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SUGGESTIONS ON THE WHITE PAINT DECORATED WARE TRADITION OF THE SAMSUN REGION AND ITS SPREAD IN LIGHT OF NEW EVIDENCE

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Öz

Samsun Bölgesi Beyaz Boya Bezemeli Keramik Geleneği ve Yeni Bulguların Tanıklığında Yayılımı Üzerine Öneriler

Bu çalışmada Samsun Bölgesi yüzey araştırmalarında ve Dombalaktepe kazısında bulunan beyaz boya bezemeli keramik ele alındı. Bu buluntu grubu, sadece bölgeyle sınırlı kalmayan, Anadolu'nun orta ve batı yarsında yayılım gösteren bir boya bezeme geleneğinin varlığına işaret eder. Bu geleneğin kökeni, bezeme tipleri, kronolojisi ve dağılımı bir problem olarak ele alındı. Üzerinde çalışılan malzeme kap tipi ve bezeme çeşitlerine göre tasnif edildi ve paralelleriyle karşılaştırıldı. Bulgular, beyaz boya bezemeli keramik geleneğinin kökenini Güneydoğu Avrupa ile Kıta Yunanistan'ın Neolitik kültürlerinde aranabileceğini düşündürse de Anadolu kıyılarından itibaren kaplar üzerinde doğrusal hatlarla oluşturulan bezemelerin egemen olduğu ve aslında kendi geleneğini oluşturduğu görülür. Bu geleneğin ortaya çıkışında Neolitik Çağ ile arasında bir süreklilik yoktur ve materyal özellikleri tamamen değişmiştir. Bazı referanslar beyaz boya bezemeli keramiğin Anadolu'daki başlangıcının Erken Kalkolitik döneme dek geriye gidebileceğini gösterse de Orta Kalkolitik dönem itibariyle Erken Tunç II döneminin sonuna kadar varlığını belirgin bir şekilde sürdürmüştür. Bu keramik grubunun yayılımı Anadolu'nun tamamında olmamış, belli bölgelerde kümelenmiştir. Kıyı ve İç Ege'den sonra iki farklı güzergâh üzerinden Orta Toroslara ve Kuzey-Orta Anadolu'ya varmıştır. Bundaki motivasyon, yeni hammadde kaynaklarına, özellikle de bakır yataklarına yönelik olabilir. Gelenek

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belirli bir topluluk tarafından mı taşındı yoksa dönemsel beğeniyi yansıtan bir moda mıydı, bilmiyoruz. Fakat beyaz boya bezemeli keramiğe Trakya, Doğu Marmara ve İç Anadolu'da rastlanmamış olması dikkat çekicidir. Bunun sebebi, buraları domine eden farklı toplulukların varlığından kaynaklanmış olabilir! En azından Doğu Anadolu'da hiçbir örneğine rastlanmaması, yayılımın menzilini ve sınırını görmemizi sağlıyor. Beyaz boya bezemeli keramik geleneği, kendisinden önceki Neolitik Çağ'ın zengin renklerini ve bol çeşidi olan bezemelerini kullanmamış, tek rengi ve daha basit motifleri olan süslemeleri tercih etmiştir. Dolayısıyla boyanın temini ve uygulamasında özel bir beceriye gerek yoktu ve çömlekçilik muhtemelen özel bir iş kolu değildi. Kap repertuvarının daraldığı bu süreçte geleneği taşıyan topluluğun beğeni ve estetik değerleri çok da öncelemediğini, yaklaşık 3000 yıl (yaklaşık MÖ 5500-2500 arası) devam eden bu süreçte boya süslemede esaslı bir değişikliğin olmamasından anlayabiliriz. Bu çerçevede Dombalaktepe kazısında ele geçen yaklaşık 50 çanak çömlek parçası örneği, beyaz boyalı keramiklerin tipolojisi ve kalibre edilmiş radyokarbon verileri, bu geleneğin Anadolu'da yayılışının anlamına ilişkin kurgusal bir yaklaşım yapmamıza olanak tanımaktadır.

Anahtar Kelimeler: Anadolu, Karadeniz, Samsun Arkeolojisi, Dombalaktepe, Kalkolitik ve Erken Tunç Çağı, Beyaz Boya Bezemeli Keramik.

