nimrud in Iraq (Oates & Oates, 1958, Pl. XXVI.4; Oates, 2005, Fig. 18.95), Uruk/Warka (Finkbeiner, 1991a: 606, 632, Nrn. 198, 295), Seleucia on the Tigris (Debevoise, 1934, Figs. 293-296), E.Babbar of Larsa (Lecomte, 1987, Pl. 13.5; Lecomte, 1993, Fig. 17.4), Dura Europos in Syria (Toll, 1943, Fig. 23.1931.471d, Baghuz E-9), and Susa in Western Iran (de Morgan et al., 1900, Fig. 228; Haerinck, 1983, Fig. 12.14).

The bottle examined in Cat. No. 3 is made of 2.5Y 8/6 yellow clay, densely mixed with sand, and containing minimal lime. Its surface is covered with a dark blue glaze, likely applied in a strip pattern, overlaid with a turquoise alkaline glaze. The surface glaze shows minimal wear, suggesting it was recovered from an area less exposed to moisture, resulting in fewer surface cracks compared to other examples. A similar glazed piece with the same glaze characteristics has been found in Kohgiluye, Western Iran (Roustaei & Azadi, 2011,

[10] In the literature, the term 'perfume bottle' is often used for such examples. See Bank & Yule, 2001, p. 18, Fig. 3; Yule, 1999, pp. 133, 135, Fig. 12; Yule, 2009, Fig. 7.3-7.9.

[11] For examples found in graves, see Berghe, 1972, p. 6, Fig. 2, Pl. 1.3-4.

[12] For interpretations and dating based on all findings from the excavations, see de Morgan et al., 1900, pp. 119-124, Fig. 226.

Pl. III.4); however, it lacks typological similarities. Variations in clay and glaze colors can also be observed in other typological examples, potentially due to differences in firing processes or production centers. Examples with similar typological features include a yellow-glazed piece from Nimrud (Oates & Oates, 1958: 149, no. 4) and several cream and off-white examples with sand inclusions from Seleucia on the Tigris (Debevoise, 1934: 100, Nos. 293-296). Green-glazed examples from Uruk/Warka (Finkbeiner, 1991a: 597, 626, Cat. Nr. 198, 295) and numerous green-glazed examples from Dura Europos (Toll, 1943, Fig. 23.1931.471d, Baghuz E-9) further illustrate these variations. Based on the typological similarities of the examined pieces, it is suggested that this type was likely produced more intensively in Northern Mesopotamia and subsequently disseminated to neighboring regions.

The bottle in Cat. No. 3, like those in Cat. Nos. 1 and 2, was likely produced to store liquid products. Finds have been recovered from both burial contexts and regular habitation areas, indicating that Type 1.2, like Type 1.1, was produced for both everyday use and as grave goods.[13]

Forms similar to the bottle in Cat. No. 3 have been dated to various periods. At Uruk/Warka, these forms are attributed to the Seleucid/Parthian period (Finkbeiner, 1991a: 545, 548, 597, 606, 626, 632, Kat. Nr. 198, 295). At E. Babbar in Larsa, they are dated to the 2nd century BCE (Lecomte, 1987: 230, 243-244, 260, Fig. 2, Pl. 13; Lecomte, 1993, pp. 18, 36, Tab. 1, Fig. 17.4). In Nimrud, similar forms are associated with the Hellenistic period, while in Seleucia on the Tigris, they have been dated to between 43 and 200 CE (Debevoise, 1934: 9, 38, 100-101, Fig. 295).[14] The example in Cat. No. 3 closely resembles the glazed ceramics from the Cheram cemetery in Kohgiluye, which have been dated between the 1st century BCE and the 2nd century CE (Roustaei & Azadi, 2011: 198-199). This indicates that Type 1.2 likely emerged during the Seleucid/Early Parthian period and continued to be used until the fall of the Parthian Empire (Figure 4).

Type 1.3 (Fig. 1: Type 1.3)

The single example analyzed under Type 1.3, Cat. No. 4, stands at a current height of 18.1 cm (originally estimated at around 20 cm) and has a broken rim. The partially intact neck features a long, concave transition. Vertical "S"-shaped handles are applied from the lower neck to the body. This bottle has a slightly pronounced shoulder and a body that expands downward, narrowing at the base and culminating in a low conical base. Compared to Type 1.1, it is larger, with a slightly bulging body and a more pronounced shoulder. Compared to Type 1.2, it is larger, has a longer neck, and a less pronounced shoulder.

Similar types have been found at various archaeological sites, including Nimrud in Iraq (Oates & Oates, 1958, Pl. XXVI.5; Oates, 2005, Fig. 18.96), Seleucia on the Tigris (Debevoise, 1934, Fig. 288), Nuzi (Starr, 1939, Pl. 135.C-D, G), Tell Sitak (Saber et al., 2014, Fig. 18.9), Assur (Hauser, 1996, Fig. 6d), Uruk/Warka (Finkbeiner, 1991a: 563, Nrn. 67), Nippur (Peters, 1898, Pl. VII.1), Dura Europos in Syria (Toll, 1943, Fig. 23.1931.456, J-246), and others across Mesopotamia, the Arabian Peninsula, and Western Iran.

The bottle evaluated as Cat. No. 4 is made of 10YR 8/4 very pale brown clay, densely mixed with sand and with minimal lime content. The surface is coated with a dark green alkaline glaze, which has flaked due to moisture exposure. Similar to Types 1.1 and 1.2, Type 1.3 examples exhibit both uniformity and variation in clay and glaze colors.

For instance, a yellowish clay and greenish-yellow glazed example has been reported from Nimrud (Oates & Oates, 1958: 149, no. 5), a yellowish-green example with a crackled glaze from Seleucia on the Tigris

[13] For examples found in graves, see Oates & Oates, 1958, pp. 148-149, Pl. XXVII.4; Roustaei & Azadi, 2011, pp. 198-199, Pl. III.4. For examples found in normal settlement areas, see Debevoise, 1934, pp. 9, 38, 100-101, Fig. 295; Toll, 1943, pp. 129-131, Fig. 23.Baghuz E-9; Lecomte, 1987, pp. 230, 243-244, 260, Fig. 2, Pl. 13; Lecomte, 1993, pp. 18, 36, Tab. 1, Fig. 17.4; Finkbeiner, 1991a, pp. 545, 548, 597, 606, 626, 632, Kat. Nr. 198, 295, Nrn. 198, 295.

[14] In light of a similar bottle form found in a grave, along with chronological findings such as an Alexander coin and a cylinder seal, it has been dated to the Hellenistic Period. See Oates & Oates, 1958, pp. 148-149, Pl. XXVII.4; Oates, 2005, pp. 138-139, Fig. 18.95.

(Debevoise, 1934: 98, no. 288), and a green-glazed example from Uruk/Warka (Finkbeiner, 1991a: 558, Kat. Nr. 67). Similar blue-glazed examples have been identified at Khurha (Haerinck, 1983: 117, no. 7) and Susa (de Miroschedji, 1987: 126, no. 8). Examples from Chogha Mish reflect further variations, such as a cream-colored body with sand inclusions and a light green glaze (Delougaz & Kantor, 1996a, p. 8; Delougaz & Kantor, 1996b: Pl. 70C.B.748.341).

Due to the distribution and typological similarities across multiple sites, it is challenging to determine a specific production center for Type 1.3. However, the density of finds in Upper Mesopotamia suggests that this region might have been a primary production center.

The bottle in Cat. No. 4, like those in Cat. Nos. 1-3, was likely produced to store liquid products.[15] Finds have been recovered from both burial contexts and habitation areas, indicating that Type 1.3 served both everyday use and ceremonial purposes.

During excavations in Nimrud, it was noted that similar glazed bottles of Type 1.3 were not found in a clear context, making reliable dating difficult. However, it has been established that this type generally appeared in the third quarter of the 2nd century BCE and can be dated to the Hellenistic period when contextual evidence is considered (Oates & Oates, 1958: 130; Oates, 2005: 125-126). Additionally, another similar example was recovered from a Hellenistic-period grave in Nimrud (Oates & Oates, 1958: 149, no. 5; Oates, 2005: 138-140, no. 96, Fig. 18.96). A similar example found in excavations at Seleucia on the Tigris has been dated to between 43 and 116 CE (Debevoise, 1934: 9, 38). Another similar example found at Tell Sitak was recovered from an IB layer, dating from the Late Iron Age to the Late Sasanian period.[16] Examples from the Nuzi excavations have been dated to the Parthian period (Starr, 1939, Pl. 135.C-D, G), while similar forms from the Assur excavations have been dated to between the mid-2nd century and the mid-3rd century CE (Hauser, 1996: 59-60, 74, 80, Fig. 6d). In Dura-Europos, Syria, two similar glazed bottle examples have generally been associated with the Parthian period (Toll, 1943, Fig. 23.1931.456, J-246). In Kuwait, similar forms found on Failaka Island could not be reliably associated with a clear dating context, although they are noted as not dating later than the third quarter of the 2nd century BCE (Hannestad, 1983a: 27, no. 303; Vincent et al., 1990: 250). A similar find from the Mleiha excavation in the United Arab Emirates has been dated to the Hellenistic period (Benoist et al., 2003: 66, 68-69, Fig. 8.1). A comparable example from Khurha in Iran, which provides contextual data, has been dated between the 1st century and the first quarter of the 3rd century CE (Haerinck, 1983: 106-110, Fig. 17.7). Similar bottle forms from Susa indicate that these ceramics can be dated from the 3rd century BCE to the 2nd–3rd centuries CE. A similar bottle form found in a grave in Kohgiluye has been dated to the 1st century BCE-2nd century CE (Roustaei & Azadi, 2011: 198-199, Pl. III.5), while similar glazed bottle examples from Chogha Mish are generally dated to the Parthian period (Haerinck, 1983, Fig. 6.10; Delougaz & Kantor, 1996a: 8). Considering the chronological table presented by R. Boucharlat, which depicts the typological development of this type, it can be said that Type 1.3 aligns more closely with examples dated to the Seleucid and Early Parthian period in Susa (3rd–2nd centuries BCE) (Boucharlat, 1993: 45, 52, Table 8). Nonetheless, due to the broken rim of the example in the Mardin Museum and the inability to ascertain its typology definitively, it is necessary to relate this type to finds dated from the Seleucid/Parthian period to the Late Sasanian period. No similar bottle forms have been dated to the Sasanian period in any settlement except for Tell Sitak. Thus, it is quite difficult to date Type 1.3 definitively. However, it appears possible to assert that this form first emerged during the earliest Seleucid period and was predominantly used in the Parthian period (Figure 4). It is likely that some variants of this form were also used during the Sasanian period.

[15] See Type 1.1 and 1.2.

[16] It is suggested that the findings can predominantly be dated to the Late Sasanian Period. See Saber et al., 2014.

Figure 1
*Drawing and photos illustrating the typological classification of alkaline-glazed bottles in the Mardin Museum (**Photos:** Mardin Museum Archive, **Drawings:** Murat Tosun – Tarık Günce – Miyaser Var)*

Pot (Type 2) (Fig. 2)

The single example discussed under Type 2, is Cat. No. 5, is a miniature pot form measuring 6.5 cm in height, featuring an outward flaring, flat, and outwardly drawn rim, a short and slightly concave neck, a neck-body transition with a slightly sharp outline, a convex body, and a low ring base. Similar types have been observed at several sites, including Nippur (Peters, 1898, Pl. VII.15), Seleucia on the Tigris (Debevoise, 1934, Figs. 47-48, 51-53, 66, 236, Pl. XIV.66), E. Babbar of Larsa (Lecomte, 1993, Fig. 13.4), Uruk/Warka (Finkbeiner, 1991a: 604, Nrn. 171), Dura-Europos (Toll, 1943, no. 1938.4780), Susa (de Morgan et al., 1900, Fig. 10A-21.75), and Bahrain Island (Daems, Haerinck & Rutten, 2001, Fig. 11.3).

The pot was examined under Cat. No. 5 has a very pale brown paste (10YR 8/3) with a high sand content. The surface is covered with a turquoise glaze, which exhibits cracks. These pot types can be either glazed or unglazed. In Seleucia on the Tigris, two cream-colored, three ivory-colored, and one black paste examples were found unglazed (Debevoise, 1934, pp. 50, 52, 54, nos. 47-48, 51-53, 66), while one example exhibited a dark green glaze (Debevoise, 1934, p. 88, no. 236).

In E. Babbar of Larsa, an unglazed example was classified under simple goods (Lecomte, 1993, pp. 20, 32, Fig. 13.4), while another unglazed example was found in Uruk/Warka (Finkbeiner, 1991a, p. 591, Cat. Nrn. 171). In Dura-Europos, a green-glazed example was documented (Toll, 1943, no. 1938.4780), while in Susa, a yellow paste and turquoise-glazed example was reported (de Morgan et al., 1900, p. 59, Fig. 10A-21.75). Additionally,

a single-glazed example was found in Bahrain (Daems et al., 2001, p. 180, Fig. 11.3), highlighting the observed differences and similarities.

Due to the limited number of examples recovered from excavations and the scarcity of studies on this pot type, it is challenging to provide definitive information regarding its production location. However, based on published examples, it seems likely that this type is more prevalent in Upper Mesopotamia. The similarity in paste color and glazing between the Susa example and the one in the Mardin Museum suggests the potential for production in the western Iranian region as well.

The wider rim of this pot, in comparison to the miniature sizes and bottle forms, indicates that it was likely produced for storing powder or cream-like cosmetic products.[17] No lids have survived to the present day, and there is limited information regarding lid examples in the literature. It can be suggested that examples found in graves may have been lidless, as the creams they contained likely emitted pleasant fragrances.[18]

An example from the Nippur excavation suggests that the form represented by Cat. No. 5 emerged during the Babylonian period and continued to be used in subsequent periods. However, this form was not found in a clear context. It is also known that this form was unglazed (Peters, 1898: 394, Fig. 15, Pl. VII.15). Similarly, another unglazed but typologically similar example found in Uruk/Warka has been dated to the Seleucid/Parthian period (Finkbeiner, 1991a: 545, 591, 604, Cat. Nr. 171). An example from E. Babbar of Larsa was found in a context dated to the 2nd century BCE (Lecomte, 1993: 32, Fig. 13.4). Numerous similar examples have been found during the Seleucia on the Tigris excavation, dated to layers spanning 141 BCE to 200 CE (Debevoise, 1934: 9, 35, 37, Figs. 47-48, 51-53, 66, 236, Pl. XIV.66). In Dura-Europos, similar glazed examples have been associated with the Parthian period (Toll, 1943, nos. 1938.4777-4780, 1935.540, 1935.549, H-811, I-918). A comparable glazed example found in a burial in Bahrain has been dated, along with associated finds, to the 1st–2nd centuries CE (Daems et al., 2001: 180-181, Fig. 11.3). Considering all similar examples, it is possible to date the miniature pot form in the Mardin Museum to between the 2nd century BCE and 2nd century CE (Figure 4).

[17] In the literature, it has been noted that the form of containers for cosmetic products such as powders or creams can be significant. See Debevoise, 1934, pp. 50-53, Fig. 38-56, 58-59.

[18] For examples found in graves, see Daems et al., 2001, pp. 180-181, Fig. 11.3.

Figure 2
*Drawing and photo depicting the alkaline-glazed pot from the Mardin Museum (**Photo:** Mardin Museum Archive, **Drawing:** Murat Tosun – Tarık Günce – Miyaser Var).*

Vases (Type 3) (Fig. 3)

The examples discussed under Type 3, Cat. Nos. 6-9, range in height from 9.1 to 10.1 cm and feature outward flaring and rounded rims, short and concave necks, vertically straight (Cat. Nos. 6, 8-9) or slightly tapering (Cat. No. 7) bodies, and low conical (Cat. Nos. 7-9) or ring bases (Cat. No. 6). Similar types have been observed in excavations at Dura-Europos (Toll, 1943, Fig. 26.1931.437; 1935.544-545, 547; 1938.4765, 4768, 4771-4772) and Palmyra (Al-Hariri, 2013, Fig. 12) in Syria, in a burial at Susa in Iran (Boucharlat & Haerinck, 2011, Pl. 27.GS-2478, 33b), and in the collection of the Gaziantep Museum in Türkiye (Kenrick, 2013, Fig. 12.PT330).

The four vases examined under Cat. Nos. 6-9 have yellow (2.5Y 8/6 for Cat. Nos. 6, 8-9) and pale brown (10YR 8/4 for Cat. No. 7) pastes, both exhibiting a high sand content. All examples have a turquoise glaze, which has likely cracked due to exposure to moisture. In Dura-Europos and Palmyra, examples with sand inclusions and green-blue transitional or turquoise glazes have been recorded (Toll, 1943: 54, Fig. 26.1931.437; 1935.544-545, 547; 1938.4765, 4768, 4771-4772; Al-Hariri, 2013, Fig. 12). A turquoise-glazed example from Susa (Boucharlat & Haerinck, 2011, Pl. 27.GS-2478, 33b) and a cream-colored, sand-rich, turquoise-glazed example in the Gaziantep Museum collection (Kenrick, 2013, Fig. 12.PT330) highlight these similarities. Given that this type is well-represented in Dura-Europos, it was likely produced there and subsequently disseminated to other sites.

Similar to the example in Cat. No. 5, the vases in Cat. Nos. 6-9 were likely produced for storing powder or cream-like cosmetic products (Toll, 1943, p. 54).[19] No lids have survived for these vases, and there is limited information on lid examples in the literature. Due to their narrower rim structure compared to the ceramic in Cat. No. 5, it is probable that they were covered with an organic type of lid.

The fact that this form has been found in a burial at Susa (Boucharlat & Haerinck, 2011, Pl. 27.GS-2478, 33b) and generally in settlement excavations at Dura-Europos (Toll, 1943, Fig. 26.1931.437; 1935.544-545, 547; 1938.4765, 4768, 4771-4772) suggests that it has not been commonly found elsewhere, likely indicating limited

[19] Additionally, for the suggestion that a partially similar example could be a container for incense, see Debevoise, 1934, pp. 108-109, no. 320, Fig. 320.

production in a specific region. Additionally, the finding of such forms in burial contexts suggests they served as grave goods, likely containing pleasant-smelling creams.

Excavations at Dura-Europos have yielded examples from Cat. Nos. 6-9, which, based on contextual data, have been associated with findings dating from the 1st century CE onward and classified as limited production forms (Toll, 1943, p. 54). Similarly, one example of this type has been found in Parthian burials at Susa and dated to the 1st–2nd centuries CE (Boucharlat & Haerinck, 2011: 76, 85). Similarly, one specimen was found in a tomb in Palmyra, and together with the other finds in the tomb, it was assigned to the 1st–2nd centuries CE (Al-Hariri, 2013: 151). Furthermore, a published example exists in the Gaziantep Museum collection; however, due to the lack of reliable provenance information, this example has been interpreted in light of findings from the Dura-Europos excavations (Kenrick, 2013: 39-40, Fig. 12.PT330). Therefore, it is possible to date the examples in the Mardin Museum to the 1st–2nd centuries CE based on contextual data from Susa and Dura-Europos (Figure 4).

Figure 3

*Drawing and photos illustrating the typological classification of alkaline-glazed vases from the Mardin Museum (**Photos:** Mardin Museum Archive, **Drawings:** Murat Tosun – Tarık Günce – Miyaser Var).*

Conclusion

Seleucid, Parthian, and Sasanian ceramics began to attract scholarly interest in the mid-19th century. During early excavations in Mesopotamia, ceramics discovered alongside Seleucid, Parthian, and Sasanian coins were documented, marking the first formal definitions of these ceramics in publications by the late 19th and early 20th centuries. Research from the 1930s through the 1970s advanced focused studies on these ceramics, while investigations starting in the 1980s have emphasized their regional characteristics and interregional distribution. Such research continues today, with significant activity in Iran, Mesopotamia,

Syria, settlements along the Persian Gulf (particularly in the Arabian Peninsula), Gulf islands, and even the Indian Ocean. In Türkiye, encompassing the northernmost and limited areas of northern Mesopotamia, studies on these ceramics have been relatively sparse, with findings primarily known through excavations and surveys in Batman, Diyarbakır, Mardin, and Şırnak. However, very few of these discoveries have been published.

In the study of Seleucid, Parthian, and Sasanian ceramics, pieces with specific decorative features are more clearly defined and dated than glazed ceramics. Glazed ceramics present challenges in identification and dating, as their characteristics are not always typologically distinct. However, a broad chronological range can be established, from the Seleucid Period to the late Sasanian Period, particularly for examples with alkaline glazes that exhibit surface cracking.

All ceramic forms examined from the Mardin Museum, including four bottles, one pot, and four vases, feature alkaline glazes. Among the four bottles, two exhibit a yellowish-green mottled glaze (Cat. Nos. 1-2), one has a turquoise glaze with dark blue vertical stripes underneath (Cat. No. 3), and one is coated with a dark green glaze (Cat. No. 4). The pot and vases (Cat. Nos. 5-9) all display turquoise glazes. Alkaline glaze covers the exterior surface and inner rim but is absent from the interior surfaces and, except for one example (Cat. No. 7), from the bases of the vessels. The pastel hues of the ceramic pastes include yellow (Cat. Nos. 1-2, 5-6, 8-9) and very pale brown (Cat. Nos. 3-4, 7). High sand content is a consistent characteristic across all examples (Cat. Nos. 1-9), with small amounts of lime (Cat. Nos. 1-4) and pebbles (Cat. Nos. 1-2) observed in some. These paste compositions are similar to ceramics believed to have been produced in Mesopotamia, both in terms of color and additives.

Each form has been categorized into distinct typologies. Among the bottle forms, only Type 1 is divided into three subtypes. Type 1.1 bottles, observed at numerous sites such as Uruk/Warka, Seleucia on the Tigris, Tell Mahuz, Dura Europos, Susa, Kabad/Luristan, and Western Iran, date from the Seleucid Period to the Early Sasanian Period. Type 1.2 bottles have been found in Nimrud, Seleucia on the Tigris, E. Babbar of Larsa, Dura Europos, Susa, and settlements bordering Mesopotamia and the Persian Gulf, dating from the Hellenistic Period to the end of the Parthian Period. Type 1.3 bottles have been extensively documented at sites such as Nimrud, Seleucia on the Tigris, Nuzi, Tell Sitak, Dura Europos, Khurha, Susa, Kal-e Chendar, Mescit-i Süleyman, Chogha Mish, Kohgiluye, Oman, Failaka Island, and Sri Lanka, spanning from the Hellenistic Period to the Sasanian Period (Figure 4).

The pot, classified as Type 2, has been observed in Nippur, Seleucia on the Tigris, E. Babbar of Larsa, Uruk/Warka, Dura Europos, Susa, and Bahrain Island, with dates ranging from the 2nd century BCE to the 2nd century CE. The vases categorized under Type 3 have been excavated at Dura Europos, Palmyra, and Susa, with an additional example in the Gaziantep Museum collection. These vases are dated to the 1st–2nd centuries CE (Figure 4).

In the literature, bottle-shaped examples similar to those in the Mardin Museum are commonly interpreted as containers for liquids, while pots and vases are associated with storing creams or powders. Given their forms, it is plausible that the ceramics in the Mardin Museum served similar purposes. However, no material remains have been found within any of the vessels discussed in this article, and the lack of residue analysis prevents definitive conclusions about their use.

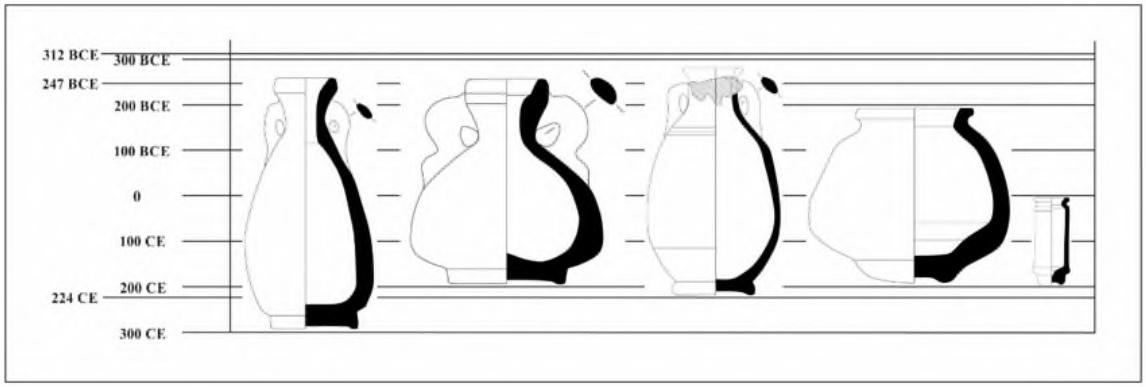
The examples acquired by purchase for the museum have been observed primarily in settlements across Mesopotamia and nearby regions. These ceramics were likely retrieved from settlements with similar typologies and paste characteristics and subsequently transported to Türkiye from Iraq or Syria. Recent research in Türkiye has revealed that ceramics with alkaline glazes are also found in southeastern Türkiye.

However, due to the limited number of complete or near-complete examples found during excavations and surveys, it is improbable that these ceramics originated from a specific production center within Türkiye.

The well-preserved state of the Mardin Museum's examples suggests they were likely retrieved from a burial context rather than a settlement. Based on the available evidence, these ceramics were most likely acquired from the necropolis of a settlement located on the borders of Mesopotamia and subsequently transferred to the museum.

Figure 4

Illustration depicting the chronological assessment of alkaline glazed bottles, pot, and vases from the Mardin Museum.



Catalog 1

Cat. No.	Mus. Inv. No.	Form	Sizes	Fabric	Glaze	Description	Analogy	Date
1	2005	Bottle	H.: 15.2 cm R.D.: 3.4 cm B.D.: 5.3 cm	2.5Y 8/6 (Yellow)	Light green blue (Turquoise)	Type 1.1	Type 1.1	3rd/2nd cent. BCE. – 3rd cent. CE.
2	2006	–	H.: 15.7 cm R.D.: 4 cm B.D.: 6.7 cm	–	–	–	–	–
3	2015	–	H.: 8.2 cm R.D.: 3.5 cm B.D.: 4.9 cm	10YR 8/4 (Very Pale Brown)	Turquoise	Type 1.2	Type 1.2	3rd/2nd cent. BCE. – Early 3rd cent. CE.
4	8350	–	P.H.: 18.1 cm R.D.: Broken B.D.: 7.9 cm	10YR 8/3 (Very Pale Brown)	Dark Green	Type 1.3	Type 1.3	–
5	2013	Pot	H.: 6.5 cm R.D.: 4.5 cm B.D.: 4 cm	2.5Y 8/6 (Yellow)	Turquoise	Type 2	Type 2	2nd cent. BCE. – 2nd cent. CE.
6	2038	Vase	H.: 9.7 cm R.D.: 4.8 cm B.D.: 3 cm	2.5Y 8/6 (Yellow)	–	Type 3	Type 3	1st – 2nd cent. CE.
7	2039	–	H.: 10.1 cm R.D.: 3.7 cm B.D.: 2.7 cm	10YR 8/4 (Very Pale Brown)	–	–	–	–
8	2040	–	H.: 9.1 cm	2.5Y 8/6 (Yellow)	–	–	–	–

Cat. No.	Mus. Inv. No.	Form	Sizes	Fabric	Glaze	Description	Analogy	Date
9	2041	–	R.D.: 3.7 cm B.D.: 3.1 cm H.: 9.2 cm R.D.: 3.5 cm B.D.: 3 cm	–	–	–	–	–

Cat. No.: Catalog Number - Mus. Inv. No.: Museum Inventory Number - H.: Height - P.H.: Protected Height - R.D.: Rim Diameter - B.D.: Base Diameter - BCE: Before Common/Christian Era - CE: Common/Christian Era - Cent.: century

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Author Details Murat Tosun

[1] Kahramanmaraş Sütçü İmam University, Faculty of Humanities and Social Sciences, Department of Archaeology, Kahramanmaraş, Türkiye

0000-0003-0595-8587 muratsn@windowslive.com

References

Adams, R. McC. (1965). *Land Behind Baghdad: A History of Settlement on the Diyala Plains*. Chicago, USA: The University of Chicago Press.

Adams, R. McC. (1970). Tell Abū Sarīfa: A Sassanian – Islamic Ceramic Sequence from South Central Iraq. *Ars Orientalis, 8*, 87-119.

Ahmad, M. (2017). Girdi Qala, A Brief Overview of the Late Period's Ceramic. In R. Vallet, (Ed.), *Report on the Second Season of Excavations at Girdi Qala and Logardan* (pp. 131-138). Paris, FR: UMR 7041 Arscan – Vepmo 'From Village to State in the Near and Middle-East' Maison Archeologie Ethnologie (M.A.E.) – Nanterre, C.N.R.S. – University Of Paris 1.

Akyay-Meriçboyu, Y. (2005). Kurşun Sırlı Seramiklerin Üretim Merkezleri, *TÜBA-AR, VII*, 99-126.

Algaze, G., Hammer, E., & Parker, B. (2012). The Tigris-Euphrates Archaeological Reconnaissance Project: Final Report of the Cizre Dam and Cizre-Silopi Plain Survey Areas. *Anatolica, XXXVIII*, 1-115.

Al-Hariri, K. (2013). The tomb of ʿAqraban. *Studia Palmyreńskie, XII*, 149-157.

Alizadeh, A., Ahmadzadeh, L., & Omidfar, M. (2014). *Ancient Settlement Systems and Cultures in the Ram Hormuz Plain, Southwestern Iran: Excavations at Tall-e Geser and Regional Survey of the Ram Hormuz Area*. L. Schramer, & T. G. Urban (Eds.). Chicago, USA: Oriental Institute Publications, Vol. 140, The Oriental Institute of the University of Chicago.

Atik, N. (1995). *Die Keramik aus den Südthermen von Perge*. Istanbuler Mitteilungen, Beiheft, 40, Tübingen, DE: Wasmuth.

Ayus, Ş. (2021). *Zerzevan Kalesi Geç Roma ve Geç Antik Dönem Mutfak Kapları*. (Master dissertation). Batman Üniversitesi Lisansüstü Eğitim Enstitüsü, Batman.

Bank, C., & Yule, P. (2001). Al-Fueda near Amla, Sultanate of Oman. *Proceedings of the Seminar for Arabian Studies, Vol. 31: Papers from the thirty-fourth meeting of the seminar for Arabian studies held in London, 20-22 July 2000* in (pp. 15-22). Turnhout, BE: Brepols.

Berghe, L. V. (1972). Recherches archéologiques dans le Luristan. Cinquième campagne 1969: Prospections dans le Pusht-I Kuh central (Rapport Préliminaire). *Iranica Antiqua, 9*, 1-18.

Benoist, A., Mouton, M., & Schiettecatte, J. (2003). The artefacts from the fort at Mleiha: distribution, origins, trade and dating. *Proceedings of the Seminar for Arabian Studies, Vol. 33: Papers from at the thirty-sixth meeting of the Seminar for Arabian Studies held in London, 18-20 July 2002* in (pp. 59-76). Oxford, UK: Archaeopress.

Bieliński, P. (1998). Tell Arbid: Second Campaign of Syro-Polish Excavations. *Polish Archaeology in the Mediterranean, 9*, 212-223.

Boucharlat, R. (1979). *Le palais d'Artaxerxès II sur la nve droite du Chaour à Suse*. Paris, FR: Cahiers de la Délégation archéologique française en Iran, Association Paléorient.

Boucharlat, R. (1993). Pottery in Susa during the Seleucid, Parthian and Early Islamic Periods. In U. Finkbeiner (ed.), *Materialien zur Archäologie der Seleukiden-Partherziet im Südlichen Babylonien und im Golfgebiet: Ergebnisse der Symposien 1987 und 1989 in Blubeuren* (pp. 41-58). Tübingen, DE: Wasmuth.

Boucharlat, R., & Haerinck, E., (2011). *Tombes d'Époque Parthe: Chantiers de La Ville des Artisans*. Leiden, NL: BRILL.

Cuny, J., & Mouton, M. (2008). La transition vers la période sassanide dans la péninsule d'Oman: chronologie et modes de peuplement. In B. Clinique (ed.). *L'Arabie à la veille de l'Islam: Table ronde tenue au Collège de France (Paris) les 28 et 29 août 2006 dans le cadre du projet de l'Agence nationale de la recherche 'De l'Antiquité tardive à l'Islam'* in (pp. 91-133). Paris, FR: De Boccard.

Curtis, J., & Green, A. (1997). *Excavations at Khirbet Khatuniyeh*. London, UK: British Museum Press.

Daems, A., Haerinck, E., & Rutten, K. (2001). A Burial Mound at Shakhoura (Bahrain). *Arabian Archaeology and Epigraphy, 12*, 173-182.

D'Agostino, A., & Genç, E. (2018). Kuriki Höyük, A Small Settlement at the Confluence of the Batman and Tigris Rivers: Evidence from the Late Iron Age to the Parthian Period. *Anatolica, XLIV*, 1-42.

Day, F. E. (1940). *Mesopotamian Pottery: Parthian, Sasanian and Early Islamic*. (Doctoral dissertation). The University of Michigan, Michigan/Ann Arbor.

de Miroschedji, P. (1987). *Fouilles du chantier Ville Royale II à Suse: 1975-1977: II. Niveaux d'époques achéménide, séleucide, parthe et islamique*. Paris, FR: Délégation archéologique française en Iran, Association Paléorient.

de Morgan, J., Jéquier, G., & Lampre, G. (1900). *Recherches Archéologiques. Première série: Fouilles A Suse en 1897-1898 et 1898-1899*. Paris, FR: Ernest Leroux.

Debevoise, N. C. (1934). *Parthian Pottery from Seleucia on the Tigris*. Michigan/Ann Arbor, USA: The University of Michigan Press.

Delougaz, P., & Kantor, H. J. (1996a). *Chogha Mish Volume 1: The First Five Seasons of Excavations, 1961-1971, Parth 1: Text*. In A. Alizadeh (Ed.), Chicago, USA: The Oriental Institute of the University of Chicago.

Delougaz, P. – Kantor, H. J. (1996b). *Chogha Mish Volume 1: The First Five Seasons of Excavations, 1961-1971, Parth 2: Plates*. In A. Alizadeh (Ed.), Chicago, USA: The Oriental Institute of the University of Chicago.

Ergürer, H. E., & Ergürer, H. (2021). Mardin Mor Yakup Kilisesi'nden Ele Geçen Seramikler. In M. A. Yılmaz, M. Işıklı, & B. Can (Eds.). *Anadolu Arkeolojisiyle Harmanlanmış Bir Ömür: Mehmet Karaosmanoğlu'na Armağan* (pp. 309-334). Ankara, TR: Bilgin Kültür Sanat Yayınları.

Fırat, N. (1999). *Perge Konut Alanı Keramiği*. (Doctoral dissertation). İstanbul Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Finkbeiner, U. (1991a). Keramik der Seleukidischen und Parthischen Zeit aus den Grabungen in Uruk-Warka I. Teil: Bit Akitu, Bit Res, Eanna, Irigal, J 18, K 18, Frehat en-Nufegi und Oberfläche. *Baghdader Mitteilungen, 22*, 537-637, Taf. 66-69.

Finkbeiner, U. (1991b). *Uruk, Kampagne 35-37, 1982-1984: Die Archäologische Oberflächenuntersuchung (Survey)*. Mainz am Rhein, DE: Philipp von Zabern.

Gavagnin, K., Iamoni, M., & Palermo, R. (2016). The Land of Nineveh Archaeological Project: The Ceramic Repertoire from the Early Pottery Neolithic to the Sasanian Period. *Bulletin of the American Schools of Oriental Research (BASOR), 375*, 119-169.

Gibson, McG. (1975). *Excavations at Nippur Eleventh Season*. Chicago, USA: The University of Chicago Press.

Greene, K. (2007). Late Hellenistic and Early Roman Invention and Innovation: The Case of Lead-Glazed Pottery. *American Journal of Archaeology, 111*(4), 653-671.

Haerinck, E. (1983). *La Céramique en Iran Pendant La Période Parthe (ca. 250 av. J.C. á ca. 225 aprés J.C.): Typologie, Chronologie and Distribution*. Gent/Leuven, BE: Iranica Antiqua.

Hauser, S. R. (1996). The Production of Pottery in Arsacid Ashur. In K. Bartl & S. R. Hauser (Eds.). *Continuity and Change in Northern Mesopotamia from the Hellenistic to the Early Islamic Period: Proceedings of a Colloquium held at the Seminar für Vorderasiatische Altertumskunde, Frei Universität Berlin, 6th–9th April 1994* in (pp. 55-85). Berlin, DE: Dietrich Reimer Verlag.

Hannestad, L. (1983a). *Ikaros – The Hellenistic Settlements Vol. 2:1: The Hellenistic Pottery*. Aarhus, DK: Jutland Archaeological Society Publications.

Hannestad, L. (1983b). *Ikaros – The Hellenistic Settlements Vol. 2:2: The Hellenistic Pottery Catalogue and Plates*. Aarhus, DK: Jutland Archaeological Society Publications.

Hill, D. V. (2006). *The Materials and Technology of Glazed Ceramics from the Deh Luran Plain, Southwestern Iran: A Study in Innovation*. Oxford, UK: John and Erica Hedges.

Hill, D. V. (2022). Parthian, Sasanian and Islamic Pottery and Occupation of the Deh Luran Plain, South-west Iran. In St. J. Simpson (Ed.). *Sasanian Archaeology: Settlements, Environment and Material Culture* (pp. 389-395). Oxford, UK: Archaeopress.

Hill, D. V., Speakman, R. J., Glascock, M. D., & Neff, H. (2007). The Technology of Mesopotamian Ceramic Glazes. In M. Glascock, R. J. Speakman, & R. S. Popelka-Filcoff (Eds.). *Archaeological Chemistry: Analytical Techniques and Archaeological Interpretation* (pp. 422-446). Washington DC, USA: Oxford University Press.

Hojabri-Nobari, A., Khosrowzadeh, A., Kouhpar, S. M. M., & Vahdatinasab, H. (2011). Trade and Cultural Contacts between Northern and Southern Persian Gulf during Parthians and Sasanians: A Study Based on Pottery from Qeshm Island. *International Journal Humanities, 18*(2), 89-115.

Keall, E. J., & Keall, M. J. (1981). The Qal'eh-i Yazdigird Pottery: A Statistical Approach. *Iran, XIX*, 33-80.

Kenrick, P. M. (2013). Pottery Other Than Transport Amphorae. In W. Aylward (Ed.). *Excavations at Zeugma* (pp. 1-81). Los Altos/California, USA: The Packard Humanities Institute.

Kian, J. M., & Messina, V. (2020). Preliminary Report on the Iranian-Italian Joint Expedition into Khuzestan: Kal-e Chendar; Shami (2013-2016). *Archaeology: Quarterly Journal of the Iranian Center for Archaeological Research, 3*(4), 49-77.

Kozbe, G., & Güngör, A. (2018). Uygarlıklar Kavşağında Cizre-Silopi Ovasının Erken Tarihi. In İ. Baz, A. Özdemir, H. Osmanoğlu, İ. Hüseyni, K. Ertaş, Y. Acat, & İ. Tunç (Eds.). *Üç Ülkenin Kavşağında Silopi (Uluslararası Sempozyum Bildirileri), 26-28 Ekim 2018 Şırnak* in (pp. 47-88). Mardin, TR: Şırnak Üniversitesi Yayınları.

Köhler, J. (2016). Hellenistic, Parthian, and Sasanian Pottery. In R. Eichmann & M. van Ess (Chief Authors). The Eastern Ḫabur Archaeological Survey in Iraqi Kurdistan: A Preliminary Report on the 2014 Season. *Zeitschrift für Orient-Archäologie, 9*, 41-44.

Lecomte, O. (1987), Un problème d'interprétation: l'E.Babbar de Larsa aux époques hellénistique et séleuco-parthe, approches archéologique, économique et cultuelle. In J. L. Huot (Ed.). *Larsa (10e campagne, 1983) et 'Oueili (4e campagne, 1983): Rapport préliminaire* (pp. 225-246). Paris, FR: Éditions Recherche sur les civilisations.

Lecomte, O. (1993). Stratigraphical analysis and ceramic assemblages of the 4th–1st centuries BC E.babbar of Larsa (Southern Iraq). In Finkbeiner, U. (Ed.). *Materialien zur Archäologie der Seleukiden- und Partherzeit im südlichen Babylonien und im Golfgebiet: Ergebnisse der Symposien 1987 und 1989 in Blaubeuren* in (pp. 17-39). Tübingen, DE: Ernst Wasmuth Verlag.

Menteşe, D. H. (2023). *Sikke ve Arkeolojik Buluntular Işığında Dicle Vadisinde Parth-Sassani-Roma Varlığı (MÖ 3. yüzyıldan Roma'nın Mezopotamya'dan çekildiği tarihe kadar).* (Doctoral dissertation). Batman Üniversitesi Lisansüstü Eğitim Enstitüsü, Batman.

Moorey, P. R. S. (1978). *Kish Excavations: 1923-1933*. Oxford, UK: Clarendon Press.

Nováček, K. (2022). The Sasanian to Islamic Transition in Northeastern Mesopotamia: A Ceramological View. In P. M. M. G. Akkermans, E. Cancik-Kirschbaum, F. J. Kreppner, & K. Radner (Eds.). *Exploring 'Dark Ages': Archaeological Markers of Transition in the Near East from the Bronze Age to the Early Islamic Period (Studia Chaburensia 10)* (pp. 129-145). Wiesbaden, DE: Harrassowitz Verlag.

Nováček, K., & Melčák, M. (2016). The Medieval Urban Landscape in Northeastern Mesopotamia (MULINEM): First Two Years of the Project. In O. Kaelin, & H. P. Mathys (Eds.). *Proceedings of the 9th International Congress on the Archaeology of the Ancient Near East: 9-13 June 2014, Basel, Volume 3, Reports* in (pp. 95-105). Wiesbaden, DE: Harrassowitz Verlag.

Oates, D., & Oates, J. (1958). Nimrud 1957: The Hellenistic Settlement. *Iraq, 20*(2), 114-157.

Oates, D. (2005). *Studies in the Ancient History of the Northern Iraq*. London, UK: British School of Archaeology in Iraq.

Ökse, A. T., Erdoğan, N., Görmüş, A., Atay, E., Çetinkaya, İ., Güneş, A., ... & Görmez, A. (2018). *Ilısu Barajı İnşaat Sahası Kurtarma Kazıları III: Roma İmparatorluk Dönemi ve Orta-Yakın Çağ Yerleşmeleri / Salvage Excavations in the Construction Area of the Ilısu Dam III: Roman Empire Period and Middle-New Ages Sites*. Mardin, TR: mardinsesi yayıncılık.

Peters, J. P. (1898). *Nippur or, Explorations and Adventures on the Euphrates: The Narrative of the University of Pennsylvania Expedition to Babylonia in the years 1888-1890*. New York, USA: G.P. Putnam's Sons.

Petrie, C.A. (2002). Seleucid Uruk: An Analysis of Ceramic Distribution. *Iraq, 64*, 85-123.

Potts, D. T., Radner, K., Squitieri, A., Ameen, A., Rohde, J., Yawar, P., ... & Potts, H. B. (2019). Gird-i Rostam 2018: Preliminary Report on the First Season of Excavations by the Joint Kurdish-German-American Team. *Journal of the Ancient Near Eastern Society, 47*, 91-127.

Pulhan, G., & Blaylock, S. (2013). New Excavations at the Late Bronze Age and Iron Age Site of Gre Amer on the Garzan River, Batman Province. In A. Yener (Ed.). *Across the Border: Late Bronze-Iron Age Relations between Syria and Anatolia, Proceedings of a Symposium held at the Research Center of Anatolian Studies, Koç University, Istanbul May 31-June 1, 2010, Ancient Near Eastern Studies Supplement 42* in (pp. 393-416). Leuven, BE: Peeters.

Pulhan, G., & Blaylock, S. (2016). Gre Amer, Batman, on the Upper Tigris: A Rescue Project in the Ilısu Dam Reservoir in Turkey. In K. Kopanias, & J. MacGinnis (Eds.). *The Archaeology of the Kurdistan Region of Iraq and Adjacent Regions* (pp. 333-352). Oxford, UK: Archeopress.

Pulhan, G., & Blaylock, S., (2018). Garzan Vadisi'nde Üç Binyıl: Batman, Gre Amer Höyük Kurtarma Kazıları / Three Thousand Years in the Garzan Valley: Batman, The Gre Amer Höyük Salvage Excavations. In F. Baş (Ed.). *Batman Müzesi Ilısu Barajı HES Projesi Arkeolojik Kazıları / Batman Museum The Ilısu Dam HEP Project Excavations* (pp. 111-161). Batman, TR: Fikirzen Ajans Reklamcılık Yayınları.

Roustaei, K., & Azadi, A. (2011). Discovery of A Parthian Tomb Chamber in Cheram, Kohgiluye, SW Iran. *Iranica Antiqua, XLVI*, 193-206.

Saber, S. A., Hamza, H., & Altaweel, M. (2014). Report on the Excavations at Tell Sitak: The 2010 Season. *Iraq, 76*, 205-229.

Sarre, F. (1925). *Die Keramik von Samarra: Die Ausgrabungen von Samarra II. Forschungen zur islamischen Kunst 2.2.* Berlin, DE: Verlag von Dietrich Reimer.

Sarre, F., & Herzfeld, E. (1920). *Archäologische Reise im Euphrat- und Tigris-Gebiet Band 4*. Berlin, DE: Verlag von Dietrich Reimer.

Schenk, H. (2007). Parthian Glazed Pottery from Sri Lanka and the Indian Ocean Trade. *Zeitschrift für Archäologie Außereuropäischer Kulturen, 2*, 57-90.

Simpson, St. J. (2013). Rams, Stags, and Crosses from Sasanian Iraq: Elements of A Shared Visual Vocabulary from Late Antiquity. In A. Peruzzetto, F. Dorna-Metzger, & L. Dirven (Eds.). *Animals, Gods and Men from East to West: Papers on Archaeology and History in Honour of Roberta Venco Ricciardi* (pp. 103-118). Oxford, UK: Archaeopress.