Abstract

This study discusses the white paint decorated pottery found during the surveys in the Samsun Region and the excavations at Dombalaktepe. This group of finds indicates the existence of a tradition of paint decoration that is not limited to the region but is widespread in the central and western half of Anatolia. In this article the origin, decoration types, chronology and distribution of this tradition are analyzed. The material studied was classified according to vessel and decoration types and compared with its parallels. Although the findings suggest that the origin of the white painted pottery tradition can be traced back to the Neolithic cultures of Southwestern Europe and Continental Greece, the decoration of vessels with linear lines has been observed to be dominant starting from the Anatolian coasts and has actually formed its own tradition. There is no continuity between the emergence of this tradition and the Neolithic, and the material characteristics have changed completely. Although some references indicate that the beginning of white painted pottery in Anatolia can be traced back to the Early Chalcolithic period, it continued to exist distinctly from the Middle Chalcolithic period until the end of the Early Bronze II period. Its distribution was not widespread throughout Anatolia, but clustered in certain regions. After the coastal and Inner Aegean regions, it reached the Central Taurus and North-Central Anatolia via two different routes. The motivation for this may have been the search for new sources of raw materials, especially copper deposits. We do not know whether the tradition was carried by a particular community particular community carried the tradition or whether it was a fashion reflecting the taste of the period. However, it is noteworthy that white painted ceramics are not found in Thrace, Eastern Marmara and Central Anatolia, and this may be due to the presence of different communities dominating these regions! At least, the absence fact that of any examples are found at least in Eastern Anatolia allows us to see the range and limits boundaries of its distribution. The white painted pottery tradition did not make use of the rich colours and varied decorations of the preceding Neolithic Age, preferring monochrome decorations with simpler motifs. Therefore, no special skills were required in the procurement and application of paint, and pottery was probably not a specialised occupation. We can understand that the community carrying the tradition did not prioritise preferences and aesthetic values, as evidenced by the lack of substantial changes in painted decoration over this period spanning approximately 3000 (between around 5500-2500 BC) years, during which

the repertoire of colours narrowed. Within this framework, the sample of about 50 sherds found during the excavation at Dombalaktepe, the typology of the white painted ceramics and the calibrated radiocarbon data allow us to make a speculative approach to the meaning of the spread of this tradition in Anatolia.

Keywords: Anatolia, Black Sea, Samsun Archaeology, Dombalaktepe, Chalcolithic and Early Bronze Age, White Paint Decorated Ware.

Introduction

Samsun, located on the coast of North-Central Anatolia, benefits from its strategic position in the Black Sea Region. Especially the large and wet plains such as Bafra and Çarşamba, which form the north of the Canik and Küre mountains and the coastal part, have attracted more population than their contemporaries in neighbouring regions. The higher number of settlements compared to other parts of the Black Sea region has also enabled a more comprehensive observation of cultural characteristics. One of these is the "White Paint Decorated Ware" (WPDW) tradition, which is also the subject of this article. This tradition can be simply defined as the use of white paint to decorate the exterior and/or interior surfaces of pottery. The decorations usually consist of bands, which are not very complex.

WPDW started to appear in the literature with excavations such as Troya, Yortan, Thermi and Kusura[1] and became known as find assemblages pointing to a certain period of Aegean cultures since they were found mainly in Western Anatolia and Aegean islands[2]. WPDW was known from fewer sites in Anatolia, such as Alişar[3] and Karaoğlan[4]. The discovery of WPDW during the excavations at Dündartepe, Tekkeköy and Kaledoruğu in Samsun in 1940- 1941 revealed its presence in the Black Sea coastal region for the first time[5]. Özgüç discussed this pottery group in their article "Who Founded the First Troy?" and tried to explain the appearance of interregional relations as early as 1944[6]. Meanwhile, increasing research in Western Anatolia reinforced the idea that this tradition originated there. The same pottery tradition reappeared in Samsun with excavations and surveys after a long hiatus. Burney collected WPDW sherds at Gökçeboğaz, Şirlek Tepe and Ikiztepe during the1955 survey[7], and the excavations at Ikiztepe, which started in 1974, led to the recognition of a extensive repertoire[8]. In the following years Dönmez (1997-2004)[9] increased the number of finds at Dedetepe Höyük, Gökçeboğaz, Bakırdere Tepesi, Havza-Tepecik, Kelbeştepe/Kelebeştepe while Özsait (1986-1993)[10] Kurban Höyük, Mıhlı Tepe and Yük Tepe. The excavations at Oymaagac/Nerik are also known to have yielded unpublished WPDW frag-

1 Lamb 1937, 16 ff.
2 Furness 1957, 193 ff.
3 von der Osten 1937.
4 Arık 1939.
5 Kökten et al. 1945.
6 Özgüç 1944.
7 Burney 1956, 182 ff.
8 Alkım 1979; Alkım et al. 1988; Türker et al. 2003.
9 Dönmez 2006.
10 Özsait 1999.

ments[11]. Our survey added, Bağtepe, Diklimtepe, Doğankaya-Tepecik, Dombalaktepe, Elmacıktepe, Gök Tepe, Ikizpınar (Dede Tepe), Kümbettepe, Paşaşeyh, Tepekışla and Tepetarla to such locations and unearthed new samples at Dedetepe Höyük, Gökçeboğaz and Şirlek Tepe[12]. With the excavation at Dombalaktepe (2021-2022), we were able to trace[13] WPDW in a stratigraphy (fig. 1).

This article presents the WPDWs recovered from the surveys conducted in the Samsun Coastal Region between 2016-2019 and the excavations at Dombalaktepe. We also include unpublished examples from the Dündartepe, Tekkeköy and Kaledoruğu excavations. Thus, we aimed to compare the samples were found on Samsun Region with North-Central Anatolia, and with Western Anatolia to the Mediterranean coast in terms of decoration types, and to discuss and conclude on the appearance of different variables. We classified and grouped the collected ceramics according to their form, ware and decoration elements, and evaluated them with the recent findings. We have tried to bring an original perspective the origin of this ware group in the Chalcolithic and Early Bronze Age, its spread and the abandonment of the tradition.