Starr, R. F. S. (1939). *Nuzi: Report on the Excavations at Yorgan Tepa Near Kirkuk, Iraq, Conducted by Harvard University in conjunction with the American Schools of Oriental Research and the University Museum of Philadelphia, 1927-1931*. Cambridge: UK: Harvard University Press.

Toll, N. P. (1943). *The Excavations at Dura-Europos: Final Report IV, Part I, Fascicle I, The Green Glazed Pottery*. New Haven, USA: Yale University Press.

Tosun, M. (2020). *Dara (Anastasiopolis) Roma ve Geç Antik Dönem (Parth-Sasani) Seramikleri*. (Doctoral dissertation). Mimar Sinan Güzel Sanatlar Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Upton, J. M. (1932). The Expedition to Ctesiphon, 1931-1932. *Bulletin of the Metropolitan Museum of Art, 27*(8), 188-197.

Ur, J. A. (2010). *Urbanism and Cultural Landscapes in Northeastern Syria: The Tell Hamoukar Survey, 1999-2001 (Tell Hamoukar – Volume 1)*. Chicago, USA: Oriental Institute Publications – Volume 137, Oriental Institute of the University of Chicago.

Vallet, R., Abd-El-Ali, J., Al-Debs, R., Bachelot, L., Charpin, D., Darras, L., ... & Chamel, I. (2020). Preliminary Report on the XIVth and XVth Campaigns at Larsa. *Sumer – Journal of Archaeology of Mesopotamia, 66*, 133-175.

Venco-Ricciardi, R. (1970-1971). Sasanian Pottery from Tell Mahuz (North Mesopotamia). *Mesopotamia: Rivista di Archeologia, Epigrafia e Storia Orientale Antica, V-VI*, 427-470.

Vincent, B., Jacqueline, G., & Jean-Francois, S. (1990). Apostilles en marge de la céramique des États IV et V de la forteresse. In Y. Calvet, & J. Gachet (Eds.). *Failaka, fouilles françaises 1986-1988* (pp. 241-284). Lyon, FR: Maison de l'Orient et de la Méditerranée Jean Pouilloux.

Wilkinson, T. J., & Tucker, D. J. (1995). *Settlement Development in the North Jazira, Iraq: A Study of the Archaeological Landscape*. Warminster, UK: Published for the British School of Archaeology in Iraq and the Department of Antiquities & Heritage, Baghdad, by Aris & Phillips.

Wood, J. R., & Greenacre, M. (2021). Making the Most of Expert Knowledge to Analyse Archaeological Data: A Case Study on Parthian and Sasanian Glazed Pottery. *Archaeological and Anthropological Sciences, 13*(7), 1-14. https://doi.org/10.1007/s12520-021-01341-0

Yule, P. (1999). The Samad Period in the Sultanate of Oman. *Iraq, 61*, 121-146.

Yule, P. (2009). Sasanian Presence and Late Iron Age Samad in Central Oman, some corrections. In B. Clinique (Ed.). *L'Arabie à la veille de l'Islam: Table ronde tenue au Collège de France (Paris) les 28 et 29 août 2006 dans le cadre du projet de l'Agence nationale de la recherche 'De l'Antiquité tardive à l'Islam'* in (pp. 69-90). Paris, FR: De Boccard.

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A Grave Stele from the Kekliktepe Necropolis

Fuat Lebe [1]

[1] Ministry of Culture and Tourism, Gaziantep Regional Directorate for the Protection of Cultural Heritage, Gaziantep, Türkiye

Abstract The aim of this study is to make a comprehensive evaluation of the funerary stele found in Kekliktepe Necropolis, which bears similarities with the examples from Zeugma. The Kekliktepe Necropolis is located in the Keklik Neighborhood, Nizip District, Gaziantep Province, on 164 block and 1-2 parcels. It is also very close to the Western Necropolis of the Ancient City of Zeugma and is located approximately 600 meters to the west. By analyzing the iconographic and stylistic features of the stele, this research aims to provide insight into its historical context and cultural significance. The stele's architectural structure, figurative composition and Greek inscription will be analyzed through a comparative analysis with similar examples from Zeugma and the surrounding area. This approach will help to determine the artistic characteristics and possible function of the stele. Among the conclusions of the study is that the funerary stele from Kekliktepe Necropolis shares a common artistic tradition and production style with the Zeugma stelae dating to the first half of the 2nd century AD. In addition, the figures and inscriptions on the stele provide valuable clues to the identity, social status and belief systems of the deceased.

Keywords Grave Stele · Kekliktepe Necropolis · Zeugma · Gaziantep · Burial Customs

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Corresponding author: Fuat Lebe ffuatlebe@gmail.com

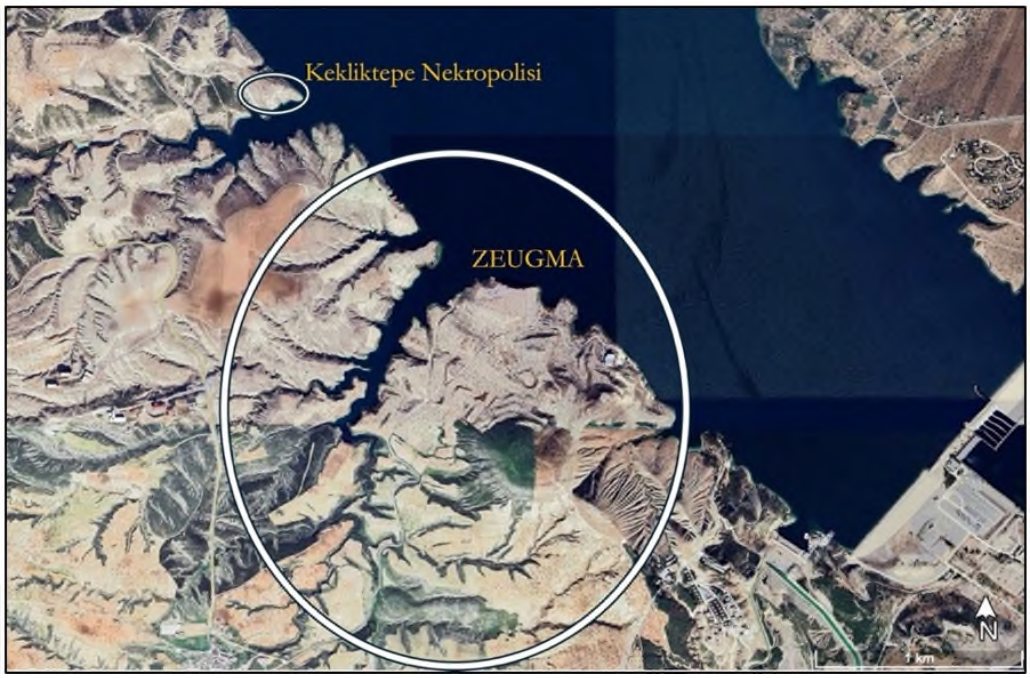
Introduction

The grave stele included in this study was found at the Kekliktepe Necropolis, located within the boundaries of the 164th block, parcels 1-2 in Keklik neighborhood, Nizip district, Gaziantep province (Figure 1). The Kekliktepe Necropolis was registered as a First Degree Archaeological Site by the Gaziantep Regional Conservation Board on July 30, 2015, with decision number 1315. The grave stele was discovered as a result of an illicit excavation carried out in the vestibulum-style front room of the hypogeum-type tomb, which was carved directly into the bedrock, and it was subsequently brought to the Gaziantep Museum Directorate.[1] Due to the area being heavily subjected to illicit excavations, the Gaziantep Museum Directorate carried out cleaning and salvage excavations, which led to the identification of three additional tomb structures. Kekliktepe Necropolis is located approximately 1.5 km west of the Ancient City of Zeugma and approximately 600 meters west of the Zeugma West Necropolis. The current location of Kekliktepe appears to be an extension of the Western Necropolis (Figure 1).[2]

The grave stele has a rectangular form and the back side is left flat in a sloppy manner. On the front side; there is a portrait of a young woman in an arched and deep niche, plaster columns on the sides of the niche, eagle figures on each column, a smaller portrait of a girl in the lower left part of the stele and reliefs of acroteria in the upper corners. There is a two-line Greek inscription on the lower part of the stele (Figure 2). When the general characteristics are analysed, it is noteworthy that the portraits of eagles, baskets or representations of the deceased, which are frequently seen in Zeugma examples, are carved in similar styles. On the other hand, with the help of the fact that the location of the stele is very close to the ancient city of Zeugma, a typological and chronological comparison was made with the grave stelae found in and around Zeugma.

Figure 1

General View of Zeugma and Kekliktepe Necropolis (Google Earth)



[1] The data regarding the exact location where the grave stele was found in this study is based on information obtained from the Gaziantep Museum Directorate.

[2] According to archival studies conducted at the Gaziantep Regional Directorate of the Conservation of Cultural Heritage, the Kekliktepe Necropolis has been registered as a separate site and is located just outside the boundaries of the Zeugma Ancient City site.

Figure 2
View of the Grave Stele

Technical Specifications

The grave stele is made of yellowish coloured, soft and perishable limestone. Similarly, due to the geological structure of the ancient city of Zeugma and its surroundings, the use of this type of limestone as raw material is common (Butcher, 2003: 175-179; Karaca, 2008: 8-33). Accordingly, graves built in bedrock and tombstones made of limestone are common in the region (Parlasca 1982; Sadurska and Bounni 1994; Skupinska-Løvset, 1999). The height of the grave stele is 75 cm, the preserved width is 66 cm and the thickness is 22 cm. The stelae recovered from Zeugma generally vary between 45 cm and 189 cm in height, 36 cm and 80 cm in width, and 9 to 29 cm in thickness (Yaman, 2013a: 194). Within the scope of these measurements, it is possible to state that the dimensions of the grave stele subject to the study are compatible with the Zeugma examples.

It is possible to say that the grave stele is generally well preserved. However, there are fractures and deficiencies on the upper corners and lower right corner of the stele, and small fractures or deformations on the surface of the figures on the front face. There is another partially preserved small rounded gap in the upper right corner on the obverse. Although the upper left corner of the stele cannot be seen because it is broken and missing, there is probably a similar gap in this corner. Similar gaps or holes are found on Zeugma grave stelae or on the upper corners of the reliefs on the grave walls (Wagner, 1976, Taf. 30, Nr. 9,15, Taf. 31, Nr. 13, 16, 25, Taf. 32, Nr. 22, 23, 24; Blömer & Raja, 2019: 13, Figure 2.11). Nails were inserted into these gaps, and flowers or garland-shaped leaves brought by the visitors to the tomb were hung on them. This activity, which seems to have been done to decorate the grave, is thought to be related to some kind of commemoration ceremony (Görkay, 2012: 297; Yaman, 2020: 345-346, Figs. 13-14). On the other hand, there are corner acroterae in light relief on the upper corners of the stele. However, due to the destruction on the corners, the acroteria are faint and no clear identification can be made. Chisel and comb marks can

be seen especially on the niche and upper part of the stele. While the front side of the stele shows a rich workmanship, the back side is slightly curved and left flat without any ornamentation (Figure 3).

The typological characteristics of the grave stele in our study were tried to be determined according to the Zeugma examples. The earliest typological evaluation of Zeugma stelae was made by Wagner and the classifications were determined according to the architectural elements on the stele (Wagner, 1976: 156, Abb. 19). On the other hand, Yaman, categorized Zeugma grave stelae into three different types: those with architectural designs, those without architectural designs and massive blocks (Yaman, 2013a: 197-199; Yaman, 2013c, 31, fn. 7). Our grave stele seems to be in the group of 'arched stelae' under the type 'with architectural design' (Wagner, 1976: 156, Abb. 19, Type IV; Yaman, 2013a: 199-200, Drawing 2). In addition, the figures on the front of the stele were evaluated separately in terms of stylistic, iconographic and chronological aspects.

Figure 3

View of the Grave Stele from Different Angles

Figures and Symbols

First, a portrait of a young woman, representing the deceased family member buried in the grave, is placed in high relief in a deep, arched niche in the center of the stele. She is wearing a himation over a chiton, and the himation covers part of her head and descends over both shoulders. The young woman is looking slightly upwards and forwards over her left shoulder. Underneath the himation, which covers part of the head, there is a headdress with three rows of horizontal incisions. Below this, two layers of thick hair braids cover the head parallel to each other. Under the braids, wavy hair, detailed with thin and deep lines, is parted in the middle. The hair combed backwards falls over the ears. The forehead, which is short and

narrow, has a triangular shape due to the way the hair is parted in the middle and combed backward. The eyebrows are thin and arc-shaped in relief. The pupils in the large, almond-shaped eyes are left undecorated. Although the nose is broken and partially missing, it appears to have been structurally thin and smooth. There are also fractures and damages on the slightly protruding cheekbones. The lips are slightly parted, and the upper lip is thinner than the lower one. The long, curved jaw is slightly pointed at the tip. There are two knuckle lines on the thin and long neck. The shoulders are narrow and slightly lowered. The remaining parts of the himation on the body have thick and vertical folds. It has a 'V'-shaped collar formed by the deep fold marks created by the chiton. The right arm of the figurine, though partially concealed by the himation, is bent at the elbow and extends parallel to the ground towards the center of the chest in a dynamic posture. The right hand rests on the chest with fingers spaced apart. The left arm is also slightly bent at the elbow, and the left hand holds a spindle under the chest. Its tip is missing due to damage.

Figure 4
Details of Portraits

When the stele is viewed from the front, near the lower right corner of the stele, there is a smaller figure of a girl measuring 16 cm in height and 12 cm in width. The upper part is rendered in low relief within a small convex niche. The hair of the figure, shown frontally, is again parted in the center and combed back in thick curls that cover the ear. The forehead is triangular, the eyebrows are arched and the eyes are depicted as almond-shaped and slightly rounded. Although the eye sockets are depicted quite deep, the pupil is not carved. As far as preserved, the nose appears to have a fuller shape. The cheeks of the figure are quite puffy and exaggerated compared to the overall facial proportions, while the mouth and chin are indistinct due to damage. The clothing details of the figure are partially visible. The figure is probably depicted wearing a chiton, with the folds of the dress forming curved lines, and the neckline showing a 'V'-shaped collar. The figure is also wearing a necklace of thick chains (Figure 4).

Examples of individual portraits and multiple portraits are common in Zeugma grave stelae. However, figures representing the deceased family member as well as smaller portraits are very rare (Yaman, 2013a:

229-230, Cat. No. 184, Fig. 186). The presence of a smaller portrait of a little girl next to the main portrait on the stele is remarkable in this respect. This probably refers to family ties or a parent-child relationship. A closer look reveals that the portrait of the little girl was squeezed into a narrow space on the stele. It was probably added to the stele later as a dedication to the little girl, who was buried beside her mother who had died at a young age.

Another striking feature of the main portrait is that although the figure is young, she is depicted holding a spindle. As is well known, figures of a spindle and a distaff or basket, which are common in Zeugma examples, symbolize the position of women in the family (Yaman, 2013a: 310). On the other hand, symbols such as spindles and distaffs can be seen not only in Zeugma but also in different areas within the borders of the Syrian province (Blömer & Raja, 2019: 17-18, Fig. 2.23). Here, the presence of only the spindle symbol is likely to be a reference to the fact that many things were left unfinished and she died at a young age.

Overall, the portraits depicted on the stele exhibit similar hairstyles. However, the figure representing the grave owner is depicted with a distinct hairstyle. As previously mentioned, beneath the himation that partially covers the head, there are three rows of horizontally incised headgear and two rows of thick braided hair strands. The hair beneath the braids is parted centrally and flows backwards over the ears in long, wavy locks. Similar turban-like headgear is also frequently observed in other Zeugma examples (Rumscheid, 2019: 66, Figure 5.1–5). Additionally, there are different combinations of hairstyles under the hair braid (Yaman, 2013a, Cat. Nos. 158, 160, Fig. 159, 161), which consists of several layers and completely covers the head. However, it is noteworthy that the grave stele in this study shows a combination of three different hairstyles (Figure 4). In the depiction of the little girl, the hair is parted in the middle, and no headdress, band, or diadem is present. Considering the hairstyle features of both figures, it becomes evident that this style was commonly used in Sabina portraits, particularly during the Late Hadrianic period (Özgan, 2013: 162-168, Figs: 172-177; İnan, 1965: 18, 65, T. VII, Abb.2, IX, No.7; İnan and Rosenbaum, 1966: 72-73, Pl. XXII, No. 36).

Twelve-centimeter-high eagle figures are positioned near the points where the columns on either side of the grave stele meet the arch. The eagles are depicted with their heads in profile and bodies facing front, standing upright with wings spread, as if prepared for flight. The feathers are thickly carved in the form of fish scales. The wing details are given with incised vertical lines. The eagle figures are antithetically positioned in the centre of the stele facing the female figure in the niche (Figure 5).

Figure 5

Details from Eagle Figures

Eagle figures are found in many regions of Anatolia such as Isauria (Pfuhl-Möbius, 1979: 533, Abb: 115-116; Yılmaz, 1985, Lev. XII, Cat. No. MSA3), Phrygia (Calder, 1956: 60, Pl. 16, No. 274) and Antakya (Saraçoğlu, 1997, Lev. XCI, K.181). Moreover, eagle figures were frequently employed in regions such as Dorylaion (Pfuhl-Möbius, 1979: 532, Taf. 316, No. 2214-2215), Konya (Abay, 2016, 342, Fig. 114), Izmir (Pfuhl-Möbius, 1979, 533, Taf. 316, No. 2219). Similarly, eagle figures are frequently featured on Zeugma grave stelae and rock reliefs (Cumont, 1917, 42-47, Fig. 12-14, 17, 19, 21, 23; Wagner, 1976: 157; Yaman, 2013a: 312). Eagle symbols show different characteristics according to their posture and the treatment of their feathers (Yaman, 2013a: 212-213, Figure 3 - Figure 4). Comparable eagle figures, similar to those on the stele under study, are also preserved in the museums of Adana (Wagner, 1976: 178, 181, Abb. 20, 22) and Gaziantep (Wagner, 1976: 180, 182, Abb. 21, 23) museums. The eagle figures in these museums were carved independently and at a larger scale on grave stelae. However, the dimensions of the eagle figures appear to have been determined either by the preferences of the deceased's relatives or by the practices of the workshops where they were produced (Yaman, 2013a: 211). The eagles symbolically depicted on the stelae carry many iconographic meanings such as the sun (Wagner, 1976: 157-158), psychopompos leading the soul to the sun (Cumont, 1917: 35 and onwards; Wagner, 1976: 157-158), eternal life and rebirth (Pfuhl-Möbius, 1979: 500, 525). Moreover, eagle figures in Zeugma are understood to symbolize male individuals (Wagner, 1976: 157; Saraçoğlu, 1997: 46; Yaman, 2018: 136). Conversely, it is noteworthy that the grave stele examined in this study features eagle figures rather than the more commonly encountered basket figures (Yaman, 2013a: 216-221), which are typically interpreted as representing women in Zeugma contexts. It is possible that the eagle figures were added to the stele at a later stage, potentially to suggest that the woman who died at an early age had two sons.

Inscription

At the bottom of the grave stele is a two-line Greek inscription with letter sizes ranging from 3 to 5 cm (Figure 6). Although parts of the inscription have been damaged, the name of the deceased family member can still be discerned.

Ἡρωδιὰ ἄωρε χερε'

'Herodia, untimely/too soon, farewell'

The name 'Ἡρωδιὰ/Herodia' is etymologically thought to be the female form of the common male name Ἡρώδης/Herodes. This male name, documented in the Hellenic world since the Archaic period, is a combination of the words 'Ηρως (hero) and -ίδης (descendant)' and means 'descendant of a hero' (Pape-Benseler 1911: 473; Ilan, 2002: 282). The name Ἡρώδης (earlier form: Ἡρῴδης) was also attested among individuals of Semitic origin from the Late Hellenistic period onward (for this name see Ilan 2008, 290). Notably, the same name is borne by Herod the Great, King of Judea, as recorded in ancient sources and literature. Herod the Great is also recorded as having founded a city in Palestine named Ἡρωδιά (Joseph. AJ 14.360; Roller 1998, 364). One of the descendants of this king was named Herodias (Ἡρῳδιάς) and was associated with the death of John the Baptist (on this name see Ilan, 2002: 319). In conclusion, the occurrence of the female form of this name in the eastern regions supports the possibility that the Herodia who died at Zeugma may have been of Semitic origin[3]. Zeugma is known to have been culturally and ethnically cosmopolitan due to its location and military and commercial relations (Yon, 2006: 216; Görkay, 2012: 275; Görkay, 2015, 16; Görkay, 2020: 20). In this context, the case of Ἡρωδιά may be considered further evidence of Zeugma's multi-ethnic character. In addition, the phrase 'ἄωρε χερε' is a consoling expression rarely seen in Zeugma examples and

[3]I would also like to thank Prof. Dr. Mustafa Adak for sharing his valuable information about both the reading of the inscription and the origin of 'Ἡρωδιὰ/Herodia'.

used for people who died young (Wagner, 1976: 168; Yaman, 2013a: 266, Cat. No. 63). This interpretation is further supported by the youthful appearance of the female figure depicted on the stele.

Figure 6
Details of the inscription

Dating of the Stele

No contextual or archaeological data other than the stele itself is available for dating, as it was discovered through illicit excavations. However, one of the key indicators used for dating the stele is the hairstyle depicted in the portraits. Especially in the portraits of Sabina during the Hadrian Period, this type of hairstyle with hair parted in the middle is frequently seen (Özgan, 2013: 162-168, Fig. 172-178). In general, this type of hairstyle can be seen from the Hadrian Period to the early phase of the Antonine Period (Özgan, 2013: 214, Fig. 229a-b). Nevertheless, based on stylistic features such as the hairstyle, a short, narrow, triangular forehead, oval facial contours, a slightly pointed chin, large eyes, pronounced eyelids, and uncarved pupils, it is more appropriate to date the stele to the Late Hadrianic period. In addition, two examples from Zeugma, in which the hair is parted in the middle under the braid, as in the main portrait representing the grave owner, have been dated to the mid-2nd century AD (Yaman, 2013a: 122-124, 283-284, Cat. No: 159, 160, Fig. 160, 161). On the other hand, outside of Zeugma, a similar hairstyle can be observed on a funerary stele from Palmyra, dated to AD 125-126 (Albertson, 2016: 162-163). Based on stylistic analysis and comparative examples from Zeugma, the stele under study can be dated to the first half of the 2nd century AD.

Discussions and Conclusions

Kekliktepe Necropolis, where the grave stele was first discovered, is close to the Western Necropolis of Zeugma in terms of its location. Three more chamber tombs were discovered during the excavations conducted by the Gaziantep Museum Directorate in this area. These data provide strong evidence that Kekliktepe Necropolis is a continuation of the Western Necropolis of the city. Furthermore, the stone characteristics and dimensions of the grave stele, along with its figures, symbols, architectural elements, and inscription content, closely correspond to those of other examples from Zeugma. Considering all these features, the grave stele has been evaluated on the basis of Zeugma examples.