Technique and Form Features of WPDW from Samsun

The white paint decoration was applied to different ceramic groups in Samsun Region. The most common one is the dark-faced burnished ware (DFBW), followed by Red-Black Ware (RBW) and Buff Ware (BFW). The outer surfaces of the DFBW group are black or dark grey, while the inner surfaces are dark buff and brown. Most of them are burnished, while there are also unburnished examples. RBW forms the Bipartite Ware (BW) group, also known as the Karaz pottery[14]; the pottery section consists of two sherds: The exterior is black, while the interior is dark shades of red or buff or brown. They generally have plain surfaces; however, the decorated ones may be smoothed and thinly burnished. BFW forms the smallest group. The outer and inner surfaces have darker tones of the paste colour. They are coloured in orangish, chalky tones of buff and light brown. The surface colours of the WPDW are close to their paste colours, which are common features. The surface treatment includes burnishing, self-slipping and fine smoothing; some examples are plain and simply rubbed, leaving them grainy. These processes are more elaborate on vessels to be painted. Their paste is porous in proportion to the quantity and size of temper or non-porous in proportion to the state of refinement. The form features of ceramics are quite limited in the Samsun Region. Vessel shapes consist of bowls and jars. All of them are handmade. Many amorphous vessels cannot be identified to which type they belong. All of the amorphous vessels belong to bowls and jars, except for the possibilities such as cups and jugs. Bowls are mostly deep wide-mouthed vessels. Both include deep bowls. Shallow bowls are rare. Their bodies are either inverted conical or inverted convex in outline. These forms were found at Dedetepe Höyük, Diklimtepe, Doğankaya-Tepecik (Mound III), Dombalaktepe, Dündartepe, Gökçeboğaz, Ikiztepe, Kümbettepe, and Tekkeköy. A few specimens were decorated

11 Tırıl 2019, appendix 1.
12 See collectively Tırıl 2019.
13 Türker et al. 2023; Türker et al. 2024.
14 For Karaz pottery's specification see also Işıklı 2011.

with tab-handle and knobbed reliefs.

The jars are either necked or neckless. Some may have vertical and horizontal handles, knobs and rope holes on the body. Short-necked jars contain globular forms. Others has a variety of postures and usually has a straight, incurving- or cylindrical concave necks. Their ovoid bodies have composite contours, and some have a slight shoulder. All are holemouth jars, with the majority bein neckless. They have either wide or straight bodies. These jars manufactured with the WPDW tradition were found in all locations.

Regional Typology of WPDW

The application of decorations on the surface of WPDW in the Samsun Region varies. The most common examples are the viscous ones with a ragged texture and the limpid ones with a vague erasure, which were applied directly to the surface. There are also a small number of applications in fluted and grooves. Sandalcı[15], Thissen[16], Dönmez[17] and most recently Tırıl[18] carried out studies on their techniques and type distribution Thus, it has been possible to compile updated information with discoveries and analyse them comprehensively. Accordingly, WPDW has three different approaches to the application of paint: (1) paint applied to the surface with a soft object after the vessel is fired, and the lumps are removed by glazing; (2) paint applied before glazing, with no further treatment after firing, and; (3) paint fading over time due to the conditions and texture not being preserved. Based on these appearances of the paint, the literature includes different designations such as reserved slip ware, white painted pottery, or pale decorated ware. We prefer the term "White Paint Decorated Ware / WPDW", which constitutes the most widely used specific definition.

Apart from the exceptions in Ikiztepe, since the vessels were not found intact, the decoration typologies of the pottery are based on fragments. Accordingly, the motif types can be divided into four main types (Type 1-4). Some types can be subdivided into subtypes according to directional differences (vertical, diagonal, and horizontal), single or multiple band groups and line characteristics (frequent, sparse, very sparse, regular, semi-regular, irregular, thin and thick). There are also different individual ornaments. We classified the decoration types based on, the diagonal, horizontal or vertical bands at the location of the motifs applied to the surface (starting from the body, rim or under the rim).

Type-1 consists of bands cutting diagonally, vertically or horizontally across the vessel body (fig. 2). The group also includes single examples with at least two of these bands. The lines consist of single or multiple bands and are mostly regular. The decorations on the bowls and jars start from the rim and descend towards the body and are observed in the DFBW, RBW and BFW groups. They are usually applied as reserved or grainy on the black outer surface of the vessel. These are observed on the outer and inner surfaces and handle fragments of Ikiztepe ware. Some of these vessels have incised and notched decorations

15 Sandalcı 1991.
16 Thissen 1993, 213 ff.
17 Dönmez 2000.
18 Tırıl 2019.

and knobbed reliefs[19], while white paint decoration was also applied on vessels with horned handles[20]. Type-1 is the most common decoration group in Samsun.

Type-2 is the metope decoration group (fig. 3). The decorations are combined horizontally-diagonally, horizontally- vertically, diagonally-vertically, diagonally-vertically or diagonally-diagonally, forming triangular or quadrilateral geometric shapes, some of which are filled with diagonal bands. The consistency of the paint is grainy or silty, and the bands are drawn regularly or irregularly. It has only been observed on wide-mouthed deep open vessels and amorphous fragments in the DFBW group. It is the least common type among WPDW in Samsun.