Grave steles, which aim to remind the deceased person forever, are important in terms of providing us with many data on how the deceased person was honored by family members or relatives in terms of both the fashion of the period and personal preferences, as well as many elements such as the clothing of the figures seen on it, accessories, combinations made with different figures. Accordingly, the grave stele in this study is analyzed typologically and chronologically. Typologically, our stele shows architectural design and arched stele characteristics compared to the Zeugma examples. In simple terms, there are four figures on the stele and two lines of Greek inscription at the bottom. Examples of such different combinations are common in Zeugma stelae. However, it stands out from other examples through features such as the inclusion and positioning of eagle figures, as well as the addition of a portrait of a young girl beside the main figure. Moreover, the hairstyle of the main portrait and the posture, particularly the hand positioning, also deviate from typical examples. In this respect, the stele can be considered unique within the context of Zeugma funerary art.

A particularly striking feature of the stele is the depiction of a young girl and eagle figures alongside the main portrait. These elements, likely added later, may carry symbolic meaning. In Zeugma stelae, dual portraits often represent familial or parent-child relationships (Yaman, 2013a: 229–230, Cat. No. 184, Fig. 186). Additionally, eagle figures are known to symbolize various concepts, including masculinity. Taken together, these indicators suggest that in terms of social status, Herodia was married and probably had two sons and a daughter.

On the other hand, the main portrait is seen holding a spindle in her left hand. On stelae of this type, female figures are usually depicted holding a spindle and a distaff together in reference to their position within the family. The fact that only the spindle is preferred here is probably a reference to her role in the family and the fact that she died at a young age and could not complete many things in her unfinished life.

The two-line Greek inscription Ἡρωδιὰ ἄωρε χερε' is translated as “Herodia, untimely/too early, farewell.” The name "Herodia" is significant as it provides clues regarding her origin. In fact, inscriptions from Zeugma contain a variety of names pointing to diverse ethnic backgrounds (Yaman, 2013a: 334–347), highlighting the city’s cosmopolitan character. The phrase ‘ἄωρε χερε’ is uncommon in funerary contexts and serves as a consolatory expression for those who died young. The youthful appearance of the main portrait further supports this interpretation.

The primary basis for dating the stele is the similarity of the portrait sculptures made according to the fashion sense of the period. In this context, the first thing that draws attention is the hairstyles in the portraits. On the other hand, the treatment of facial features also supports our dating. From a stylistic point of view, it was observed that this type of hairstyle was frequently applied especially in the Late Hadrian period and was also used in Zeugma stelae within the same period. Based on these stylistic parallels, the stele can be dated to the first half of the 2nd century AD.

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Author Details Fuat Lebe
[1] Ministry of Culture and Tourism, Gaziantep Regional Directorate for the Protection of Cultural Heritage, Gaziantep, Türkiye
0000-0002-4396-7815 ffuatlebe@gmail.com

References

Abay, N. (2016). Konya Koyunoğlu Müzesinde Roma Dönemine Ait İki Stel, *SEFAD,* 329-342.

Albertson, F. C. (2016). Typology, Attribution, and Identity in Palmyran Funerary Portraiture, Andreas Kropp and Rubina Raja (eds.), *The World of Palmyra, Palmyrene Studies Vol. 1* (pp. 150-166), Scientia Danica. Series H, Humanistica, 4, Vol. 6.

Butcher, K. (2003). *Roman Syria and the Near East*, London, British Museum Press.

Blömer, M.- Raja, R. (2019). Shifting the Paradigms: Towards a New Agenda in the Study of the Funerary Portraiture of Greater Roman Syria, Blömer, M.- Raja, R. (eds.), *Funerary Portraits in Roman Greater Syria* (pp. 5-27), Studies In Classical Archaeology, Vol.6, Brepolis.

Calder, W. M. (1956). *Monumenta Asiae Minoris Antiqua Vol. VII, Monuments from Eastern Phrygia*, Published in Association with the Manchester University Press, Manchester.

Cumont, F.V.M. (1917). *Etudes Syriennes,* Paris, A. Picard.

Görkay, K. (2012). Zeugma in Light of New Research, K. Konuk (Ed.), *Stephanèphorus de L'économie Antique À L'Asie Mineure: Hommages À Raymond Descat* (pp. 275-300), Bordeux, Ausonius.

Görkay, K. (2015). *Geçmişten Günümüze Bir Geçit; Zeugma*, Türkiye İş Bankası Kültür Yayınları.

Görkay, K. (2020). Zeugma'da Yeni Araştırmalar, K. Görkay (Ed.), *Zeugma: İki Dünya Arasında: Yaşamdan Edebiyete Zeugma'da Evler ve Mezarlar,* (pp. 20-46), Türkiye İş Bankası Kültür Yayınları.

Ilan, T. (2002). *Lexicon of Jewish Names in Late Antiquity: Part I: Palestine 330 BCE-200 CE*, Mohr Siebeck.

Ilan, T. (2008). *Lexicon of Jewish Names in Late Antiquity: Part III: The Western Diaspora, 330 BCE- 650 CE*. Mohr Siebeck.

İnan, J. (1965), *Antalya Bölgesi, Roma Devri Portreleri*, Türk Tarih Kurumu Basımevi, Ankara.

Inan, J. and Rosenbaum, E., (1966). *Roman And Early Byzantine Portrait Sculpture in Asia Minor*,

Published for the British Academy by Oxford University Press, London.

Joseph, F. The Antiquities of the Jews, 14.360.

Karaca, C., (2008), *Geological Investigations in Zeugma, Turkey*, (Master Thesis), Middle East Technical University,

Özgan, R. (2013). *Roma Portre Sanatı II,* Ege Yayınları, İstanbul.

Pape, W.-Benseler, G.E. (1911), *Wörterbuch der griechischen Eigennamen, Braunschweig,* F. Vieweg,

Parlasca, K. (1982). *Syrische Grabreliefs hellenistischer und römischer Zeit.* Fundgruppen und Probleme Trierer Winckelmannsprogramme, Mainz am Rhein, Philipp von Zabern.

Pfuhl, E.-Möbius, H. (1979). *Die ostgriechischen Grabreliefs II,* Mainz am Rhein, Philpp von Zabern.

Roller, D. W., (1998). *The Building Program of Herod the Great,* University of California Press, Berkeley.

Rumscheid, J., (2019). Different from the Others: Female Dress in Northern Syria Based on Examples from Zeugma and Hierapolis, Blömer, M.- Raja, R. (eds.), *Funerary Portraits in Roman Greater Syria* (pp. 65-82), Studies In Classical Archaeology, Vol.6, Brepolis.

Sadurska, A. and Bounni, A. (1994). *Les sculptures funéraires de Palmyre*, Roma, G. Bretschneider.

Saraçoğlu, A. (1997), Antakya Yöresi Mezar Stelleri, (Doctoral Dissertation), Atatürk Üniversitesi, Sosyal Bilimler Enstitüsü, Erzurum.

Skupinska-Løvset, I. (1999). *Portraiture in Roman Syria: a study in social and regional differentiation within the art of portraiture*, Łódź, Wydawn-Uniwersytetu Łódzkiego.

Wagner, J. (1976). *Seleukia am Euphrat, Zeugma*, TAVO 10, Wiesbaden, Reichert.

Yaman, H. (2013a). *Zeugma Mezar Stelleri*, (Doctoral Dissertation), Ankara Üniversitesi, Sosyal Bilimler Enstitüsü Ankara.

Yaman, H. (2013b). Zeugma (Seleucia) Mezar Stellerinin Değerlendirilmesi ve Bir Grup Yeni Buluntu, *Arkeoloji ve Sanat*, 113-127.

Yaman, H. (2013c). Zeugma (Seleucia)'dan Bir Grup Mezar Steli, *Türk Arkeoloji ve Etnografya Dergisi,* 31-49.

Yaman, H. (2020). Edebiyet Evleri: Zeugma'da Nekropoller ve Mezarlar, K. Görkay (Ed.), *Zeugma: İki Dünya Arasında: Yaşamdan Edebiyete Zeugma'da Evler ve Mezarlar,* (pp. 332-352), Türkiye İş Bankası Kültür Yayınları.

Yılmaz, M. (1995). *Heykeltraslık Açısından İsauria Bölgesi Figürlü Mezar Anıtları*, unpublished doctoral dissertation, Selçuk Üniversitesi, Sosyal Bilimler Enstitüsü, Konya.

Yon, J.B. (2006). Inscriptions in the Necropolis of Zeugma, R. Ergeç (der.) *Uluslararası Geçmişten Geleceğe Zeugma Sempozyumu / International Symposium on ZEUGMA: from past to future, Gaziantep 22-24 Mayıs 2004* (pp. 213-218), Gaziantep, Gaziantep Üniversitesi Matbaası.

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Research Article

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A Group Of Phrygıan Grave Steles From The Roman Period in The Uşak Museum

Emre Taştemür [1], Muradiye Küçükcan [2] & Münteha Dinç [3]

[1] Uşak University, Department of Archaeology, Uşak, Türkiye
[2] Uşak University, Department of Archaeology, Uşak, Türkiye
[3] Uşak University, Department of Archaeology, Uşak, Türkiye

Abstract This article examines twelve figural grave steles in the Usak Museum. The theme of these steles is the depiction of human figures and objects belonging to the deceased. Ten of the steles have inscriptions. The findings of this study show that the use of the steles was not limited to Kütahya and its environs but that they exhibit a typology with a similar architectural form and common iconography. Unfortunately, the scarcity of studies in the region prevents the precise identification of the exact place of production. The development of the items on these steles, especially the figures thought to represent the deceased, can be seen as constituting regional styles in provincial art. This indicates that more than one workshop or craftsman was active in different parts of the region. The research reveals that the workshops in Kütahya (Kotiaeion) are similar to contemporary workshops in places such as Altıntaş (Appia/Soa) and Gediz (Kadoi). Although production is quite localized, the style of the figures and the objects associated with the deceased remains consistent. In the study, tomb steles were evaluated in terms of typology, iconography, and stylistic aspects.

Keywords Usak · Figural Grave Stele · Iconography · Typology · Workshop

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Corresponding author: Emre Taştemür emre.tastemur@usak.edu.tr

Introduction

The figural grave steles in the Usak Museum were brought to the museum by purchase. The findspots of most of these steles are unknown. In this study, the forms of the figural grave steles found in the Usak Museum, which are characteristic of Phrygia, are evaluated from a general point of view within their context. When these steles are evaluated in the context of the city, it is seen that both the clothing type of the figures and the belongings of the deceased people were carved in a local style.

The steles examined within the scope of the study were typologically classified into three main groups: steles with triangular pediments, figural grave stele / plain grave stele on a massive block and sculptural steles thought to be associated with a grave context. Iconographically, it was observed that these steles depict not only items belonging to the deceased person or persons, but also representations of plants, animals, and the deceased individual(s) themselves.

Research indicates that the figurative grave steles in Phrygia exhibit certain similarities with the stylistic features of contemporary workshops. The objects belonging to the deceased, as well as the types of hair, face, clothing, and postures of the figures, show significant similarities, while the simplicity of the stylistic features and the characterization of these steles can be observed. (Kadoi “Gediz” (Levick, Mitchell, Potter, and Waelkens, 1993, no. 354, 356; Lochman, 1991, Abb 5), Tembris Valley “Appia” (Levick et al., 1993: No. 35, 43, 44, 97, 156, 160, 197, 233, 235, 247), Altıntaş (Levick et al., 1993: No. 73, 74, 76), Kütahya-Uşak examples (Şahin & Uzunoğlu, 2019: 271-272; Mendel, 1909: 433, Wujewski, 1991: 28-30, Levick et al., 1993: No. 355).

As a result of the research, the figurative grave steles in the Phrygia region were found to have similarities with contemporary workshops and were evaluated from a holistic perspective along with epigraphic data.

Typology

When analyzing the steles found in Usak and its environs within the scope of this study, it becomes clear that there are three main types, each with its own subtypes. The most significant difference among the three types is that the first type features a triangular pediment, the second type has a plain grave stele on a massive block, and the third type takes the form of a statue-like stele within the grave context.

Triangular Pedimented Grave Stele (Cat. No. 1, 2, 3, 4, 5, 7, 8, 9, 10)

There are nine grave steles belonging to this group in the Usak Museum. They are rectangular tomb steles with triangular pediments and acroteria decorated with a spiral motif and a rosette in the center. They reflect the front facade of temple architecture in form with their pedimented structure (Fıratlı, 1965: 271). Since the triangular structure was not consistently applied in the design of some steles, the acroterion is not a determining element (Malay, 1983: 25-28; Taf. 3a-b).

In general, the architectural elements of these grave steles include: acroterion, pediment (tympanon), head base (epistyle/architrave), capitals (columns or pillars), a relief area between the capitals depicting the deceased person(s), the podium at the bottom, and the tenon, the part immersed in the ground. The triangular pedimented figural grave steles are subdivided into those with and without naiskos. "Naiskos"[1] is a term borrowed from architecture.

Various opinions have been put forward on the use of the term "naiskos" for these steles. Pfuhl and Möbius argue that it is incorrect to refer to the naiskos form on steles with a mixed structure, stating that

[1]The term naiskos refers to structures defined as small temples or niches in ancient Greek and Roman architecture. Important scholars who first addressed and introduced this term into the literature include Pfuhl& Möbius. They emphasized that naiskos structures are particularly those that house and protect sculptures. Over time, this term began to be used in funerary steles and became widely adopted to describe small areas where sculptures or figures were displayed.

the pediment on these steles rests on the side frames of the relief and is not as significant as the columnar naiskos (Pfuhl & Möbius, 1977: 51). Saraçoğlu notes that steles without naiskos lack architectural elements such as columns or pilasters carrying the pediment on the edge of the niche, and the pediment is placed directly on the frame (Saraçoğlu, 1997: 23). Şahin, in his study of the steles of Miletopolis, argues that all steles labeled as "naiskos" must have a capital (Şahin, 2000: 10-45). Furthermore, expressions like "naiskos in the Corinthian order," mentioned by Pfuhl and Möbius, highlight the importance of capital styles in defining the naiskos form. As a result, the term "naiskos" is borrowed from architectural terminology. Architectural orders are primarily determined by the capitals of the columns. Therefore, for a stele to be classified as a naiskos, it must include a column capital.

Other Grave Stele (Cat. No. 6)

The flat grave stele / figured grave stele is built on a massive block and supported by an arch between two columns (Şahin, 2000: 8-10; Bağdatlı, 2023: 45). The most distinctive feature of the figured grave stelae / flat grave stelae built on massive blocks is that their upper parts are flat and they have a rectangular body form. Compared to the stelae with naiskos, flat stelae are designed in a simpler and more schematic style. Their upper parts are generally flat (Bağdatlı, 2023: 45). The limited number of examples of figured grave stelae / flat grave stelae made on massive blocks makes it difficult to determine the development of such stelae with certainty.

Sculptural Stele in a Grave Context (Cat. No. 12)

This is a sculptural stele representing a highly stylized person wearing a chiton, standing on a small pedestal, which may have been part of a grave context. However, this statue is not a contextual find. There is insufficient information about the findspot in the museum records. Cat. No. 12 was evaluated as a possible sculptural female stele that may have been included in a grave context by comparing it with similar examples.

Iconography

The central theme of the tomb steles features human figures and belongings[2] of the deceased person or persons. Based on the depictions on the steles housed in the Usak Museum, three main groups can be identified: (1) Tomb steles featuring the belongings of the deceased person or persons, (2) Tomb steles depicting plants and animals, (3) Tomb steles illustrating the deceased person or persons.

(1) Tomb steles featuring the belongings of the deceased person or persons, a wool basket (calathos), a mirror (speculum), a comb (calamistrum), a wool spinning tool (spindle and kirman), a fragrance bottle (unguentarium), a wreath, a vineyard pruning knife (falx vinitoria), and a vineyard axe or hammer (dolabra). Additionally, the presence of objects such as a pen (calamus), pen case (stylus holder), two-winged tablet/ two-winged writing board (diptychon), and scroll (volumen) may suggest not gender, but rather the literacy of the family or the deceased individual. **Wreath:** The wreath, depicted in various forms on the steles, symbolizes victory, superiority, or sanctity achieved through success. It is also thought to represent victory resulting in death (Ramsay, 1906: 23; Küçükcan, 2019: 24). **Roll, Diptych, and Stylus Container:** These items indicate that the deceased person or persons were literate (Küçükcan, 2019: 24). **Alabastron:** In Antiquity, the alabastron was a type of container without handles or a base, featuring an oval bottom, used for storing oil or perfume. It was used by women in domestic settings (Schoder 1962, No. 3) **Comb:** On grave steles, combs are depicted as both weaving tools and hair combs. **Mirror:** It is one of the objects that emphasizes

[2]Some of these belongings: Wreath, Roll, Diptych, Stylus Container, Alabastron, Comb, Unguentarium...

the gender of the deceased. (Lehmler & Wörrle, 2002: Abb. 35). In Antiquity, it was used by women. Although the scenes in which mirrors appear often reflect daily life, they are also associated with funerary culture. In this context, it is known that mirrors were also used as grave goods and votive offerings.(Erdinç, 2020:158). **Unguentarium:** The unguentarium, which first appears in the 4th century BC, is a common form throughout the Mediterranean region until the 7th century AD (Thompson, 1934: 472-474). From the Early Hellenistic Period to the Late Roman Imperial Period, various forms of unguentaria, which were widely used as grave gifts, periodically entered the repertoire (Kurtz & Boardman, 1971: 164-165). These vessels, once believed to store the tears of mourners and relatives during funeral ceremonies, were more likely intended to meet the daily needs of the deceased in the afterlife. Introduced to the Greek world in the 4th century BC, these vessels are probably of oriental origin. However, there is no definitive information about their earliest appearance (Thompson, 1934: 473). The term "unguentarium" was first used by French archaeologists working in Carthage in the early 20th century (Hellström, 1965: 24).

The unguentarium form in Catalog No. 3 has an everted rim, cylindrical neck, bag-shaped body, and a high foot . This characteristic is also found in terracotta artifacts as well as in glassware[3]. Sorakina argues that the collar-mouth form seen in glassware was inspired by Pergamon terracotta forms and that these may have possibly been produced there (Sorakina, 1987: 42 and Loeschke, 1912: 396). Similar terracotta examples are dated to the 3rd century AD based on their analogies (Laflı, 2003: Taf. 201 b-d; Damlagül, 2021: 133: U176).

The object in Catalog No. 5 is identical to the unguentarium in Catalog No. 3, but it has a conical rim, a slender and long cylindrical neck, a bulging spherical body, and a conical high foot. An unguentarium similar to this form is in the inventory of the Silifke Museum, though its date is not provided (Laflı, 2003: Taf. 170f). Based on the stele's date, the range 200-300 AD is appropriate for dating. Between the 1st and 3rd centuries AD, the glass industry advanced rapidly, producing various forms and techniques. Similar forms are found in metal, terracotta, and glass artifacts from this period, making it challenging to determine the material of the forms depicted on the steles. **The pruning knife (falx vinitoria):** The fact that the male is holding the pruning knife may indicate that he is a viticulturist or farmer by occupation.

(2) Tomb steles depicting plants and animals: Birds such as sparrows or doves have appeared on tomb steles of children and in the hands of Korai since the Archaic Period (Boardman, 2001: 75). It is believed that birds were playmates of children and that they would continue to keep them company after their death (Neils & Oakley, 2003: 307). In Anatolia, there is also a belief associated with birds and children. It is believed that the souls of deceased children would become heavenly birds (Atalay, 1990: 285-292). Especially in Altıntaş and its surroundings, it is thought that the delicate birds, like sparrows, placed on top of the kalathoi symbolize the belief that they carry the soul of the deceased (Drew & Bear, 2007: 201). **Lotus Flower:** One characteristic of the lotus plant is that its roots grow beautifully and its leaves remain immaculate despite being in muddy and dirty environments. This is because the plant shakes its leaves when dust particles settle on them, pushing the dust away. Raindrops are directed to these points, cleaning the dust (Li, 2011: 109). Due to this feature, the lotus flower is seen as a symbol of purity and cleanliness in mythology. In Egyptian culture, the lotus flower, which is often found in gardens, is not only an important aesthetic element in daily life but also a significant depiction in terracotta artifacts, wall paintings, and Egyptian tomb steles (Özçalık, 2017: 24). This symbolism may be related to concepts of death and rebirth.

[3]Some publications suggest that the form of the objects on tomb steles may be glass, providing examples for comparison (Civelek noted this for an unguentarium on a stele in the Istanbul Archaeology Museums) (Civelek 2012: 82, 83 S 11). However, the similar example he mentioned from the Erimtan Collection shows neither form nor chronological similarity. The piece from the Erimtan Collection is a bottle with a prismatic body dated to the 2nd-3rd century AD (Lightfoot-Arslan 1992: No. 50), while the unguentarium in the Istanbul Archaeology Museums is a bag-shaped bottle with a high foot.

(3) Tomb steles illustrating the deceased person or persons, these include figures of women, men, and children. Figures of the deceased are depicted either standing in a frontal position or as busts. The most important factors in determining the stance of human figures are the arm movements and the way the figures are draped in their clothing. Since leg movements are absent on some steles, they are considered secondary. Therefore, in identifying the figure types on the steles, the posture and movement of the forearms, the wrapping of the chimation, and, for standing figures, the foot movements are used as distinguishing factors (Şahin, 2000: 59; Pinkwart, 1973: 153, note 21; Cremer, 1991: 81; Linfert, 1976: 148; Lewerentz, 1993: 18; Yaylalı, 1979: 46). The depictions of women on these steles are similar to those found in Herculaneum[4].The most characteristic features of the female figures of this type are: the right arm crossed across the chest, positioned in such a way that the hand is visible under the garment that completely covers the body, and the left arm extending downwards, either slightly forward or holding a bundle of clothes. While this typology was depicted on free-standing statues, it also began to appear on tomb steles. It is thought to be a version of the pudicitia type that became widespread in the 2nd century BC (Vorster, 2007: 114-119; Bağdatlı, 2023: 84-85). The men on these steles resemble depictions of the Dioskurides type. In terms of how they embrace the chimation, this type is similar to the Dioskurides statue found in Delos. In the Dioskurides type (Pfuhl,1977: 90; Yaylalı,1979: 46; Şahin, 2000: 71), the right hand, tightly wrapped around the chimation, extends over the chest and outside the garment, while the left hand rests next to the torso.

The right leg is slightly bent at the knee, while the left leg supports the body's weight[5]. This male type, characterized by its wrapping around the chimation and its posture, may have been used as a symbol indicating the social status of the deceased, or it may have been made to emphasize that he was an aristocrat and respected in society (Bağdatlı, 2023: 88). It is observed that the right arm remains within the chimation and on the chest, while the left arm is also within the chimation and is placed on the leg or next to it. Pfuhl-Möbius classified these steles as “Normal Type” (Pfuhl & Möbius, 1977: 61, 90). In Yaylalı’s classification, the figures of this type on the steles are referred to as “Type A” (Yaylalı, 1979: 46-47, 74-75), while Şahin calls them “Palliatus” (Şahin, 2000: 71).

Pfuhl-Möbius (Pfuhl & Möbius, 1977: 61), Hanfmann, and Polatkan (Hanfmann & Polatkan, 1960: 52) suggest that the figures depicted on the steles were inspired by large-scale free-standing sculptures. This information supports the view that the stance of the figures on the steles is rooted in free-standing sculptures. Atalay (Atalay, 1973: 234) believes that the figures on the steles were modeled after tomb sculptures. Yaylalı argues that the statues, like those of Delosian Cleopatra and Dioscurides (Eule, 2001: 186-187: Abb. 2), were copies and that this may be one of the most significant characteristics of the Hellenistic period. He also notes that the figures in this period appear detached from the background due to the relief depth, which imparts a sculptural character to them. Consequently, he suggests that attributing the origin of the figures on reliefs entirely to sculptures might not be entirely accurate (Yaylalı, 1979: 36, 93).

In the steles analyzed in the study, it is observed that the clothing forms of the female and male figures are almost identical, with women resembling the depictions of women from Herculaneum and men resembling Dioscurides-type male depictions. Although this clothing type is labeled differently in various studies, it can be considered that the clothing type for male figures is meant to convey an image of a well-educated, distinguished individual (Bağdatlı, 2023: 94), while for female figures, it represents an aristocratic woman of virtue and from a wealthy family (Bağdatlı, 2023: 86).

[4]This piece is identified with and referred to by the same name due to a statue found in the theater of the city of Herculaneum.

[5]The statue dates back to 138/7 BC. It is a type that emerged with the widespread adoption of the Dioscurides type Sophocles and Aeschines type (Lewerentz 1993: 51-52: Taf 18-23).

Style And Dating

Considering the features listed above, it is observed that the funerary steles examined in this study share typological and iconographic similarities. Typologically, the steles can be categorized as triangular-pedimented, naiskos-type and non-naiskos-type pedimented steles, figural or plain funerary steles on a massive block, and statue-like examples found within a funerary context.

Iconographically, the steles depict objects belonging to the deceased, as well as representations of plants, animals, and the deceased individuals themselves. The figures portrayed on the steles reflect the general patterns of regional styles and workshop characteristics. In this stylistic framework, the figures are depicted frontally in a rigid manner, without any sense of movement or rotation. Rounded and full facial features, pronounced eye contours, framed lips, small ears, necks tapering upward, and schematic garments are notable elements. The fingers are portrayed as long and straight.

Cat. No. 1 This tomb stele is crafted as a high relief, exceeding normal human dimensions. Analyzing the typological and iconographic features of the male figure reveals that similar types are predominantly found in steles from the Altıntaş area (Pfuhl-Möbius, 1977: 91: No. 581; Mendel, 1909: Cat No. 156: Taf 34; Gibson, 1978: No. 1 ve No. 2). The emphasis on the dynamic body structure beneath the garment and the soft folds of the clothing are notable. The movement of the right leg allows for a depiction of numerous fabric folds below the knee, while weight is placed on the left leg. The right hand emerges from the garment at the chest to grasp the edge of the fabric, while the left hand holds a roll on the left leg. The chlamys draped over the left arm forms zigzag folds descending downward. When examining the figure's hair, facial features, posture, and stylistic attributes, it shows similarities to steles in the Kütahya region (Pfuhl & Möbius, Taf 92, No: 581, Mendel, 1909: 19-20). The upper border's decoration, resembling grapes and medallions, is akin to that of a stele from Gökçeler Village in Altıntaş, Kütahya (Lochman, 2003: No II 100 (Abb 32)). The wide lower frieze features a mythological scene. The inscription on the stele, located in the Usak Museum, allows for precise dating to the year 261 according to the Sulla era (AD 176/177, on the 30th of Panemos).

When examining the figure on the Usak stele, the voluminous, dynamic, and long curls of the hair, styled in every direction from the top and placed over the forehead, evoke the portrait style and fashion of the Hadrianic period (Özgan, 2013: 134-135, 148, 153-161, figs. 160a-b, 161a-b, 164, 167a-b; Zoroğlu 2014: 132-133). The face is quite delicate, and the detailed carving of the irises with a drill is particularly noticeable. This technique is parallel to what is seen in the portraits of Hadrian after AD 130 and those from the early Antonine period. Additionally, the general style of the figures (such as the hair, eyes, and beard) and the folds of the clothing in the stele located in the Usak Museum (Inv. No. 21.1.70), published by Varinlioğlu (1989: 19, No. 4), Varinlioğlu (2023: 76, No. 111), and Lochman (2003: 104, Abb. 85), as well as in the stele in the Bursa Museum (Uzunoğlu, 2019: 382, fig. 5) and in the reliefs by Parlasca (1990, Abb. 11 and 13), stand out as parallel examples.

Although Varinlioğlu (Varinlioğlu, 2023: 142) dates the Usak stele to the year 261 of the Sulla Era (30 th of Panemos, AD 176/177), based on the portrait features of the figure and the updated schema of the ranke ornamentation on the panels (Erdinç, 2020: 44), it is considered more appropriate to date it to the Late Hadrianic- Early Antonine Period. The regular placement of the male figure on the stele and the mythological scene on the lower register suggest that the stele, Cat. No. 1, is one of the specially crafted steles. The curved vine decorations on the side panels (Lochman, 1991: 492, Abb. 2, 2, 2d) and the possibility that the inscription was added to the stele at a later date support this assessment[6].

[6]The most striking examples of inscriptions added later to steles are those given by Gibson (1978: 43, No. 11, 13, and 15).

Cat. No. 2 features a triangular pediment with a rounded niche at the top. The bird figure is directly placed inside the niche[7], and while the upper part of the stele is enriched with details, particular emphasis is placed on the bird and the lotus flower next to it. Considering the pose and clothing of the figures on the stele, it bears similarities to Cat. No. 3, although the rendering of the hair and pupils differs significantly. The hands are more realistically depicted compared to those in Cat. No. 3. The male figure holding a falx vinitoria suggests a connection to viticulture or agriculture. The female figure, on the other hand, bends her right arm at the elbow, and places her right hand, shown in an open position, on the chimation, making a gesture[8].It can be said that this gesture, with the arm bent at the elbow and extended forward, reflects a posture likely related to worship or prayer, in connection with the identities of the figuresThe unnatural appearance of the hair resembles a wig. The treatment of the pupils, which were carved with a drill, is characteristic of the Antonine period[9] (Vermule, 1968: 277 fig. 148). Analyzing the pupils, clothing type, and posture of the figure indicates that the tomb stele likely belongs to the Kütahya region and can be dated to approximately the mid-2nd century AD.

Cat. No. 3 It is notable for the mirror on Cat. No. 3 and the one on Cat. No. 5 are identical in size and design. The unguentarium on the stele is short with a cylindrical neck, a tapered body, and an outwardly flared rim (Toynbee, 1996: 37-38). The triangular pedimented tomb stele, supported by pilasters on either side, presents a three-dimensional schematic representation of busts (Durugönül, 2015: 119: Cat. No. 62). When examining another similar stele from Kadoi (Zing, 2013: 187), it shows comparable typology and iconography to Cat. No. 3. All three steles depict male and female figures with round faces, thick, framed eyes, full chins, prominent cheekbones, and small mouths. The men's hair is styled in thin spirals, while the women's spirals are more open and geometrically arranged (Koch, 1990: 116: Abb 1; Wujewski, 1991: fig 26). The figures are draped in chlamys, with the right arm wrapped in clothing across the chest. Fingers are notably long and straight, and the side pilasters resemble stylized Corinthian columns. The male figure's hair, facial features, and clothing, as well as the female figure's facial and hair features, are presented schematically. While the personal items associated with the deceased are quite similar, the lack of detail on the comb from Cat. No. 2 is striking. The stele very similar to Cat. No. 3 was found in Kadoi (Gediz) (Zing, 2013: 187), while the similar styles in hair, face, and clothing from Altıntaş (Koch, 1990: 116: Abb 1) suggest that Cat. No. 3 was likely produced in or around Kütahya. The inscription allows for precise dating to the year 261 according to the Sulla era (176/177 AD, on the 28th of Hyprbertaios).

Cat. No. 4 is a high-relief stele featuring the figures of the deceased's belongings and wreaths. It differs from Cat. No. 3 and Cat. No. 5 in that it does not have a naiskos. The side acroter is carved separately from the pediment block. This form is similar to Cat. No. 5**,** and the acroter parts on both are comparable. Below the pediment, in the so-called stage area, the belongings of the deceased are depicted. The most notable item is the alabastron. A mirror, comb and alabastron used on the stele, should be considered among the objects symbolizing the deceased woman (Davidson, 1952: Pl. 78, 1229-1233). The mirror is circular with a short, thick handle and has ornamentation beneath the handle. Cat. No. 3 and Cat. No. 5 also feature mirrors. Comparing the mirrors on these steles, the area where the frame and handle connect differs from Cat. No. 4 in terms

[7] In tomb steles designed in this style, the area containing the portrait is fashioned as a niche, with the portrait rendered in high relief like a bust. Examples featuring single figures, couples (male-female), or family members appear from the Republican period onward. During the early imperial period, only Roman citizens preferred busts on their steles, but from the 3rd century AD, such representations were also created for all local citizens in the Anatolian region (Bağdatlı, 2023: 73).

[8] Certain gestures were considered important by the Romans. Roman texts show that the Romans took advantage of the power of gestures in public spaces (Heyn, 2010: 634). In the Roman period, the hand gestures used in both steles and reliefs are interpreted as gestures with specific meanings. (Davies, 2017: 20). It can be said that this specific posture depicted on the steles reflects an attitude likely associated with worship or prayer.

[9] The Antonine period is dated between AD 138 and 192.

of ornamentation. Although there is no significant historical difference in the shape and ornamentation of the mirrors, variations may reflect the preferences or skill of the stele maker. The inscription on Cat. No. 4 is a grave poem emphasizing that Timeitos (the owner of the grave stele) died prematurely. The inscription indicates a precise dating to the year 211 (AD 126-127, on the 4th of Hyperbertaios). E. Varinlioğlu claims it belongs to the year 126/127 according to the Sulla era (Varinlioğlu, 2022: 103, No. 154). However, the wreath design on the stele bears a strong resemblance to steles from the Malibu Museum dated to AD 180 (Lochman, 1991: No. 4), as well as those from the Usak Museum dated to AD 170-180 (Lochman, 1991: No. 9), AD 150-160 (Lochman, 1991: No. 10), and AD 167 (Kileci, 2020: 143). Considering the typological and stylistic features, it is highly likely that this stele originates from the Kadoi and Upper Tembris regions and should be dated to AD 180-181 according to the Actium era.

Cat. No. 5 It resembles the grave stele with inventory number Cat. No. 4 in terms of pediment structure and depictions of belongings of the deceased, but it differs by having a naiskos. Additionally, unlike the rosette, two birds are seen within the triangular pediment. It can be inferred that the alabastron on the Cat. No. 4 stele and the unguentarium on the Cat. No. 5 stele were made for the same purpose. The data suggests that unguentariums were associated with bathing (Brun, 2000: 277-278) and were used to emphasize the identity of the deceased. Comparable examples can be found in Kadoi "Gediz" (Levick, Mitchell, Potter, and Waelkens, 1993, nos. 354, 356, and possibly 355), Tembris Valley "Appia" (Levick et al., 1993: Nos. 35, 43, 44, 97, 156, 160, 197, 233, 235, 247), Altintas (Levick et al., 1993: No. 73, 74, 76), and other examples from Kütahya-Usak (Şahin & Uzunoğlu, 2019: 271-272; Mendel, 1909: 433; Wujewski, 1991: 28-30; Levick et al., 1993: No. 355). It is noteworthy that the items belonging to the deceased and the typology of the stele (triangular pediment, acroteria, naiskos) are similar across these Phrygian steles. The standardized typology of the Kadoi steles (Lochman, 1991, Fig. 5) and the similarity of the belongings associated with the deceased are noteworthy. It is highly probable that the grave stele is from Kadoi (Lochman, 1991: Taf. 22) and the territory of Upper Tembris, and it should be dated to AD 180-200 based on the Actium Era.

Cat. No. 6 This is a grave stele with a flat tympanum[10], an arch placed between two columns, and two male busts inside a niche. The busts are clothed. Due to the stylistic features of the male figure, the hairstyle of the bust on the imago clipeata with inventory number 2.2.74 in the Usak Museum resembles the one on the stele. Although the hair is finely and neatly worked, it wraps around the head like a headdress. When compared with similar figures on the stele (Malay, 2016: 101 fig. 4, 4a, 4b and Durugönül, 2015: Cat. No. 90-93), considering the typological and stylistic characteristics, it is possible to date it to the 2nd century AD.

Cat. No. 7 considering the posture and clothing type of the male figure on the stele, similar figure types can be seen on Cat. No. 8, 9, 10, and 11. According to the epigraphic data, the inscription reads '17th of Augneos' in lines 11 and 12, though no specific date is provided. Similar examples are found in the vicinity of Kütahya and Usak (Levick et al., 1993, Nos. 162 and 176)[11]. When these examples are analyzed, it is observed that the hair, face, hands, and clothing types are consistent across the grave steles, regardless of gender. The figures are depicted in an arched niche on the facade. They have disproportionate body proportions, and their clothing appears schematic, as if drawn with a ruler or compass. The pilasters on the right and left sides of the stele feature identical grapevine motifs. This grave stele belongs to the territory of Kütahya and can be dated to the early 3rd century AD.

Cat. No. 8 this Phrygian-type grave stele features round arches supported by pilasters on both sides and depicts two men inside the arch, though it is quite damaged. While the tomb stela in Cat. No. 7 is quite similar typologically and iconographically, the stele in Cat. No. 1, although similar in type, has been made in

[10] In the arched steles where the figures are placed, the niches round off towards the top.

[11] https://kvmgm.ktb.gov.tr/TR-44119/kutahya-muze-mudurlugu.html.

a very simple and careless manner[12]. .While the hair, face, clothing types, and posture of the figure closely resemble the steles from Kütahya (Çavdarhisar) (Lochman, 2003, No. II 207 [abb. 45]; No. II [abb. 46]), the stylistic features are simpler and more characterized (Lochman, 2003: 207 [abb. 45]; 210 [abb. 46]; 216 [abb. 47]; 217 [abb. 48]; 220 [abb. 50]; 222 [abb. 52]; 223 [abb. 53]). Features such as the placement of the figure in the niche and the naiskos form suggest an influence from Kütahya (Kotiaeion). Since it was found in Gölcük Village (Gediz) and the artifacts originating from Kadoi (Gediz) (Leschhorn, 1993: 250-254; Lochman, 2003: 220), it can be inferred that this stele was produced in a workshop close to Kütahya. The grave stele belongs to the territory of Kütahya and can be dated to the middle of the 3rd century AD.

Cat. No. 9 and Cat. No. 10 are similar to each other. The bird held by the child in Cat. No. 9 closely resembles the bird figure in the pediment of Cat. No. 1. The primary difference between the two steles is that Cat. No. 10 features two male figures and a child, whereas Cat. No. 11 includes a female, a male, and a child figure. The steles in the Krannert Museum[13] of Art and in Kütahya (Kotiaeion) share similar figures placed in a triangular pediment. They exhibit similar characteristics: hair, face, and neck that taper from bottom to top, highly schematized clothing with straight lines, distinctive postures, and large, flat hands (Drew-Bear, Demirkök, Dönmez, & Türktüzün, 2007: Inv. No. 405, Inv. No. 9584; Lochman, 2003: II 225 Abb 54; II 246 Abb 62). It is noteworthy that the necks of the figures on steles dated between AD 285-304/5 are narrowed and curved upwards. As time progresses, the clothing and physical features on these steles become more schematized and are depicted in low relief. Analysis of these examples from Altıntaş indicates that this stele is from the Kütahya region and can be dated to the middle of the 3rd century AD.

Cat. No. 11 The naiskos form on the stele, when closely examined for the posture and clothing types of the male and female figures, shows similarities to similar figure types found in the Phrygia region (Durugönül, 2015: 119, Cat. No. 62). The simplicity of its stylistic features does not contribute to precise dating, and the naiskos form on similar examples of tomb steles (Drew-Bear et al., 2007: Inv. No. 405; Inv. No. 9584) shows resemblance in hair, face, neck styles, clothing type, and posture with steles from the Kütahya territory and those in Cat. No. 9 and Cat. No. 10 in this study (Koch, 1990: Abb. 17; Lochman, 2003: No II 246 (Abb. 62) and No II 225). Based on these examples, it can be inferred that the tomb stele belongs to the Kütahya territory and dates approximately to the mid-3rd century AD.

Cat. No. 12[14] The stele, which features a highly stylized woman standing and wearing a chimation, is thought to have been part of a tomb context. The figure holds a distaff and spindle in her hands. The rigidity of movement, schematic rendering of clothing folds, and disproportionate body proportions are common characteristics found in Phrygian figure steles, including the posture of clothing and arms. However, the objects held in the left hand do not resemble those seen in similar examples (Vlizos, 2018: 31, Abb. 5). The folds of the clothing are rendered in a highly schematic and static manner. Similar steles can be found in the J. Paul Getty Museum Collection (Vlizos, 2018: 31, Abb. 5) and in Pennsylvania collections[15]. This artifact, whose identification as a tomb stele[16] is debated, is thought to have been produced by a workshop in Kotiaeion or Aizanoi, likely for export to neighboring settlements (Vlizos, 2018: 31, Abb. 5; Koch-Wight, 1988: 104-105; Akyürek-Şahin, 2019: 161, Abb. 2 a-b-c-d-e-f).

[12] Durugönül, 2015: 119, cat. No. 62; Lochman, 2003: 207 [abb. 45]; 210 [abb. 46]; 216 [abb. 47]; 217 [abb. 48]; 220 [abb. 50]; 222 [abb. 52]; 223 [abb. 53].

[13] Krannert Sanat Müzesi, UIUC - DSC06513.jpg

[14] Prof. Dr. Eda Akyürek Şahin states, "There is no satisfactory explanation regarding this part of the Usak inscription corpus, and she emphasizes the necessity of conducting a scientific study related to the inscription to provide clear insights." We would like to thank her for her contribution to our study.

[15] Refer to the collection in Pennsylvania at https://www.christies.com

[16] Cremer mentions that the piece in the J. Paul Getty Museum was reused for a second time “to offer the sacrifice promised to the grandmother” and that a wreath was placed on top of it, repurposing it as a grave stele (Cremer, 1992: 92 and Taf. 28).

Due to the stylistic analysis of the figure, it is suggested that it was used as a part of a tomb stele in the Altıntaş region and dated to the first half of the 1st and 3rd centuries AD because of its inscription (Vlizos, 2018: 31; Abb 5) (Koch-Wight, 1988: 104-105). When this work is examined, the hair and facial features of the figure, the way the chiton is draped around the body, and the large and disproportionate hands indicate that the craftsmanship is rough compared to other steles in the Phrygia region (Drew Bear, Demirkök, Dönmez, and Türktüzün, 2007: 208, 212, 220, 222; Vlizos, 2018: 31; Abb 5; Koch-Wight, 1988: 104-105; Pfuhl-Möbius, 1977-1979: 248, 297, 356, 464, 465, 477-480, 578, 580, 581, 596-598, 605, 637, 638, 783, 793, 1136, 1138, 1153, 1155, 2089, 2090, 2147) and the statue-like stele in the burial context (Vlizos, 2018: 31; Abb 5; Koch-Wight, 1988: 104-105; Lochman, 2003: II 202; Abb 44). It can be anticipated that this piece likely dates to the mid-3rd century AD due to its stylistic resemblance to the female figures found in Cat. No. 10 and Cat. No. 11.

Conclusion

The grave steles in the Usak Museum are dated from the mid-2nd century AD to the mid-3rd century AD in terms of their artistic tradition and epigraphic features. The typology of the steles varies, including those with triangular pediments, other grave stele (plain grave steles made on massive blocks) and statue-like stele found within the burial context. The differences in iconography include items belonging to the deceased, plant and animal depictions, and steles depicting only the deceased. Additionally, the decorations on the steles provide information about the gender and occupation of the grave owner and indicate their status in society. It is understood that the prototype for men was the Diskurides type and for women, the Herculaneum type (Korkmaz, 2016: 144-160) were adapted into a local style. Analysis reveals that the intense workmanship on the folds of the garments has become schematic, using successive notches, reflecting the artistic understanding of the period. Although these steles underwent changes during their respective periods (Korkmaz, 2016: 144-160), the clothing types on the steles suggest that male figures could represent well-educated and elite individuals in the local society, while female figures might depict aristocratic women from virtuous and wealthy families.

When analyzing the twelve steles, it is evident that the depictions of figures and the belongings of the deceased are carved in a diversified local style. This suggests that the area of use was not limited to Kütahya and its environs but extended to a broader region, reflecting a common preference for iconography as well as a typology with very similar architectural forms.

Sculptors such as Teimeos, Zelas, and his contemporaries Epityncharios and Alexander worked in the Early Severan workshop in Altıntaş (Levick et al., 1993: XXIX-XXX). The stylistic and technical elements of the steles studied show that the workshops in Kütahya are similar in practice to the contemporary workshops in Altıntaş (Appia/Soa) and Gediz (Kadoi). The tomb steles produced here have a general framework, including gable roofs or flat pediments, rich ornaments on the pilasters, and palmette-shaped acroteria on steles with pediments. The steles are enriched with items belonging to the deceased, such as mirrors, combs, spindles, spindle knives, and pruning knives. These items likely refer to the deceased's occupation before their death. The figures are depicted rigidly in frontal view with no turning or movement. They are sculpted schematically, with round, full faces, thick around the eyes, framed lips, rather small ears, necks tapering upwards, and the body wrapped in chimation with the arm raised above the chest. The fingers are long and straight. The inscriptions provide general information but no occupational details.

In conclusion, three insights emerge regarding the grave steles made in the workshops:

1. **Various Workshops and Locations**: Different groups operated in various locations. Some produced or commissioned examples in the Altıntaş region and the northwest of Phrygia (for instance, the Kütahya territory workshops: Cat. No. 2, Cat. No. 3, Cat. No. 5, Cat. No. 6, Cat. No. 7, Cat. No. 8, Cat. No. 11; the

workshop believed to be from Altıntaş: Cat. No. 1, Cat. No. 9, Cat. No. 10, Cat. No. 12; the workshop thought to be from Kadoi (Gediz): Cat. No. 4 and Cat. No. 5).

2. **Ready-Made Steles**: Most Phrygian tomb steles were produced ready-made in workshops, with inscriptions and modifications added later. This is also observable in the layout of inscriptions on steles. Ready-made steles were customized with inscriptions to commemorate specific family members (for example, Cat. No. 2, Cat. No. 4, Cat. No. 7, Cat. No. 9, Cat. No. 10).
3. **Custom-Made Steles**: Some steles were custom-made with detailed portrayals of figures arranged systematically. In some cases, inscriptions could be added later. These steles display a regular arrangement on the surface rather than simply filling the space (for example, Cat. No. 1 (the inscription must have been added later), , Cat. No. 3 Cat. No. 5, Cat. No. 6, Cat. No. 12).

The progression of personal items and figures associated with the deceased in these steles indicates the establishment of regionally recognizable styles in provincial art. Considering that multiple workshops or masters are active in different locations within the region and that these workshops possess certain standardized typologies, it becomes essential to evaluate each work not only in terms of these standardized typologies but also in conjunction with iconographies and the necessity of drawing analogies. Although the productions were quite local, the style of crafting figures and items belonging to the deceased shows continuity. To achieve a more precise and accurate interpretation of the steles, it is essential to evaluate findings from systematic necropolis excavations in light of contextual artifacts and to make appropriate analogies.