Type-3 is characterised by cross-hatching patterns formed by a single stripe cross-cutting the body of the vessel (fig. 4). WPDWs in the DFBW and BFW groups are found on closed bowls and most commonly on necked jars. Although the thickness and arrangement of the bands vary, there are also examples with very neatly drawn lines, as if drawn with a ruler.

Type-4 consists of intersecting chevrons connected in the centre by a single, thick line (fig. 5). DFBW, RBW and BFW were observed on short-necked jars. The paint was applied as reserved or grainy on the outer and inner surfaces of the vessel. The bands are regular or irregular, frequent or infrequent.

New Evidence from Dombalaktepe

During the excavations carried out at Dombalaktepe in the Atakum district of Samsun between 2021 and 2022, we obtained new findings regarding WPDW. The first layer of the settlement (Stratum I) was dated to the Iron Age and the second layer to the LCh period (Stratum II). The 3,71 m thick LCh 1-2 period[21] layers were exposed in four phases (Layer II/1-4) in the K14 plan square of the mound. Calibrated radiocarbon measurements revealed that the period started in the second half of the 5th millennium BC and lasted for about 500 years (ca. 4450-3950 BC) (fig. 7).

Dark red, brown and black dark-faced monochrome sherds dominate Dombalaktepe pottery. Variegated tone transitions and black-topped sherds are observed according to the firing characteristics. Decorations can be classified into two main groups: "painted" and "incised, impressed and relief". The painted ones are further divided into two groups: The WPDWs covered by this article (fig. 6) and a small number of others forming the local painted group[22].

19 Sandalcı 1991, lev. I/2, 6, XV/1-5, XXI/1-4, 6-7.

20 Sandalcı 1991, lev. XV; Alkım et al. 2003, pl. XI/2.

21 In Western Anatolian terminology, the end of the MCh is given as ca. 4200 BC (Erdoğu – Çevik 2020, tab. 2, 4; Takaoğlu 2023, 448), while in Eastern Anatolia the beginning of the LCh, based on the Arslantepe Ubaid period, corresponds to ca. 4500 BC (Vignola et al. 2019). The Ch stratigraphy of Dombalaktepe gives an uninterrupted and unchanged date of 4450-3950 BC, which is roughly contemporary with the approximately 500-year haitus in western Anatolia (Erdoğu – Çevik 2020, 57) and the Post-Ubaid period in central and eastern Anatolia. For further discussions, see also: Marro 2012; Hacar 2020.

22 The local painted group is represented by a small number of specimens, comparable to the MCh pottery finds from Aktopraklık (Karul 2017), Liman Tepe VIIb (Şahoğlu 2022, 23, fig. 5), Malkayası (Peschlow- Bindokat 2005) and Lower Cave at Tavabaşı (Korkut et al. 2015, 40) in the western half

About 50 fragments of the WPDW group were recovered from Dombalaktepe: 6 are necked/neckless jars, 9 are bowls, and the remaining are amorphous body fragments. The majority of these are DFBW (68%), while the rest are equally distributed between RBW (19%) and BFW (19%) groups. The consistencies of the paint applied to the vessel surfaces are close to each other (ragged 53%, limpid 47%). 78% of the paint was applied on black, 18% on buff and 10% on reddish-brown surfaces. These were decorated in 3 types (in Type 1- 3). The form, ware, technique, application and decoration types of all the samples found are homogeneously distributed in all phases of the Ch layer.

Origin and Spread of WPDW

Our current knowledge suggests that the WPDW found at Dombalaktepe, Samsun and in the northern central Black Sea[23] do not chronologically date back to the first half of the 5th millennium BC[24]. The origin of those from western Anatolia can be traced to the Aegean and Balkan cultures, following a distinct development and transformation. Therefore, the current literature forces us to discuss the origin of white paint decoration in various styles on dark background Aegean and Balkan perspectives. In Macedonia, the creation of white-coloured patterns on red slip dates back to approximately 6300/6200 BC at Nea Nikomedia, Axos A and Yiannitsa B. In Greece, this type is among the characteristic pottery of Thessaly in the Middle Neolithic Age[25]. The radiocarbon results obtained from Mavropigi-Filotsairi (Phase II) in this region yielded a date of approximately 6200 BC[26]. A similar tradition is observed at Sesklo (6100/6000-5500 BC) and the Tsangli Phase, Arapi Phase and Otzaki A-C (Dimini phase) (5500-4500 BC) in the Late Neolithic Age[27].

Layer 7 of Aşağı Pınar (5900-5700 BC) represents the Karanovo I phase and, as in this phase, features white-on-red or black-on-red fine painted pottery. During this period, Aşağı Pınar is associated, with the Kremikovci-Starčevo cultural area located further west, and its cultural interaction with the east seems to have created a virtual boundary from the 6th to the beginning of the 5th millennium BC[28].

White painted decoration is found only on closed vessels in Tigani I (5500-5000 BC), a period when the patterns are simple and linear. The decorations on both open and closed vessels become widespread in Tigani IVb (3500-3000 BC),

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of Anatolia.