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Author Details

Emre Taştemür
[1] Uşak University, Department of Archaeology, Uşak, Türkiye
0000-0002-8831-0622 emre.tastemur@usak.edu.tr

Muradiye Küçükcan
[2] Uşak University, Department of Archaeology, Uşak, Türkiye
0009-0003-1499-2127

Münteha Dinç
[3] Uşak University, Department of Archaeology, Uşak, Türkiye
0000-0003-4991-6645

References

Akyürek-Şahin, N. E. (2019). Kütahya Müzesi'ndeki Hekate Eserleri Işığında Yukarı Porsuk Vadisi'nde (Kütahya) Hekate kültü. In S. Ünal (Ed.), Kütahya Arkeoloji, Sanat Tarihi ve Tarih Araştırmaları (127-199). Bilgin Kültür Sanat Yayıncılık.

Akyürek-Şahin N. E. & Uzunoğlu H. (2019). New Inscriptions from the Museum of Bursa, Gephyra, 17, 239-285.

Anderson- Stojanovic V, R. (1987). The Chronology and Function of Ceramic Unguentaria, American Journal of Archaeology, 91, 105-122.

Anderson -Stojanoviç, V. R. (1992). Stobi The Hellenistic and Roman Pottery, Princeton University Press.

Atalay, E. (1990). Doğu Grek Hellenistik Çağ Mezar Stellerinde Çocuk ve Hizmetçi Figürleri, X. Türk Tarih Kongresi (Ankara, 22–26 Eylül 1986), Kongreye Sunulan Bildiriler, (Vol.I, pp. 285-292).Türk Tarih Kurumu.

Bağdatlı, F. (2023). Antik Dönem Mezar Stelleri, İstanbul: Arkeoloji ve Sanat Yayınları.

Boardman,J. (2001). Yunan Heykeli Arkaik Dönem, (trans. Y. Ersoy),İstanbul: Homer Kitabevi.

Brun, J. P. (2000). The Prodoction of Parfumes in Antiquity: The Cases of Delos and Paestum, American Journal of Archaeology, 104/2, 277-308.

Civelek, A. (2006). Stratonikeia-Akdağ Nekropolisi'nden Bir Mezar, Anadolu / Anatolia, 30, 47-64.

Damlagül, N (2021). Adana Müzesi'nden Bir Grup Pişmiş Toprak Unguentarium (unpublished master's thesis), Atatürk Üniversitesi Sosyal Bilimler Enstitüsü, Erzurum.

Cremer, M. (1991). Hellenistisch-römische Grabstelen imnordwestlichen Kleinasien 1. Mysien, Asia Minor Studien 4,1, Bonn.

Cremer, M. (1992). Hellenistisch-römische Grabstelen aus nordwestlichen Kleinasien - 2. Bythinien, Asia Minor Studien 4,2, Bonn.

Davies, G. (2017). The Body Language of Palmyra and Roma. T. Long ve A. H. Sørensen

(Eds.) Positions and Professions in Palmyra (s. 20-35). Denmark: Det Kongelige Danske Videnskabernes Selskab.

Davidson, G. R. (1952). The Minor Objects, Corinth XII, Princeton.

Drew-Bear, T., Demirkök, F., Dönmez, E. Ş. & Türktüzün, M. (2007). Ben Anadolu'da doğdum, I was born in Anatolia / Je suis né en Anatolie. Tugay Kütahya Anadolu Kültür-Sanat ve Arkeoloji Müzesi, Ankara: T.C. Kültür ve Turizm Bakanlığı.

Durugönül, S. (2015). Manisa Müzesindeki Arkaik-Roma, Dönemi Kabartmaları, içinde: S. Durugönül (Ed.) Manisa Müzesi Heykeltıraşlık Eserleri, 115-159,İstanbul: Biltur Basım Yayın.

Dündar, E. (2008). Patara IV.1. Patara Unguentariumları, İstanbul: Ege Yayınları.

Erdinç, Z. (2020). Aizanitis Bölgesi Mezar Taşları (unpublished doctoral dissertation), Pamukkale Üniversitesi.

Eule, J., C. (2001). Hellenistische Bürgerinnen aus Kleinasien: Weibliche Gewandstatuen in ihrem antiken Kontext. İstanbul: Tarih, Arkeoloji, Sanat ve Kültür Mirasını Koruma Vakfı (TASK).

Fıratlı, N. (1965). İstanbul'un Yunan ve Roma Mezar Stelleri, Belleten, XXX, 263- 319.

Gibson,E(1978). The Christians for Christians, Inscriptions of Phrygia, Harvard Theological Studies 32 , Missoula, Montana: Scholars Press.

Gibson, E. (1978). The Rahmi Koç Collection: Inscriptions Part I, Grave Monuments from the Plain of Altıntaş, Zeitschrift für Papyrologie und Epigraphik 28, 1-34.

Hanfmann, M., A. & Polatkan, K.,Z. (1960). Three Sculptures from Sardis in the Manisa Museum, Anatolia,4, 55-65.

Hellström, P. (1965). Labraunda Vol. II. Part. 1. Pottery of Classical and Later Date Terracota Lamps and Glass, Lund.

Heyn, M. K. (2010). Gesture and Identity in the Funerary Art of Palmyra. AJA, 114 (4), 631-661.

Kelp, U.(2015). Grabdenkmal und lokale Identität : ein Bild der Landschaft Phrygien in der römischen Kaiserzeit, Asia Minor Studien 74. Bonn.

Koch G-& Wight K. (1988). Roman Funerary Sculpture: Catalogue of the Collections. Malibu, California: The J. Paul Getty Museum.

Koch G. (1990). Zwei Grabreliefs aus Phrygien im Roman Funerary Monuments in the J. Paul Getty Museum: Volume 1. Occasional Papers on Antiquities, 6, 115-132. Malibu, California.

Korkmaz M. (2016). Yunan ve Roma Mezar Stellerinin Gelişimi, Atatürk Üniversitesi Güzel Sanatlar Enstitüsü Dergisi, 37,144-160. Erzurum.

Kotera-Feyer, E. (1993). Die Strigilis. Frankfurt am Main.

Kurtz, D. C. & Boardman, J. (1971). Greek Burial Customs, New York: Cornell University Press.

Küçükcan, M. (2019). Akmonia Antik Kenti Mezar Stelleri ve Bomoslar (unpublished master's thesis) Uşak Üniversitesi.

Laflı, E. (2003). Studien zu hellenistischen, kaiserzeitlichen und spätantiken-frühbyzantinischen Tonunguentarien aus Kilikien und Psidien (Süd-Türkei): Der Forschungsstand und eine Auswahl von Fundobjekten aus den örtlichen Museen (Yayımlanmamış Doktora Tezi). Köln.

Levick, B, Mitchell,S Potter,P. and Waelkens,M. (Eds.).(1993). Monumenta Asiae Minoris Antiqua, X: Monuments From Appia and the Upper Tembis Valley, Cotiaeum, Cadi, Synaus, Ancyra Sidera and Tiberiopolis, London.

Lehmler,C. & Wörrle,M. (2002). Neue Inschriftenfunde aus Aizanoi III: Aizanitica Minora I, Chiron 32, 571-646.

Lewerentz, A. (1993). Stehende Maenliche Gevanstatuen im Hellenismus: Ein Beitrag zur Stilgeschichte und Ikonologie hellenistischer Plastik (Schriftenreihe Antiquates Bd. 5). Hamburg: Schriftenreihe Antiquates.

Li, C. (2011). Hehua zai Yuanlin Sheji Zhong de Yingyong, Zhongguo Yuanyi Wenzhai. Zhongguo, 109-111.

Lightfoot, C. S., & Arslan, M. (1992). Anadolu Antik Camları: Yüksel Erimtan. Koleksiyonu. Ankara.

Linfert, A. (1976). Kunstzentren hellenistischer Zeit. Studien an weiblichen Gewandstatuen, Wiesbaden.

Lochmann,T. (1990), Eine Gruppe spätrömischer Grabsteine aus Phrygien, E. Berger (eds.), Antike Kunstwerke aus der Sammlung Ludwig III. Die Skulpturen (Mainz 1990), 453-508.

Lochman, T.(1991).Deux reliefs Anatoliens au Musée des Beaux-Arts de Budapest, BMusHongr 74, 1991, 11-24.

Lochman, T.(1991). Provinzkunst und Kunstzentrum. Einige Beobachtungen an Grabsteinen aus dem Gebiet um Kadoi in der Mysia Abbaïtis, in: Akten des 1. Internationalen Kolloquiums über Probleme des Provinzialrömischen Kunstschaffens, Graz, 27.-30. April 1989, Teil II (MAGesStei 5), 1991, 57-82.

Lochman,T. (2003). Studien zu kaiserzeitlichen Grab- und Votifreliefs aus Phrygien, Basel: Art Print.

Saraçoğlu, A. (1997). Antakya Yöresi Mezar Stelleri(unpublished doctoral dissertation). Atatürk Üniversitesi, Erzurum.

Loeschke,S. (1912). Sigillata-Töpferein in Tschandarli, Mit teilungen des Deutschen Archaeologischen Instituts, Band 37, 344-407.

Malay, H, (1983). A New Inscription Concerning the Lakimeni, Hodeni, Mokadeni and Ankyrani, EA I, 25-28.

Mendel, G. (1908). Catalogue des Sculptures Grecques, Romaınes Et Byzantines Du Musee De Brousse, Athenes: Imprimerie P.D. Sakellarios.

Mendel, G. (1909). Catalogue Des Monuments Grecs, Romains et Byzantins du Musée Impérial Ottoman de Brousse, BCH 33, 245-435.

Neils,J, Oakley, J.H. (2003). Coming of Age in Ancient Greece. Images of Childhood from Classical Past, New Haven and London.

Özçalık, M. (2017). Lotus çiçeğinin farklı kültürlerdeki önemi ve peyzaj tasarımında kullanımının irdelenmesi, Uluslararası Uygur Araştırmaları Dergisi 10, 22-28.

Özgan, R. (2013). Roma Portre Sanatı II, İstanbul: Ege Yayınları.

Pinkwart, D. (1973). Weibliche Gewandstatuen aus Magnesia am Maeander, AntPl 12, 149-160.

Pfuhl,E., & Möbius, H. (1977). Die Ostgriechischen Grabreliefs: Textband II, Published by Philip von Zabern, Maiz.

Pfuhl, E-. Mobius,H. (1977/1979). Die Ostgriechischen Grabreliefs, Text und Tafel Band I-II, Mainz.

Ramsay, W, M (1906). Isauran and East-Phrygian Art: Studies in the History and Art of the Eastern Provinces of the Roman Empire, Aberdeen: Aberdeen University Press.

Schmaltz, B. (1983). Griechische grabreliefs. Wissenschaftliche Buchgesellschaft.

Sorokina, N.P.(1987). Glass Aryballoi (First-Third centuries A.D.) from the Northern Black Sea Region, Journal of Glass Studies 29, 40-46.

Smith, W.(1875). A Dictionary of Grek and Roman Antiquities, London. (https://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA*/Falx.html)

Stojanović, A. V. R. (1987). The Chronology and Function of Ceramic Unguentaria, American Journal of Archaeology, 91, 105-122.

Swanddling, J.(1980). The Ancient Olympic Games, London: British Museum Press

Şahin, M. (2000). Miletopolis Kökenli Figürlü Mezar Stelleri ve Adak Levhaları, Ankara: Türk Tarih Kurumu Basımevi.

Tekocak, M, ve Yıldız,V. (2015). Akşehir Nasreddin Hoca Arkeoloji ve Etnoğrafya Müzesi'nde Bulunan Bir Grup Pişmiş Toprak Vazo, Prof. Dr. Ömer Özyiğit'e Armağan (Studies in Honour of Ömer Özyiğit), (Ed.)C. Atila – E. Okan, (413-432), İstanbul: Ege Yayınları.

Thompson,H. (1934). Two Centuries of Hellenistic Pottery, Hesperia 3, 311-476.

Toynbee, J. M. C. (1996).Death and Burial in the Roman World, Johns Hopkins University Press.

Varinlioğlu, E. (1989). Die Inschriften aus dem Museum von Uşak, EA 13, 17-36.

Varinlioğlu, E, (2022). The Greek Inscriptions in the Museum of Uşak, İstanbul.: Ege Yayınları.

Vermule,C.C. (1968). Roman Imperial Art in Greece and Asia Minor, Belknap Press; First Edition (January 1, 1968)

Vorster, C. (2007). Greek origins: The Herculaneum Women in the Pre-world, In J. D. Danehner (Ed.), The Herculaneum women: History, context, identities (pp. xx-xx). The Paul Getty Museum Publications.

Vlizos, S. (2018). Μια φρυγική στήλη στην Αθήνα. Μουσείο Μπενάκη, 2, 25–35. https://doi.org/10.12681/benaki.18186.

Waelkens, M. (1986). Die kleinasiatischen Türsteine: typologische und epigraphische Untersuchungen der kleinasiatischen Grabreliefs mit Scheintür, Mainz am Rhein: Philipp von Zabern.

Wujewski,T (1991). Anatolian Sepulchral Steles in Roman Times, Poznan: Adam Mickiewicz University Press

Yaylalı,A (1979). Hellenistik Devir İzmir Mezar Stelleri(unpublished associate professorship thesis).Atatürk Üniversitesi, Erzurum.

Yurtseven, F. (2006). Tarsus Köylü Garajı Mezar Buluntuları, Anadolu, Anatolia 31,91-121.
Zingg, E. (2013). Eine Kadoi-Stele im Museum zu Allerheiligen in Schaffhausen, EA 46, 181-187.
Zoroğlu, C. (2014). Ankyra Tiyatrosu Zırhlı Hadrian Heykeli, Anadolu / Anatolia 40, 123-148.
https://kvmgm.ktb.gov.tr/TR-44119/kutahya-muze-mudurlugu.html
https://www.christies.com

Appendix

CATALOG

Cat. No: 1

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.:*13.1.71*

Location : *Usak Museum*

How it came to the museum: *Purchase*

Dimensions of the Artifact: *Height: 2.17 cm, Width: 94 cm, Thickness: 19 cm*

Description of the Artifact:
The stele is a naiskos-form grave stele with a triangular pediment. The pediment features an akroterion and a bunch of grapes, with a depiction of an eagle with outstretched wings turning to the left in the center. The right part of the pediment's akroterion is broken and missing. A semicircular arch has been constructed to align with the right and left pilaster capitals, creating a niche effect. The side pilasters are adorned with plant reliefs. Within the arched niche is a standing male figure wearing chimation. The male figure's right arm is bent at the elbow and placed at chest level, while his left hand holds the chimation and a roll. Under his right arm is a stylus. The lower frieze of the stele depicts a mythological scene[17] *with a diptych above it. Below the lower frieze is a rectangular mounting projection. Fine cracks have formed in the marble due to the melting of calcite veins, creating deep narrow grooves. Greek inscriptions are present on either side of the head and on the lower frieze.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
".....for her brother Khariton and for Antonia Appe's son, and for her sister Tykhes and her husband Kyrilla.....(and) their son Antonios and Antonas and Pinos .....Aiakos? and Khariton, in memory of their one and only uncle. On the 30th of Panemos in the 261st year."

Dating Suggestion: *Late Hadrianus to Early Antonine Period*

Literature: *Varinlioğlu, 2023: 142, No: 210; Lochman: 268, No. II 192; Kelp, 2015: Taf. 25 I*

Comparative Literature: *Pfuhl & Möbius: Taf 92, No: 581; Mendel, 1909: 19-20; Lochman, 2003: No II 100 (Abb 32)*

[17] Demeter and Attis are depicted in mourning, while the scene of Hades abducting Persephone is presented (Lochman, 2003, p. 268). This mythological scene bears a strong resemblance to the one found on the stele in Gökçeler Village, Kütahya (Lochman, 2003: 261, II. 100).

Cat. No: 2

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. No.:*25.1.71*

Location: *Usak Museum*

How it came to the museum: *Purchase*

Dimensions of the Artifact: *(Preserved) Height:58 cmWidth: (Upper Preserved) 44 cm, Thickness :7cm.*

Description of the Artifact: *The inscription is on a grave stele featuring a triangular pediment, with an image of a bird in the pediment and portraits of a man and woman on the stele. The triangular pediment contains a semicircular arch, with a bird facing left and a lotus flower in front of it inside the arch. The upper edges of the triangular pediment are adorned with a spiral-like helicoid decoration. Both busts are draped in chimation, with their right hands at chest level. The male figure is holding the falx vinitoria. There are 11 lines of Greek inscription on the left of the male figure and the right of the female figure The female figure, on the other hand, bends her right arm at the elbow, and places her right hand, shown in an open position, on the chimation, making a gesture. The lower left part of the stele is broken, but the tenon part is preserved. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"For Ammion and her brother Papylos and her milk brother Onesimos, and for her husband Tatianos; and for the memory of Onesimos's son and his brothers (Tatianos)."

Dating Suggestion: *Mid-2nd century AD*

Literature: *Varinlioğlu, 1989:EA 13: 31:No.18; Varinlioğlu,2023: 296: Fig no:29*

Comparative Literature: *Vermule,1968: 277:Fig. 148*

Cat. No: 3

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.:*8.1.78*

Location : *Usak Museum*

How it came to the museum: *Purchase*

Dimensions of the Artifact: *Height:80 cm Width: 48 cm, Thickness :7cm.*

Description of the Artifact: *It is a tomb stela with a triangular pediment, naiskos, and a niche, featuring a female and male figure at the upper part, and depictions of the deceased's belongings at the lower part, divided into two separate representations, with an acroterion. A semicircular arch has been constructed to align with the right and left pilaster capitals, creating a niche effect. The side pilasters are decorated with plant motifs, while geometric patterns are incised on the left and right pilasters. Between the pilasters, at the top, are busts of a man and a woman, and below the busts are depictions of personal items of the deceased arranged from right to left: a mirror, a comb, an unguentarium, a double-edged axe, and a falx vinitoria. Below these depictions of personal items is a four-line Greek inscription. The tenon section and the lower right part of the stele are broken. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"On the 28th of Hyperbertaios in the 261st year. For Trophimion, Arkhelaos, and Auksanon, in memory of their father Arkhelaos and their still-living mother Lukeia."

Dating Suggestion: *261 Sulla Era - AD 176/177, 28th of Hyperbertaios*

Literature: *E. Varinlioğlu, 2023: 144, No:2.*

C***omparative Literature:*** *Zing, 2013: 187; Koch, 1990: 116, Abb 1; Wujewski, 1991: Fig no 26*

***Cat. No*: 4**

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.:*1.2.85*

Location: *Usak Museum*

How it came to the museum: *Purchase*

Dimensions of the Artifact: *(Preserved) Height: 77.5 cm,Width: 46cm Thickness: 12cm*

Description of the Artifact: *It is a rectangular grave stele with a triangular pediment and an acroter decorated with a spiral motif with a floral rosette in the center. The top acroter and the right acroter, as well as the upper pediment and most of the flower-shaped rosette in the center of the pediment are broken. On the rectangular frameless area; the belongings of the deceased are depicted. Below the pediment; two wreath motifs side by side, under the wreaths from left to right diptychon, stylus cup, alabastron, comb and mirror below. There is a Greek inscription under the pediment frame and under the depictions of the deceased's belongings in the lower part of the frame. The tenon is preserved. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"Threptos - - - - -
On the 4th of Hyperbertaios in the 211th year.
O traveler, do not pass by without noticing the twenty-year-old child named Timeitos who rests here!
Ah, merciless Moira (= Fate)!
I hold you tightly to prevent him from parting from the light of the sun before his time and to save him from the most painful torments of death."

Dating Suggestion: *211 Actium Era, the year, (AD 180-181, in the 4th year of Hyperbertaios)*

Literature: *Varinlioglu, 2022: 103 No:154*

Comparative Literature: *Pfuhl-Mobius, 1979: 374, Taf. 219: No. 1517; Davidson, 1952: Pl. 78: 1229-1233;Lochman,1991, Taf. 23,Kileci,2020:143*

Cat. No: 5

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: *5.2.74*

Location : *Usak Museum*

How it came to the museum:*Purchase*

Dimensions of the Artifact: *Height: 76 cm*,Width: (Top) 43 cm, Thickness: 5 cm

Description of the Artifact: *The stele is a rectangular naiskos-form grave stele with a triangular pediment, featuring acroteria and two birds facing each other in the center. The top acroterion and the right acroterion are intact, along with the upper pediment, which is rectangular in shape. Within the rectangular area are two pilasters surrounding a space that includes depictions of personal items of the deceased. Geometric patterns are incised on the left and right pilasters. Between the pilasters, there are two wreaths, and below the wreaths are depictions of personal items of the deceased, arranged from left to right: a mirror, a comb, an unguentarium on the comb, an upright axe, a two-winged open diptych, and a horizontally oriented axe on the diptych. At the bottom is an eight-line Greek inscription. The tenon is preserved. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"In memory of Apollophanes and Antiochos, and their very dear father Antiochos and their very dear mother Kharitine."

Dating Suggestion: *Actium Era, AD 180-200*

Literature: *Varinlioğlu, EA 13, 1989, p. 28, No. 14; Varinlioğlu, 2023, 148, No: 217*

Comparative Literature: *Levick, Mitchell, Potter & Waelkens, 1993: No. 354, 356; Şahin & Uzunoğlu, 2019: 271-272; Mendel, 1909: 433; Wujewski, 1991: 28-30; Levick et al., 1993, no. 35, 43, 44, 97, 156, 160, 197, 233, 235, 247, 355.*

Cat. No: 6

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: *17.1.82*

Location: *Usak Museum*

How it came to the museum: *Purchase*

Dimensions of the Artifact: *(Preserved) Height: 60 cm Width: 55 cm**, Thickness: 16 cm*

Description of the Artifact: *The stele has a plain grave stele on a massive block, with an arch placed between two columns, and underneath the arch are two male busts. Akroteria are incised at the points where the arch begins and ends. Spiral motifs are incised on the pilasters. An arch has been constructed to align with the right and left pilasters, creating a niche effect. Within the arched niche are two male figures. The busts are very simply crafted, with facial features severely damaged. The busts end in a straight line below the chest, with linear and stylized details on the chest. Despite the damage to the facial features, the hair ends above the ears and is styled in an oval shape on the forehead. Below the busts is a four-line Greek inscription. The lower part of the stele has been left untrimmed. The upper right part of the stele is broken. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"For Auksanon, in memory of his brothers Trophimos and Soter, and their mother Tatia."

Dating Suggestion: *2nd century AD*

Literature:*Varinlioğlu, 2023: 288, No: 28*

Comparative Literature: *Malay, 2016: 101, fig. 4, 4a, 4b; Durugönül, 2015: Cat. No: 90, 91, 92, 93*

Cat. No: 7

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr*: 1.3.85*

Location: *Usak Museum - Altıntaş (Kütahya)*

How it came to the museum*: Purchase*

Dimensions of the Artifact:*(Preserved) Height: 85 cm Width: 46 cm, Thickness: 6.5 cm.*

Description of the Artifact: *The stele is a naiskos-form grave stele with a triangular pediment. The pediment features a relief acroterion. An arch has been constructed to align with the right and left pilaster capitals, creating a niche effect. There are six lines of Greek inscription on the pilaster capitals, with grape reliefs as decorative elements below the capitals. Within the arched niche is a standing male figure dressed in chimation. The stele is broken at the base where the feet are located. The lower parts of the pilasters are significantly damaged. Below the feet of the figure is a rectangular frame containing a three-line Greek inscription. Part of the tenon is broken. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"For the memory of their uncle Alexandros, by the two brothers. Whoever does harm to this tomb, may (the curse) be upon their own children! On the 17th of Augneos (= Audynaios): Tarazes and Eutekhnis (= Eutekhnios)."