23 Türker et al. 2023, 257 ff.

24 The results of the Ikiztepe excavations play a key role in this debate. Researchers such as Parzinger (1993, 236 ff), Schoop (2005, 93 ff., 315 ff.), Welton (2017, 142 ff) and Furtholt (2017, 133) have argued that the Ikiztepe chronology may have started much earlier, see also Türker 2022, 327 ff.

25 There are terminological differences between Aegean-Balkan and Anatolian chronologies. According to Parzinger's (1993, abb. 16) comparison addressing this discrepancy, the Middle Neolithic Age for the Aegean corresponds to the ECh period in Anatolian terminology, see also Furholt 2017, tab. 5.1. Likewise, the overlap between the MCh in the western half of Anatolia and the LCh in Central and Northern Anatolia is problematic from a chronological point of view besides terminology and needs to be synchronized, for discussion see Takaoğlu 2023, 448.

26 Bonga 2019, 161.

27 Furholt 2017, 71, 133.

28 Özdoğan 2011, 214.

a period when the tradition of white paint on dark glazed vessels becomes widespread[29]. White painted decoration is counted among the dominant groups in the Tigani IV phase[30].

Apart from the islands, white-painted pottery is found in Arapi Magula, Sesklo and Tsangli in Thessaly in continental Greece. In Sesklo, white paint is mostly applied on red ground, while in Tsangli it is applied only on red ground[31]. In Korinth and Argos, on the other hand, white paint on dark ground consists of thin lines starting from the lip and descending vertically or diagonally on the bowls[32]. Finally, the white-painted wares from Paradimi in north-eastern Greece are quite different from those from other localities with graffiti-like decoration with thick and rounded lines[33].

The WPDW tradition entered Anatolia slightly later. The tradition is most common in the eastern Aegean islands[34] and western Anatolia. Here, especially in the coastal region of northwestern Anatolia (Troad), recent research and finds provide us with an important triangulation of the development and spread of WPDW. A notable transformation occurred between the ECh (Layer II) and MCh (Layer IIIa-b) periods in Gülpınar/Smintheion, which is also reflected in the characteristics of WPDW. In Layer II (5320-4940 BC), white paint decoration consists of quadruple or quintuple vertical or oblique lines, a row of triple or quadruple chevrons, a row of triangles formed of the ladder pattern, linear lines such as vertically extending cross-hatched rhombuses, multiple parallel zigzags and cross-hatched or empty triangles. There are also layer-specific motifs such as the ram's horn motif (reminiscent of Anatolian and Persian carpet patterns) and superimposed V-shaped motifs[35], which are not widely recognised. Painted pottery was almost twice as common in Phase IIIa (4900/4800-4600 BC) compared to the previous Phase II, while it was not used at all in Phase IIIb (4500-4450/4300 BC). In Phase IIIa, geometric motifs consist of triple vertical lines and triple or quadruple chevrons. These include rows of triangles (some of them dotted) in a "ladder" pattern, triple chevron rows, striated triangles, multiple parallel zigzags, and vertically extending cross-striped rhombuses[36].

Kumtepe IA yielded similar radiocarbon dates to Gülpınar and there is a correlation between the two sites in terms of pottery decoration. Hanay Tepe and Beşik-Sivritepe in the Troad, where WPDW is absent, are contemporary

29 Menelaou – Kouka 2022, 7.
30 Menelaou – Kouka 2022, 12.
31 Wace - Thompson 1912, 36, 59, 91, fig. 42/a, 44/a, 50/e, 55, 56, 58/e.
32 Alram-Stern 1996, 225, 240, abb. 12, 15.
33 Bakalakis – Sakellariau 1981, taf. 8-9, 30-31. For related finds from the Western Aegean Islands see collectively Giannitsa, Nea Nikomedeia, Axos, Mavropigi-Filotsairi, Arapi Magula, Tsangli, Sesklo, Cyclops Cave, Skoteini Cave, Agia Triada Cave, Korinth, Argos (Alram-Stern 1996); Ftelia, Antiparos Cave, Saliagos, Grotta, Zas Cave, Mavri Spilia, Akrotiri (Alram-Stern 1996; Furholt 2017).
34 For the Eastern Aegean Islands giving WPDW see collectively Uğurlu, Poliochne, Thermi, Agio Gala, Emporio, Kastro Tigani, Heraion, Vathy, Kalythies (Benzi 2020, 37 ff.; Takaoğlu 2023, 436 ff, fig. 1).
35 Takaoğlu 2023, 438-440, fig. 2-3.
36 Takaoğlu 2023, 440, fig. 4-9.

with Kumtepe IA and Gülpınar types[37]. The tradition continued in the Troad region at in Kumtepe IB and Alacalıgöl (LCh) and Troya I-II (EB I-II)[38]. Although WPDW is intense in all phases of Troya I, it was also observed in the late phase of Troya II[39]. The decorations on black/grey and buff/brown grounds were applied on exterior or interior surfaces. The white painted geometric decorations consist of cross, vertical and horizontal lines on some pots, jars and jugs, and metope decorations filled with triangular net bands on others. The most common type is the net motifs formed by intersecting groups of diagonal bands. Sometimes, these intersecting lines continue on the body in a zigzag pattern[40].