Dating Suggestion: *The inscription mentions the 17th of Augneos in lines 11 and 12, but no specific date is provided. Early 3rd century AD?*

Literature: *Varinlioğlu, 2023: 140-141, No. 207*

Comparative Literature: *Levick et al., 1993: No. 162 and 176.*

Cat. No: 8

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: 31.2.97

Location: *Usak Museum,Gediz (Gölcük Village)*

How it came to the museum*: Purchase*

Dimensions of the Artifact: *(Preserved) Height: 92 cm, Width: 51 cm, Thickness: 4.5 cm*

Description of the Artifact: *This grave stele is in the form of a naiskos with a triangular pediment, featuring a relief acroterion on top. The pediment showcases a niche containing depictions of both a male and female figure. An arch has been crafted to align with the capitals of the right and left pilasters, creating the appearance of a niche. The pilasters are adorned with reliefs of grapes and vine leaves. Within the arched niche, two standing male figures are depicted, both wearing chimation. The right male figure has his right arm bent at the elbow and positioned at chest height, while his left hand holds a falx vinitoria. Their chimation, which extends to their feet, is simply styled with diagonal folds. The lower portion of the left male figure's foot and the lower part of the right male figure's ankle are broken. The stele is significantly worn and shows signs of breakage and incompleteness. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Dating Suggestion: *Mid-3rd century AD?*

Literature: *Not yet published.*

Comparative Literature: *Lochman, 2003: 207 (fig. 45); 210 (fig. 46); 216 (fig. 47); 217 (fig. 48); 220 (fig. 50); 222 (fig. 52); 223 (fig. 53); Leschhorn, 1993: 250-254.*

Cat. No: 9

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: *5.84.94*

Location: *Usak Museum, Altıntaş(Kütahya)*

How it came to the museum*: Purchase*

Dimensions of the Artifact: *Height: 80 cm, Width: 44 cm Thickness: 5.5 cm.*

Description of the Artifact: *This grave stele features a naiskos form with a triangular pediment, on which a relief acroterion is depicted. Inside the niche are two male figures and a child. An arch has been constructed to align with the capitals of the right and left pilasters, creating a niche effect. The side pilasters are adorned with reliefs of grapes. On the left, the male figure holds a falx vinitoria in his left hand while grasping his garment with his right hand. On the right, the male figure holds an object in his left hand, while the child holds a bird. The chimation worn by the male figures extends to just below the knees with simple diagonal folds, whereas the child's chimation extends to the feet. Greek inscriptions are present. The tenon is preserved. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"In memory of Kyrilla, the daughter of Marcellus, and her children Timotheos and Aleksandros, and Aleksandria."

Dating Suggestion: *Mid-3rd century AD*

Literature: *Varinlioğlu, 2023: 142, No. 209*

Comparative Literature: *Drew-Bear, Demirkök, Dönmez & Türktüzün, 2007: Inv. No 405, Inv. No 9584; Lochman, 2003: II 225, Fig. 54; II 246, Fig. 62*

Cat. No: 10

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: *5.85.94*

Location: *Usak Museum*

How it came to the museum*: Purchase*

Dimensions of the Artifact: *Height: 80 cm, Width:) 46 cm Thickness: 5 cm*

Description of the Artifact: *This grave stele is in the naiskos form with a triangular pediment, featuring a relief acroterion on the pediment. The stele is broken into three pieces. An arch has been constructed to align with the capitals of the right and left pilasters, creating the appearance of a niche. The pilasters are adorned with reliefs of grapes. Inside the arched niche, there are standing figures of a man, a woman, and a child, all dressed in chimation. The right arms of the figures are bent at the elbow and positioned at chest level, while their left hands hold their chimation. Additionally, the man holds a falx vinitoria with his left hand, the woman holds a kirman, and the child holds a bird. The chimation worn by the woman and child extends simply and schematically with diagonal folds to the feet, whereas the man's chimation extends to just below the knees. Greek inscriptions are present. The tenon is preserved. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
"For Aurelia Kyrilla, in memory of her husband Aleksandros, her child (daughter) Aleksandria, and for herself while she was still alive, and for Eunoa (or possibly Eunoas!), and for the father and mother of Gaiane, and for Synthrophe, due to their memories."

Dating Suggestion: *Mid-3rd century AD*

Literature: *Varinlioğlu, 2023, p. 142, No. 208*

Comparative Literature: *Drew-Bear, Demirkök, Dönmez & Türktüzün, 2007: Inv. No 405, Inv. No 9584; Lochman, 2003: II 225, Fig. 54; II 246, Fig. 62*

Cat. No: 11

Type/Title of the Artifact: *Grave Stele*

Material: *Marble*

Museum Inv. Nr.: *5.11.95*

Location: *Usak Museum / Kütahya (Altıntaş)*

How it came to the museum*: Purchase*

Dimensions: *(Preserved) Height: 46.5 cm,(Preserved) Width: 43.5 cm****,*** *Thickness: 6 cm****,***

Description: *This is a grave stele in naiskos form with a broken pediment, featuring a niche containing depictions of a male and female figure. An arch has been constructed to align with the capitals of the right and left pilasters, creating a niche appearance. The side pilaster capitals are adorned with unknown decorative elements. Inside the arched niche are figures of a man and a woman dressed in chimation. The lower parts of the figures are broken, and the stele is significantly worn. The woman's one hand rests on her chest while the other holds a kirman. The stele is heavily worn, damaged, and has a patina on its surface. The back of the stele is left plain. While comb-like tool marks are observed on the lateral surfaces, the back surface appears to have been left in a rather rough and unfinished state.*

Dating Suggestion: *Mid-3rd century AD*

Literature: *Not yet published.*

Comparative Literature: *Koch, 1990: Fig. 17; Lochman, 2003 No II 246 (Fig. 62) and No II 225*

Cat. No: 12

Type/Title of the Artifact: Sculpture-Like Stele within a Grave Context?

Material: *Marble*

Museum Inv. Nr.: *24.36.71*

Location : *Usak Museum*

How it came to the museum*: Purchase*

Dimensions: *(Preserved) Height: 64 cm, Width 17.5 cm,Thickness: 5 cm*

Description: *This is a stylized female stele made of whitish marble, which may have originally been part of a grave context. The stele features a standing figure on a small base, dressed in chimation. The chimation, extending to the ankles, is highly stylized with shallow folds. The right arm is bent at the elbow and positioned at chest level, while the left hand holds both a needle and a thread.*

Inscription:
(translate by Prof. Dr. Eda Akyürek Şahin)
".... (name of person) for their father (name of person's son) Trophimos ....(and) their mother (name of person's daughter) Tatiane .....dedicated."

Dating Suggestion: *Mid- 3rd century AD*

Literature: *Varinlioğlu, 2013, p. 192, No. 287*

Comparative Literature: *Vlizos, 2018: 31, Fig. 5; Koch-Wight, 1988: 104-105; Lochman,2003, II 202 (abb 44); Akyürek-Şahin,2019: Abb. 2(a,b,c,d,e)*

Figure 1
Cat. No.1

Figure 2
Cat. No.2

Figure 3
Cat. No.3

Figure 4
Cat. No.4

Figure 5
Cat. No.5

Figure 6
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Figure 7
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Figure 8
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Figure 9
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Figure 10
Cat. No.10

Figure 11
Cat. No.11

Figure 12
Cat. No.12

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Research Article

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Appendix to the Byzantine Churches of Nikaia: Newly Discovered Building at the Iznik Tile Kilns Excavation

Ümmühan Melda Ermiş [1] & Vesile Belgin Demirsar Arlı [1]

[1] Istanbul University, Faculty of Letters, Department of Art History, Istanbul, Türkiye

Abstract Recent research and archaeological excavations in Iznik, known as Nikaia in ancient times, have uncovered significant new findings from the Byzantine period. One of these findings is from the Iznik Tile Kilns excavation, which has provided detailed information on Ottoman tile and ceramic production techniques and processes for many years. During the excavation seasons from 2019 to 2024, the remains of a previously unknown Byzantine religious building were discovered adjacent to the kilns, differing from the general context of the excavations. The excavation area was utilized by Ottoman-era tile and ceramic workshops for many years. First, the workshops and then the modern residences built in the region after the workshops lost their function ruined the Byzantine structure. The excavations suggest that the building was likely the main church, with a side chapel located to its north. The main church suffered significant destruction due to the tile kilns established on its site during the Ottoman period, though part of its apse remains intact. The side chapel features better-preserved architectural details, despite being partially damaged by modern houses built above it. This study offers preliminary evaluations of the building's architectural features and small finds, while also noting that the location of the newly discovered church aligns with that of the Kerameon Monastery, as indicated by information from Byzantine sources.

Keywords Bithynia · Nikaia · Iznik · Byzantine · Church · Iznik Tile Kilns Excavation

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Corresponding author: Ümmühan Melda Ermiş umermis@istanbul.edu.tr

Introduction

Iznik played an important role during the Byzantine era, serving as the imperial capital for a time and hosting two of the most important ecumenical councils. In addition to the Byzantine churches previously documented in Iznik (Eyice, 1988; Peschlow, 2003: Peschlow, 2017: 203-216), a significant number have been identified through archaeological excavations and research. Excavations around the city walls of Iznik uncovered church remains on the city side of the Istanbul Gate (Çetinkaya, 2020: 146) and the Lefke Gate toward the city (Ermiş, 2009: 188). Another basilica-plan church was discovered in Lake Iznik, near the shoreline, with ongoing excavations (Şahin, 2022). Two additional churches have been found near each other: one on Şeyh Bedrettin Street[1] (Aslanapa, 1995: 548-549, taf.4-6; Ermiş, 2009: 172-184.) and the other on Deniz Street (Ermiş, 2009: 185-187; Niewöhner et al., 2010). The remains of another church were discovered during excavations behind the Nilüfer Hatun Imaret (Çetinkaya, 2020: 163).

The Iznik Tile Kilns Excavation site is located near the ancient city center, to the east of the Baths of Murad II and close to the Church of Hagia Sophia (Figure 1). The earliest excavations in the area were initiated by Oktay Aslanapa in 1964. This site was used as a tile and ceramic workshop from the 14th century, when the Ottomans captured Iznik, until the end of the 17th century. Between 2019 and 2024, excavations revealed the ruins of a Byzantine building alongside evidence of ceramic workshops and production from the Ottoman period. This indicates that the excavation area has a complex history of use by various civilizations for diverse purposes. This study presents and evaluates the excavation phase, architecture, and small finds of the newly discovered ecclesiastical building.

Figure 1

Aerial photograph of the Iznik Tile Kilns Excavation area and its surroundings

[1] Evaluating these two churches in light of Cyril Mango's article on the Church of the Holy Fathers reveals that the ideal location for the Iznik Palace and the Church of the Holy Fathers is the northwest quarter of the city, located between the Istanbul Gate and the lake. For further details, see Mango, 2005; Ermiş, 2011.

The Newly Discovered Religious Building

The excavations primarily focused on the Ottoman ceramic workshops; however, various findings prompted the simultaneous conduct of field studies with two objectives. During the 2019 field campaign, a chapel and a group of graves were discovered to the north of the Ottoman kilns. Although progress was slow during the excavation seasons from 2020 to 2022 due to the pandemic, evidence emerged suggesting that the remains unearthed in 2019 may have belonged to a side chapel of a church.

Aerial photographs of the archaeological site reveal a structure that curves eastward, located next to the south wall of the chapel. Architectural data obtained from the excavations conducted between 2019 and 2024 suggest that this structure, likely the main church, was damaged by the construction of a group of ceramic kilns in the area during the Ottoman period. Consequently, only a small section of its apse has survived to the present day at a depth of -272 cm. Excavations to the north of these remains uncovered the apse and naos of the chapel at a depth of -280 cm (Figure 2 and Figure 3).

The side chapel offers a wealth of information that surpasses what is available in the main church, including architectural details, graves, and small finds. Excavations were conducted in the chapel's apse and bema from 2019 to 2022, in the naos section in 2023, and in the narthex section in 2024 (Figure 4).

Figure 2

Aerial photograph of the remains, 2022

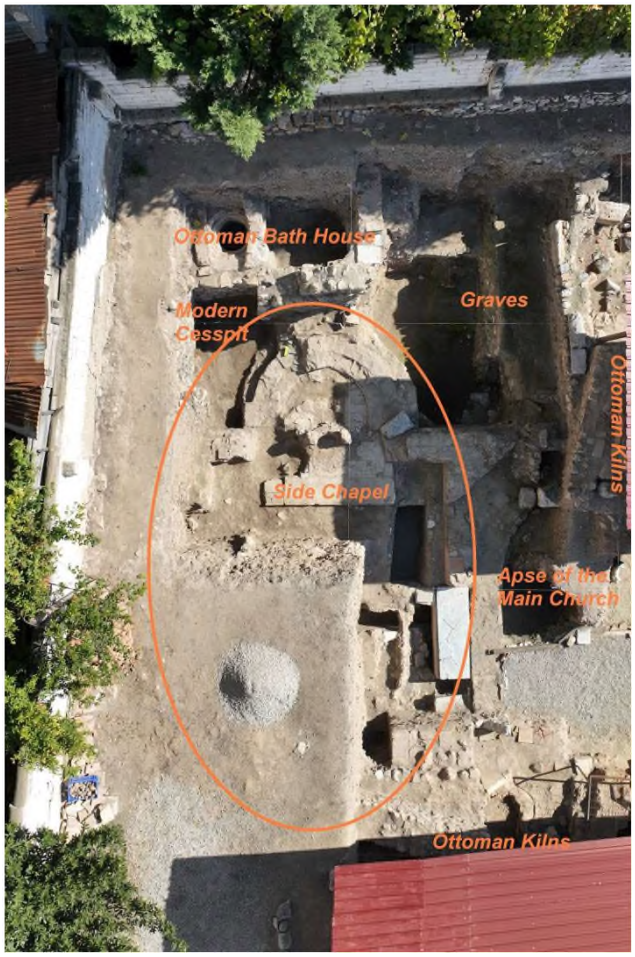


Figure 3

Plan of the remains of Byzantine buildings at the Iznik Tile Kilns Excavation site

Figure 4
View of the chapel from west to east, burials in the naos, 2023

The chapel, which is oriented east-west, was damaged by Ottoman-era kilns and modern houses, particularly their foundations and cesspits. Excavations uncovered findings related to the naos and apse. However, the area of the chapel's narthex did not produce any relevant data, as modern house foundations and terracotta water pipes from the Turkish period have destroyed this section (Figure 5). The surviving apse and naos of the chapel measure 515 cm in width and 550 cm in length. Most of the uncovered walls are at ground level, with the highest section reaching approximately 50 cm.

There is a semicircular apse to the east of the chapel, featuring an interior measuring 190 × 130 cm. The floor of the semicircular apse has an in-situ opus sectile pavement, which has been largely destroyed today (Demirsar Arlı, 2024: 392). There is a central discus with a diameter of 85 centimeters in the front part of the apse area. Although the interior of the discus is fragmented, the outer line made of white marble is partially intact. In the corner spaces of the panel containing the discus, there is a decoration of triangular stones of different sizes, placed toward the center with pointed ends (Figure 6).

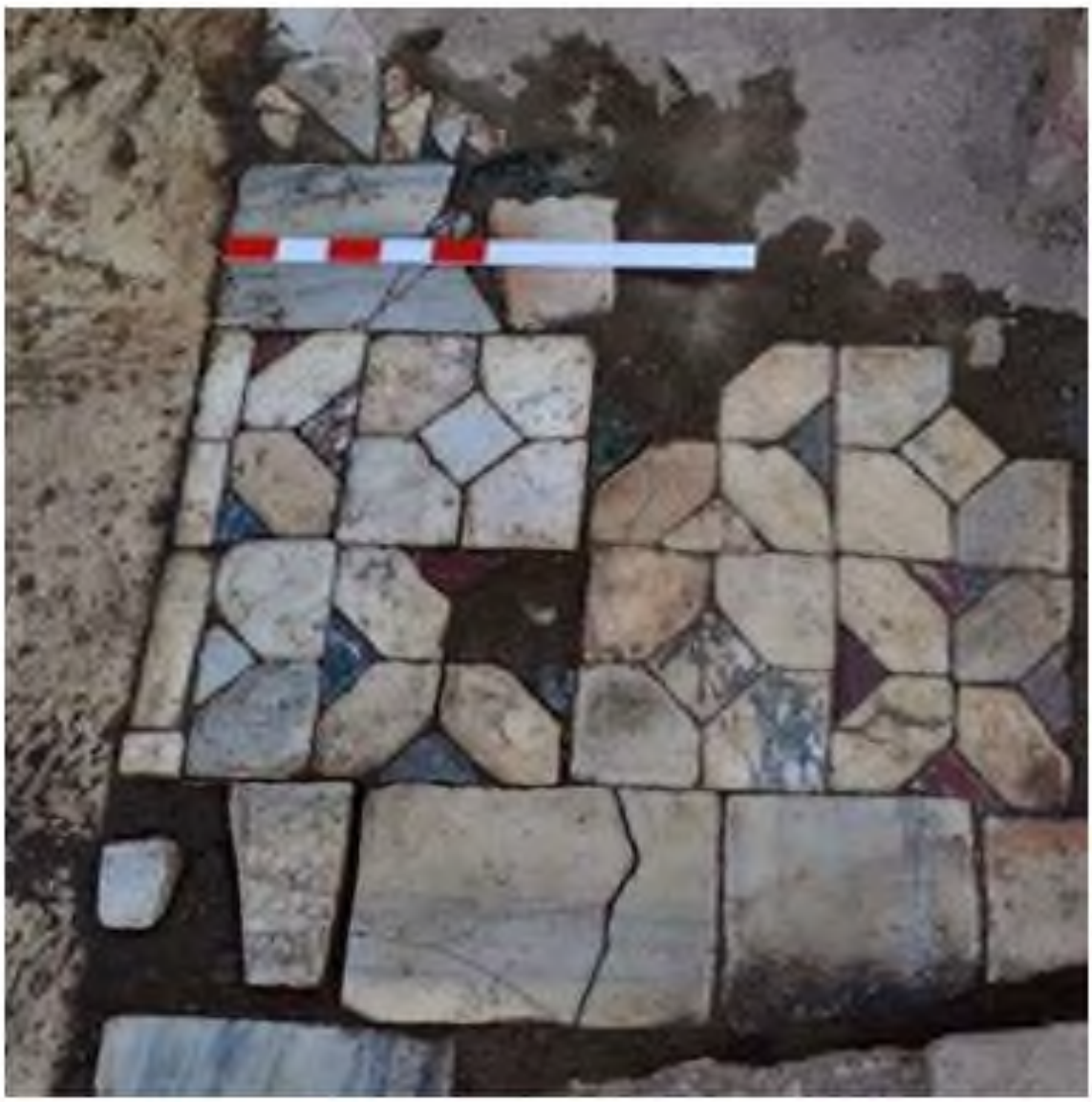
The remainder of the opus sectile floor is adorned with marble fragments shaped like squares, elongated hexagons, and triangles. The geometric composition covering the entire apse area exhibits a disordered pattern. In some sections, diamond-shaped pieces feature square marbles at their centers, while in others, elongated hexagons contain square pieces at the center. In the southern portion of the discus, triangular stones in blue, maroon, and green, are arranged in a cruciform pattern, with white marble elongated hexagons (Figure 7). The opus sectile pavement in the apse and bema section of the Church of Hagia Sophia in Iznik shares similarities with this design in both form and style[2].

[2]Although some scholars date the opus sectile floor of the apse to the 5th-6th century, it is more widely accepted that it dates to the 8th century, largely due to the damage caused by the earthquake of 740. For opinions on the opus sectile pavements of Hagia Sophia in İznik, see Schneider, 1943, 15–16, taf.10, 12; Guidobaldi and Guiglia Guidobaldi, 1983, 334, note 658; Guiglia Guidobaldi, 1994, 650, note 22; Möllers, 1994, 51; Demiriz, 2002, 87; Pinatsi, 2006, 119–120.

Figure 5
The Ottoman and modern additions that damaged the narthex of the chapel, 2024

Figure 6
Apse of the chapel and opus sectile pavement, 2022

Figure 7
Detailed view of the opus sectile pavement, 2022



The stylobate of the templon, which separates the bema and naos of the chapel, consists of two spolia, with a total length of approximately 290 cm. One is the lid of a Roman sarcophagus, decorated with lotus and palmette motifs on one side (Figure 8). The other piece, inscribed with text, is a fragment of a 2nd century sarcophagus. Additionally, there is another inscribed fragment in the building, a piece of a 5th-6th centuries grave stele[3], which was reused as spolia in the brick cist grave located next to the chapel's south wall (Figure 9).

Numerous graves were discovered on the floor of the chapel's naos during its excavation. Some graves had stone lids, and some had terracotta lids. In addition, the inner part of the hydraulic plastered water channel, extending from north to south under the naos floor and probably dating back to the Roman period, was used as a burial area. (Figure 4 and Figure 10).

[3]We sincerely thank Professor Mustafa Hamdi Sayar for providing information on the inscribed pieces.

Figure 8
Reused pieces, 2022

Figure 9
Grave stele fragment reused in the brick cist grave

Figure 10
Hydraulic plastered channel used as a burial area, 2023

A brick cist grave and a marble sarcophagus were found between the chapel and the main church, adjacent to the southern wall of the chapel's naos. The dimensions of the brick cist grave are 175 x 85 x 85 cm, and the marble sarcophagus measures 200 x 70 x 50 cm in size. The skeletons were coded and removed to allow the excavation to continue. Archaeothanatological analysis of skeletons in an archaeological context is crucial for understanding the processes of skeletonization and funerary interventions[4]. (Yılmaz, 2021). According to the archaeothanatological analysis based on the photographs, it was determined that at least two adult skeletons and one non-adult skeleton were present in the sarcophagus. This number may increase with further detailed biological anthropological analysis. The skull of the adult individual, added at the final stage of the sarcophagus, was displaced because of natural processes. All the other bones of the skeletal system were preserved in their anatomical position. At the same time, the bones of the non-adult individual adjacent to the adult skeleton also partially retained their anatomical arrangement. This evidence indicates that no additional individuals were interred in the tomb after these two burials, and the sarcophagus was closed and never reopened. Furthermore, an arrangement with four holes with a diameter of 20 cm was found at the bottom of the sarcophagus, reminiscent of the holy oil ritual observed in saints' graves or reliquaries. No objects or small finds were found in the sarcophagus and graves. (Figure 11).