The coastal line of western Anatolia shows an unstable periodisation after the Neolithic. The interruptions between the phases of the Chalcolithic and the unexplained gap of about 600 years between ECh and LCh, of unknown cause, make it difficult to construct the relevant cultures and chronology. WPDW is sparsely scattered in several localities, mostly as few fragments[41]. Bakla Tepe is the only exception in this section. WPDW is more abundant in the early LCh phases of the settlement (IV and III) compared to the late LCh phases (II and I). The transition phase to EB, witnessed a significant decrease in the number of samples. Triangles filled with diagonal lines, diagonal reverse angled lines, zigzags, and diagonal and parallel lines are applied on black, grey and brown backgrounds[42]. The decorations on LCh I-IV and EB II in Pekmeztepe are similar and all are applied on black ground[43].

Apart from the Troad Region, the settlement that represents WPDW the most in Western Anatolia is Beycesultan in Inner Western Anatolia. The finds from other locations are limited to a small number of specimens[44]. Beycesultan has incorporated most of the decoration types known in the tradition into its repertoire from LCh 1 to EB II over a long period. The type of decoration applied on a black background in the LCh 1 phase (layers XL-XXXV) decreased considerably in the EB I-II phases and reflected the characteristics of the Yortan Culture[45].

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37 Bertram – Karul 2014, 23 ff.; Blum et al. 2014, 801.

38 Thater 2016, fig.1.

39 Thater 2016, 16 ff., fig. 1, 3.

40 Blegen et al. 1950, 77, 79; Thater 2016, fig. 2, pl. 1-3.

41 For the distribution of WPDW in coastal western Anatolia, see Höyücektepe/Kaymaktepe, Çandarlı (Kökten 1949); Ege Gübre, Ulucak Höyük, Liman Tepe (Caymaz 2013); Kadıkalesi (Akdeniz 2011); Killiktepe (Miletos), Malkayası (Peschlow- Bindokat 2005); Çaltılar (Momigliano et al. 2011); Yortan, Babaköy (Bittel 1939-1941); Ovaköy III, Pamukçu, Paşaköy Höyük, Üveyliktepe/Sındırgı, Kennez II, Kayışlar, Dağdeviren, Halitpaşa II, Hacırahmanlı (French 1969).

42 Caymaz 2010, 166, fig. 90/9, 92/4-7, 93/5-6, 96/10-13, 98/2, 4, 6, 100/1-2, 4, 101/2, 102/1-2, 6- 7, 106/9, 107/4-10, 110/2, 118/1-5, 119/2, 4, 5, 120/4, 121/3, 130/9-11, 131/1-2, 132/7-10, 133/9, 136/8, 137/15.

43 Joukowsky 1986, 10, fig. 279/3-4; 280, 370/10, 377/5, 9, 49-51, 380/8, 384/11, 13, 15-16, 21, 25, 27, 35, 37-43, 45-50, 52-61, 64-68, 393/ 11, 18, 39-43, 69, 421/18-23.

44 For the distribution of WPDW in the Inner Aegean, see Höyüktepe (Ünan 2019); Seyitömer (Unpub. materials by N. Ünan); Aizanoi (Lochner et al. 2001); Aktaş Höyük, Ayvacık Höyük, Dutluca, Yele Höyük, Karayakuplu (Oy 2018); Kızılkabaağaç (Oy 2024); Aspos Tepesi (Konakçı 2016); Kusura (Lamb 1937); Ulağı Tepe/Gençali (Türkteki 2018); Yaka-Köşk (Özsait - Efe 2012).

45 Lloyd – Mellaart 1962, 71 ff., fig. p.1/1, 3, 4, 7, 16, 21-23, 25-26, 36, 38, 39, 43, p.2/1-2, 5, 9-10, 12-18, 26- 28, 30, p.4/1-11, 15-30, p.5/1, 8, 11, 25-38, p.6/1, 4-5, 17, 19-20, 23-24, p.7/3, 5, 21, p.8/8, 14, p.9/4, 22, p.10/14-15, p.11/9, p.14/1, 36; p.20/3, p.22/6-8, 10, 13-15, p.25/14, 19, p.29/1, p.38/1, p.41/1-3.

After the distribution of WPDW in Inner Western Anatolia, two main distribution routes are followed: Southwestern Anatolia and Central Taurus Mountains, and Central Sakarya Basin and North-Central Anatolia. In Southwestern Anatolia (Ancient Lycia), which can also be called the western half of the Lakes Region, WPDW was found in the caves of Tavabaşı/Girmeler[46] and Karain[47] in the MCh phases. The other localities of the region[48] yielding finds are dated to EB. The key settlement in this section is Karataş-Semayük. This tradition is found in the settlement in different forms such as beak-mouthed jugs and jars, mostly applied on a red ground. The white painted decoration consists of lines forming a net motif cross-cutting the body in the Early EB II phase[49].

WPDW, spreading south of the Konya Plain and north of the Central Taurus Mountains, is mainly clustered around Karacadağ. It reaches the Zamanti River in the east and the Mediterranean Sea via the Göksu River in the south[50]. Yumuktepe Layer XIIA represents a phase dominated by dark-faced burnished vessels, most of which are 'local' white painted wares decorated with curvilinear patterns and chevron[51]. This group appears immediately after the abandonment of the Ubaid-influenced matt pottery, following the Syrian-influenced tradition of the site in layers XV-XIIB[52].

The area covered by the Porsuk and Ankara streams constitutes the Central Sakarya Basin, serving as the northern route to Central Anatolia. Although WPDW is unearthed here mostly through excavations[53], it is represented by a limited number of specimens. The recently excavated Gedikkaya Cave in the Porsuk Basin has provided important data about the appearance of WPDW at the northern crossroads of Anatolia. In the cave, stratified from Epipaleolithic to MCh and supported by radiocarbon dates, white painted pottery constitutes the most dense group among the recovered pottery[54]. The development of white painted pottery applied on brown and black surfaces can be traced from the Late Neolithic period (Layer 2A; 6000-5500 BC) to the end of the Ch period (Layer 1B; 5500-5000 BC). The white colouring represented by a few examples in Late Neolithic 2A is very intense in Late Neolithic 1B. The white colouring varies from very thin-walled and bright burnished to medium quality burnished ware[55]. Even though the locations around Ankara Stream yielding WPDW were inves-

46 Takaoğlu 2023, 446.
47 Kökten 1955, 289, pl. III.
48 For the distribution in southwestern Anatolia, see Kemer, Hasanpasa (Türkteki 2018); Gilevgi, Söğle Bey, Kevker/Kevzer, Akkilise (Mellink 1965; Mellaart 1954); Mancarlı (Mellaart 1954; 1963).
49 Mellink 1965, 243 ff., fig. 6, 7a, 8, 13-14.
50 For its distribution in the Middle Taurus, see Kara Höyük, Bayat, Çatalhöyük -west, Sarıhassantolu, Kuzey Sarlak, Çumra 'F' Höyük, Kepirce I-II, Batum Höyük, Koca Höyük II, Sinneli, Beytepe, Ayşepınar-Menengi, Maltepe (Kilise Tepe), Silifke Kale (Mellaart 1954; 1963); Can Hasan (French 2005).
51 Garstang 1953, fig. 118.
52 Since Yumuktepe XII was destroyed by the walls of the 2nd Millennium BC, phases A and B of the layer were classified by Garstang (1953, 182 ff.) according to the pottery finds. See also for the discussion Schoop 2005, 148.
53 Demircihüyük (Seeher 1987); Orman Fidanlığı, Kes Kaya, Asmainler (Efe 2001).
54 Sarı 2024, 15-16.
55 Sarı 2024, 24, res. 14.1-16.

tigated through excavations, this tradition is represented by a limited number of examples[56].

In North-Central Anatolia, WPDW is widespread around the Upper Kızılırmak[57] and roughly in the Yeşilırmak Basin[58]. The detailed characteristics of the tradition in the vicinity of Samsun have been discussed above (Regional Typology of WPDW). A few observations from Ikiztepe should be added here: WPDW is observed in the Early EB I and Late EB II periods[59]. WPDW increased in number in the Late EB I, but white paint was applied only on the outer surface of the vessels[60]. The linear application of white paint in Complex BB2 (Mound II, EB I) is an innovation. In this phase, bundles of thin parallel lines connected to each other and diagonal and partially overlapping lines were observed. In Complex DD (Mound I, EB II) diagonal bundles of lines extend to the base of the vessel, unlike in Complex BB[61].

The distribution of WPDW outside Samsun is sparse in the Yeşilırmak Basin. It was found in the south around Çadır Höyük and Alişar and in the east at Küllüce II and Maltepe. The WPDW found in Alişar 14M consists of linear bands, chevrons and nets applied to the interior and exterior of the vessels[62]. Other localities south of Samsun have similar motifs with some exceptions. One of these is the Ch layer of Büyük Güllücek, where the white paint is applied on a black, brown or red background, including triangular net decoration[63]. The few examples of decoration from Kuşsaray[64] also match the diversity.

The number of locations yielding WPDW finds in the Western Black Sea Region is relatively low[65]. The recently excavated Inönü Cave introduced this find group with calibrated data. The WPDW recovered from Layer V of the settlement (ca. 4300-3900 BC) consists of diagonal lines, chevrons and lattice strip decorations[66.]

56 For Ankara surroundings, see Çayyolu (Bertram et al. 2023); Yazır Hüyük, Polatlı-Karahöyük, Asarcık/Ilıca, Bitik, Etiyokuşu, Koçumbeli, Ahlatlıbel, Karaoğlan (Orthmann 1963).

57 For the Black Sea Coast, see Kaledoruğu, Tekkeköy, Dündartepe (Thissen 1993); Dombalaktepe, Kümbettepe, Gök Tepe, Uzgur Höyük, Bağtepe, Oymaağaç/Nerik, Diklimtepe, Dede Tepe/Ikizpınar, Doğankaya-Tepecik, Elmacıktepe, Paşaşeyh, Tepekışla/Tödüğün, Tepetarla, Dedetepe Höyük, Gökçeboğaz, Şirlek Tepe (Tırıl 2019); Havza-Tepecik, Ikiztepe, Bakırdere Höyük, Kelebeştepe, Kovuklu Kaya (Dönmez 2006); Mıhlı Tepe, Kurban Höyük, Salur (Yük Tepe) (Özsait 1999).