During the 2015 and 2016 excavation seasons, two graves were identified in pits directly opened into the soil in the southeast direction of the chapel. The skeletons of adult individuals were laid flat on their backs in these graves. The preserved bones of the skeletons are in the context of primary burial and completely preserve their anatomical posture. The posture of the skeletons and the position of the bones indicate that the pit was filled with soil after the body was placed inside it. In addition, two tile graves were identified. With the discovery of the chapel and the likely main church in the following years, it was realized that these graves were also related to this religious structure (Figure 12). The convex roof tiles used in the graves, which were recovered intact during the excavation and measured 58 cm high, 33 cm wide at the top, 37 cm wide at the middle, 35 cm wide at the bottom, and 2.5 cm thick[5].

Various Finds

Excavations conducted from 2019 to 2024 yielded cross fragments, cruciform reliquaries, pieces of copper alloy hangers and chains, glass sherds, coins, and ceramic chalices[6]. Due to the area's long history of varied uses, most of the small finds were recovered from the soil fill covering the chapel.

Three copper-alloy reliquary crosses were discovered, each shaped a Latin cross. In the complete reliquary, the cross is hinged at both the top and bottom, with a hanging loop at the top. Although corrosion complicates identification, the reliquary features engravings on both the front and back. The front side depicts the Crucifixion, with Christ dressed in a colobium. Above his head is a simple tabula ansata inscribed with the letters X. On the reverse side, there is an image of the Virgin Mary praying with her hands outstretched in the Orans pose (Figure 13).

One of the cross reliquaries has a broken upper vertical arm, resulting in the head of the figure in the orans gesture engraved on the reliquary being missing. The other reliquary cross, found during the excavation of the narthex, depicts the Virgin Mary in the orans position. Above the figure is the inscription *MP ΘY*, an abbreviation for Mather Theou (Mother of God) (Figure 14).

[4]We would like to thank Yasemin Yılmaz for archaeothanatological analyses.

[5]In his article, Özyiğit provided an example from the Iznik Museum with similar dimensions to this roof tile. For further details on the general characteristics of roof tiles from the 13th and 14th centuries, see Özyiğit, 1990: 167-170.

[6]This article does not focus on the small finds instead, they serve as supporting evidence for understanding the building's function, and dating. For this purpose, some of the well-preserved small finds from the context are included in this article, along with similar examples for comparison in the footnotes. Fragments of two ceramic chalices, decorated with the sgraffito technique and inscriptions, are excluded from this paper, as they will be discussed in detail in another study. See: Demirsar Arlı, 2022, 307, Figure 8b; Demirsar Arlı, 2023: 363, Figure 7a.

Figure 11
Sarcophagus

Figure 12
Simple earth graves and roof tile graves in the southeast of the chapel ruin

Figure 13
A reliquary cross depicting Christ and the Virgin Orans

Figure 14
Pieces of reliquary crosses

Figure 15
Pieces of different crosses

These reliquary crosses have been observed in Byzantium from the ninth century onward. The layers from which the reliquary crosses emerged during excavations are crucial for dating the finds. The reliquary crosses discovered in the Iznik Tile Kilns area are estimated to date back to the 12th– 13th centuries[7].

During the excavation of the chapel, four crosses made of copper alloy were discovered (Figure 15). Each cross arm extends and widens outward from the center. Three of the cross arm pieces feature flat circular discs in the corners, while the other has bulbs in the corners. One of the cross arms has unidentified markings. The edges of another cross arm have two rows of incised lines, and that arm features a small hole in its lower part. This hole, used to hang pandelia, indicates that this arm is the horizontal arm of the cross. Pandelia is an attribute indicating ceremonial use[8] (Sandin, 1992: 10). The small, portable crosses found during excavations at the Iznik Tile Kilns may have been used for consecration or liturgy by the clergy (Galavaris, 1994: 96).

[7] For similar examples of incised decoration found in Iznik, see Pitarakis, 2006, 275, cat.no. 284; Aslanapa, Yetkin & Altun, 1989, 227, 243.

[8] For information on the types of crosses used in consecration or liturgy during the Byzantine period, see Cotsonis, 1994, 40; Sandin, 1992, 24.

Figure 16
Metal findings

Figure 17
Glass handle piece

Other metal finds include hangers, a chain, and a handle. The chain, made of copper alloy, was likely used to carry or hang items (Figure 16)[9]. Another metal piece, also crafted from copper alloy, is identified as a handle based on its shape, although the specific vessel it belongs to remains unknown. This semicircular sherd features a small cruciform handle at the apex, with the two sides of the circle flattened to project outward[10]. Additionally, three long metal rods with round sections are connected by a chain and have shorter hooks. These metal hangers, in the form of hooks, were commonly used in glass oil lamps[11] (Figure 16). Glass sherds were discovered during the excavation of the chapel. Only one of these fragments has a distinct handle and may have belonged to a glass lamp (Figure 17).

A pair of slightly corroded copper coins, believed to have been minted in Constantinople, was discovered during the excavations. The obverse of one coin depicts a bearded Christ wearing a tunic and a cross nimbus, with his right hand raised in a blessing position and "XC" visible. The reverse features the emperor seated

[9] For similar chain examples see Bulgurlu, 2018, 449, no. 81 and 82. Similar examples, found during the excavations at the Church of St. Nicholas in Demre, are dated to the 6th-7th century.

[10] For similar handle, see Bulgurlu, 2018, 438, no.48 and 49.

[11] For similar examples, see Papanikola-Bakırtzi, 2002, 285, no. 299; Acara & Olcay, 1998, 249–266: 255, fig. 2f; Acara, 2018, 371-372, no. 36; Bulgurlu, 2018, 448, no.7; Olcay Uçkan & Çömezoğlu Uzbek, 2018, 520; Demirel Gökalp, 2016, 257, cat.no. 11.

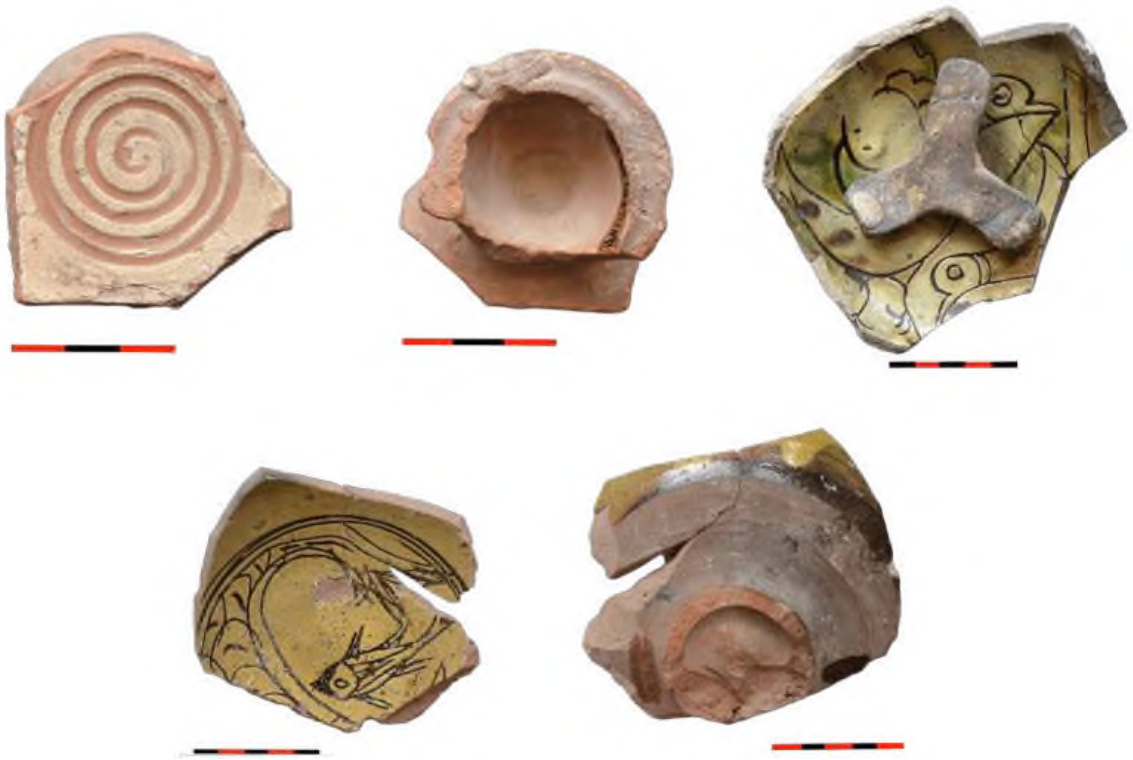
on a high-backed throne, holding a labarum in his right hand and a globus in his left. Based on the legible inscription on the left side of the reverse, this coin is attributed to Michael VIII Palaiologos[12] (Figure 18).

Figure 18
Copper trachea of Michael VIII Palaiologos

Figure 19
Coin of Michael VIII Palaiologos and Andronicus II

[12]For a similar Michael VIII copper trachea, see Bendall & Donald, 1974, cat.no.UC.4, 34; Bendall, 1988, 22, 85, cat.no.35; Lianta, 2009, 201. cat.no. 546.

Figure 20
Samples indicating Byzantine ceramic production in the Iznik Tile Kilns Excavation



The obverse of the other coin shows an elaborate labarum resting on a crescent-shaped cushion, while the reverse displays two emperors holding a patriarchal cross between them[13]. This coin is dated to the reign of Emperor Michael VIII Palaiologos and Andronicus II (Figure 19).

The reuse of the area where the church and chapel were located during the Ottoman and modern periods led to a mixing of cultural layers, disrupting the stratigraphy. Consequently, the Byzantine building did not survive in its original form due to subsequent construction activities. This situation also affected small finds. Small artifacts discovered during the excavation of the chapel in the Iznik Tile Kilns area differ from other findings in the excavation site. As a result, the dating of these artifacts was based on their form, decoration, and the location of the chapel and layer of discovery. These findings are generally dated to the 12th-13th centuries.

Discussion Concerning the Definition of The Building

The excavation area has been inhabited for centuries. The oldest evidence found at the site is the hypocaust system of a bathhouse, likely dating from the Roman period.[14] Additionally, as previously mentioned, the graves in the naos of the chapel were built around a hydraulic plastered water channel from an earlier period. It is possible that during the Byzantine period, ceramic workshops were established in this area to utilize the water system. Excavations of the Iznik tile kilns have unearthed numerous unglazed and unfinished ceramic vessels, some of which feature tripod stilts on the interior of their bases. The existence of these vessels indicates that they were produced during the Byzantine period, indicating that the area

[13] For similar coins, see Grierson, 1999, cat.no.206-211, plate 13.

[14] At this point, it is necessary to mention Strabo. Strabo provides information on Iznik during the Hellenistic period and notes that four of the city's gates could be seen from the Gymnasion, which was located in the city centre (Strabo, 1961, 12.4.7, 463–465). The location of the Iznik Tile Kilns Excavation site aligns with this description.

functioned as a workshop (Demirsar Arlı & Altun, 2009: 367, Figure 11 – Figure 12; Demirsar Arlı, 2017: 376, Figure 9; Demirsar Arlı, 2018: 449–450,Figure 11)[15] (Figure 20).

Figure 21

Residences in the area before expropriation

After the Ottomans settled in Iznik, the city emerged as a significant center for tile and ceramic production for the Ottoman Empire. The Ottomans likely selected this area for their workshops due to the presence of existing Byzantine workshops. Once the Ottoman workshops ceased functioning, houses were constructed on the site in the first half of the 20th century. Following their expropriation in 2013, these buildings were safely demolished, and excavation work began in the area (Figure 21). In excavation seasons from 2019-2024, the remains of a church and chapel were discovered. Sewage pits from the houses caused some damage to the northeastern corner of the chapel's apse. Additionally, The excavation revealed the remains of a small Ottoman bathhouse to the east of the apse, which was likely used by craftsmen working in the workshops (Figure 2). These findings indicate that the area has a complex history with multiple archaeological layers.

Comparing this new religious building with the churches known to have existed in Iznik during the Byzantine period has yielded important insights. Historical sources indicate that there were numerous churches in Iznik during that time. One notable example was the Monastery of the Potters (Kerameon), named for its location in the city's pottery district. A letter of condolence sent by Theodore of Studios to Joseph, (Theodori Studitae Opera Omnia, 1860, 1633–1636), the prelate of the Kerameon Monastery, on the death of Peter[16], Bishop of Nicaea on 11 September 826 confirms that the Monastery of the Potters was situated in the city center of Iznik in the 9th century (Janin, 1975, 114). St. Peter, an important figure among iconophiles, was

[15]For publications dealing with the production of ceramics in Iznik during the Byzantine period, see François, 1997: 411-442; Waksman & François, 2004: 629-724: 654, 669; Özkul Fındık, 2014: 84-85, 149-155; Meriç & Ekin Meriç, 2021: 49-66.

[16]Bishop Peter was dismissed for being an iconophile, and Inger was appointed to the position in 815. see Foss & Tulchin, 1996, 25.

buried in this monastery upon his death[17].

When evaluating the evidence of Byzantine pottery production alongside information about the churches mentioned in Byzantine sources, it becomes clear that the remains of a probable church and its chapel unearthed during the Iznik Tile Kilns Excavation align with the location of the Monastery of the Potters (Kerameon). Most Byzantine churches in Iznik contain graves either within the interior or substructure. From the Middle Byzantine period onwards, burial areas within the city walls expanded, and burials became increasingly concentrated in monasteries. Peschlow observes that, following the early Byzantine period, the number of graves around churches in Iznik increased, suggesting that these churches were used as burial sites (Peschlow, 2003: 214; Peschlow, 2017: 208– 209). If we consider the concentration of graves found on both sides inside and outside the chapel, as well as between the chapel and the church, it is reasonable to suggest that if this newly discovered chapel is the burial site of Bishop Peter, the faithful seeking his intercession would desire to be buried there.

This religious building, despite stratigraphic challenges and poor architectural condition, provides valuable data regarding architectural remains, small finds, and graves. Therefore, it can be concluded that the early Byzantine church and chapel remained in existence until the 13th century, as supported by these architectural remains, small finds, and graves.

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Author Details Ümmühan Melda Ermiş
[1] Istanbul University, Faculty of Letters, Department of Art History, Istanbul, Türkiye
0000-0003-0176-2309 umermis@istanbul.edu.tr

Vesile Belgin Demirsar Arlı
[1] Istanbul University, Faculty of Letters, Department of Art History, Istanbul, Türkiye
0000-0002-2656-9962

References

Acara M. & Olcay, Y. (1998). Bizans Döneminde Aydınlatma Düzeni ve Demre Aziz Nikolaos Kilisesi'nde Kullanılan Aydınlatma Gereçleri. *Adalya, II*, 249–266.

Acara, M. (2018). Maden Buluntular 1989-1999. In S. Doğan – E. F. Fındık (Eds.), *Aziz Nikolaos Kilisesi Kazıları 1989-2009* (pp.353-380). İstanbul: Homer Kitabevi.

Aslanapa, O., Yetkin, Ş. & Altun, A. (1989). *İznik Çini Fırınları Kazısı II. Dönem 1981–1988.* İstanbul: İstanbul Araştırma Merkezi.

Aslanapa, O. (1995). İznik Çini Fırınları Kazısı 1992 Yılı Çalışmaları. *Kazı Sonuçları Toplantısı 15/2*, 547-563.

Bendall, S. & Donald, P. J. (1974). *The Billion Trachea of Michael VIII Palaeologos 1258–1282.* London.

Bendall, S. (1988). *A Private Collection of Palaeologan Coins.* Wolverhampton.

Bulgurlu, V. (2018). Maden Buluntular 2000-2009. In S. Doğan – E. F. Fındık (Eds.), *Aziz Nikolaos Kilisesi Kazıları 1989-2009* (pp.381-456). İstanbul: Homer Kitabevi.

[17] Çetinkaya suggests that the ruins of the church behind the Imaret of Nilüfer Hatun are the site of the Kerameon Monastery. However, excavations in the area yielded no evidence of Byzantine ceramic production. Çetinkaya's interpretation is based on the discovery of some water pipes in the vicinity; see Çetinkaya, 2020, 166.

Cotsonis, J. A. (1994). *Byzantine Figural Processional Crosses*. Washington DC: Dumbarton Oaks.

Çetinkaya, H. (2020). *Kuruluşundan Osmanlıya İznik*, Bursa: Dora Basım Yayın Dağıtım.

Demirel Gökalp, Z. (2016). Kütahya Müzesinden Bir Grup Metal Eser. *Kütahya Müzesi 2015 Yıllığı*, III, 241-272.

Demiriz, Y. (2002). *Interlaced Byzantine mosaic pavements*. İstanbul.

Demirsar Arlı, V. B. & Altun A. (2009). İznik Çini Fırınları Kazısı 2007 Yılı Çalışmaları. *Kazı Sonuçları Toplantısı 30/I*, 359–376.

Demirsar Arlı, V. B. (2017). İznik Çini Fırınları Kazısı 2015 Yılı Çalışmaları. *Kazı Sonuçları Toplantısı* 38/ 2, 371–388.

Demirsar Arlı, V. B. (2018). İznik Çini Fırınları Kazısı 2016 Yılı Çalışmaları, *Kazı Sonuçları Toplantısı 39/3*, 445–459.

Demirsar Arlı, V. B. (2022). İznik Çini Fırınları Kazısı 2019–2020 Yılı Çalışmaları. *2019–2020 Yılı Kazı Çalışmaları 1*, 303–322.

Demirsar Arlı, V. B. (2023). İznik Çini Fırınları Kazısı 2021 Yılı Çalışmaları. *Kazı Sonuçları Toplantısı 42/5*, 361–374.

Demirsar Arlı, V. B. (2024). İznik Çini Fırınları Kazısı 2022 Yılı Çalışmaları. *Kazı Sonuçları Toplantısı 43/* 4, 391-406.

Ermiş, Ü. M. (2009). *İznik ve Çevresi Bizans Devri Mimari Faaliyetinin Değerlendirilmesi*. (unpublished doctoral dissertation). İstanbul Üniversitesi.

Ermiş, Ü. M. (2011). İznik Sarayı Çevresindeki Kiliseler. In M. Şahin & İ. H. Mert (Eds.), I. *Uluslararası İznik I. Konsil Senato Sarayı'nın Lokalizasyonu Çalıştayı Bildirileri* (pp.79-103). Bursa.

Eyice, S. (1988). *İznik Tarihçesi ve Eski Eserleri*, İstanbul: Sanat Tarihi Araştırmaları Dergisi.

Foss, C. & Tulchin, J. (1996). *Nicaea: A Byzantine Capital and Its Praises*. Brookline: Hellenic College Press.

François, V. (1997). Les ateliers de céramique byzantine de Nicée/Iznik et leur production (Xe – début XIVe siècle). *Bulletin de Correspondance Hellénique 121–1*, 411- 442.

Galavaris, G. (1994). The Cross in the Book of Ceremonies by Constantine Porphrogenitus, In *Thymiama ste mneme tes Laskarinas Boura (Studies in Memory of Laskarina Boura),* I. (pp.95-99).Athens: Benaki Museum.

Grierson, P. (1999). *Michael VIII to Constantine XI 1258–1453, Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemore Collection*. A. R. Bellinger and P. Grierson (Eds.), Vol. 5, Part 2, Washington D.C.

Guidobaldi, F. & Guiglia Guidobaldi, A. (1983). *Pavimenti marmorei di Roma dal IV al IX secolo*. Roma.

Guiglia Guidobaldi, A. (1994). L'opus sectile pavimentale in area Bizantina. In *Atti del 1. Collo quio dell'Associazione Italiana per lo Studio e la Conservazione del Mosaico (AISCOM)*.(pp. 643–663). Ravenna.

Janin, R. (1975). *Les églises et les Monastères des Grands Centers Byzantins (Bithynie, Hellespont, Latros, Galèsios, Trébizonde, Athènes, Thessalonique)*. Paris: Institut Français d'études Byzantines.

Lianta, E. (2009). *Late Byzantine Coins 1204-1453 in The Ashmolean Museum*. London: University of Oxford.

Mango, C. (2005). The Meeting-Place of the First Ecumenical Council and the Church of the Holy Fathers at Nicaea, *Deltion tes Christianikes Archaiologikes Etaireias, 26*, 27-34.

Meriç Z. A. & Ekin Meriç, A. (2021). 2012–2019 Yılları Arasında İznik Roma Tiyatrosu'nda Bulunan Bizans Sırlı Seramiklerinin Değerlendirilmesi. *SDÜ Fen Edebiyat Fakültesi Sosyal Bilimler Dergisi* 54, 49-66.

Möllers, S. (1994). *Die Hagia Sophia in Iznik/Nikaia*. Alfter.

Niewöhner, P., Rabbel, W., Stümpel, H., Pašteka R. & Barış, Ş. (2010). Eine neu entdeckte byzantinische Kirche in Iznik/Nikaia. *Istanbuler Mitteilungen, 60*, 475-490.

Olcay Uçkan B.Y. & Çömezoğlu Uzbek, Ö. (2018). Cam Buluntular. In S. Doğan – E. F. Fındık (Eds.), *Aziz Nikolaos Kilisesi Kazıları 1989-2009* (pp.513-551). İstanbul: Homer Kitabevi.

Özkul Fındık, N. (2014). *İznik Sırlı Seramikleri – Roma Tiyatrosu Kazısı (1980–1995)*. Ankara: Bilgin Kültür Sanat Yayınları.

Özyiğit. Ö. (1990). Alaturka Kiremidin Oluşumu. *Sanat Tarihi Dergisi, 5/5*, 149-179.

Papanikola-Bakirtzi, D. (ed.) (2002). *Everyday Life in Byzantium*, Athens.

Peschlow, U. (2003). The Churches of Nicaea / Iznik. In I. Akbaygil et al. (Eds.), *Iznik Throuhout History* (pp.201- 218). İstanbul: Türkiye İş Bankası Yayınları.

Peschlow, U. (2017). Nicaea. In P. Niewöhner (Ed.), *The Archaeology of Byzantine Anatolia, From the End of Late Antiquity until the Coming of the Turks* (pp.203-216). New York: Oxford University Press.

Pinatsi, C. (2006). New observation on the pavement of the church of Hagia Sophia in Nicaea. *Byzantinische Zeitschrift*, *99*, 119–126.

Pitarakis, B. (2006). *Les Croix-Reliquaires Pectorales Byzantines en Bronze*. Paris: Picard.

Sandin, K. A. (1992). *Middle Byzantine bronze crosses of intermediate size: Form, use and meaning*. (Doctoral dissertation, The State University of New Jersey).

Schneider, A. M. (1943). *Die römischen und byzantinischen Denkmäler von İznik–Nicaea*. Berlin.

Strabo, (1961). *Geography*. H. L. Jones, (Trans.) Vol.5, London: Loeb Classical Library.

Şahin, M. (2022). Underwater Excavation at the Basilica Church in İznik Lake – 2019. *International Journal of Environment and Geoinformatics, 9-2*, 71-80.

Theodori Studitae, (1860). *Theodori Studitae Opera Omnia, Epistolae.* Migne (Ed.), PG 99, Paris.

Yılmaz, Y. (2021). Arkeotanatoloji ve Anadolu Arkeolojisi'nde uygulanması: Tekli birincil gömütler. *Antropoloji, 41*, 156–171.

Waksman, Y. & François, V. (2004). Vers une redéfinition typologique et analytique des céramiques du type Zeuxippus Ware. *Bulletin de Correspondance Hellénique 128– 129 / 2.1*, 629–724.