58 For locations yielding WPDW in North-Central Anatolia, see Alişar (Orthmann 1963); Çadır Höyük (Steadman et al. 2008); Fevzi Çakmak Höyük I, Çördüklü Tepe Üstü, Kayatepesi (unpub. materials by H. Sancaktar); Maşat Höyük (Emre 1996); Komana (Bertram et al. 2023); Alaca Höyük, Büyük Güllücek, Kuşsaray (Schoop 2005); Devret (Tırıl 2019); Maltepe/Kılhıdık (Orthmann 1963); Küllüce II (Karaduman 2015).

59 According to Dönmez (2000; 2006, 91, 95 ff), the LCh period at Ikiztepe must have begun at around 4700-4500 BC and even the very end of the ECh period. The LCh period can be organised as 4700-4000 BC, Early EB I 4000/3900-3200 BC (in Mound II) and Late EB I 3200-2700 BC (in Mound I). See also Alkım et al. 2003, tab. 22.

60 Dönmez 2006, 97.

61 Schoop 2005, 313 ff.

62 von der Osten 1937, 54 ff., fig. 63/3-4, pl. I/6; Schoop 2005, 38, tab. 2.6.

63 Koşay – Akok 1957, 8-10, lev. XI, XII, XIII.

64 Schoop 2005, 48.

65 Find locations in the Western Black Sea Region: Hoşkadıntepesi (Mellaart 1954); Kemelen Cave (Ekmen – Ekmen 2021); Hadrianopolis (Kalkan – Çelikbaş 2022).

66 Ekmen et al. 2021, 34, fig. 14B.

Comparison and Evaluation

The density of WPDW in North-Central Anatolia can be recognised from its representation by a considerable number of localities compared to other parts of Anatolia. Some communities searching for a new and safe homeland preferred the area around Samsun. The northern route, where the WPDW is distributed, has a unique situation compared to other parts of Anatolia: The Neolithic Gap. This non-Neolithic Belt may be left unoccupied because it lacked the raw material resources required for the period. Perhaps the reason for this is the effect of climatic change. The current multi-proxy study on the Kızılırmak terraces in Bafra Plain, revealed that it has taken its present appearance as of ca.7.9 ka cal BP event[67]. Such studies are lacking in the region, and we do not have enough evidence to explain the factor in questions[68]. The dynamics of the Ch period were copper based and North- Central Anatolia had the resources to meet this need. This motivation may have attracted communities to the region, but copper artefacts have not been found in satisfactory quantities, at least until the LCh period. The earliest known chronological data for process copper ore deposits come from Derekutuğun (4300-4100 and 3950- 3600 cal. BC)[69] and Kozlu Maden (3789±109 cal. BC)[70] mines.

No concrete material belonging to the ECh period has been found except for suggestions for the region. The most concrete evidence for the last centuries of the ECh is the date from Büyükkaya Upper Plateau (Boğazköy-Ḫattuša), which points to the second half of the 6th millennium BC (5536-5473 and 5617-5546 cal. BC)[71]. Çadır Höyük Id-e is reported to date back to the MCh (ca. 5300/5200 BC)[72]. The chronology and radiocarbon data of Ikiztepe are quite complex. According to the latest re-calibrated data, the beginning of the settlement corresponds to the late 6th millennium BC[73]. According to another suggestion, the LCh period in Ikiztepe must have begun at around 4700-4500 BC and even the very end of the ECh period[74]. Similar data were obtained from Okçular Kale İni Cave (4800 cal. BC)[75]. The settlement in Dombalaktepe dates to the second half of the 5th millennium BC (4450-3950 cal. BC) (see above). Inönü Cave yielded similar results (4300-3900 cal. BC)[76].

The stratigraphy and radiocarbon dates of the excavated localities indicate that the first settlers arriving in North- Central Anatolia were not yet fa-

67 Berndt et al. 2019, 4.
68 For discussions see also Düring 2008.
69 Yalçın 2016, 69, abb. 86.
70 Kaptan 1990, 77.
71 Büyükkaya Upper Plateau radiocarbon tests yielded dates of 5536-5473 cal. BC and 5617-5546 cal. BC, see Schoop et al. 2013. The data obtained here for the ECh period are not very far from the dates obtained for the same period in the Aegean. The stratigraphy and radiocarbon data from Ulucak, the longest prehistoric settlement in Western Anatolia, show that the Neolithic ended in 5700 and after a very short interruption, the ECh period resurfaced around 5600/5640 with a sudden change in material culture (Çevik – Erdoğu 2020, 85ff). Other excavated localities in Western Anatolia also give more or less the same dates for the beginning of the ECh.
72 Steadman et al. 2013, Tab. 2.
73 Welton 2017, tab. 4.
74 Dönmez 2006, 91.
75 Düring – Gratuze 2013, 176.
76 Ekmen et al. 2021, 34.

miliar with the WPDW tradition. Some had pottery assemblages with incised and locally painted features, including decorations with Central Anatolian influences[77]. Based on a series of radiocarbon dates given in the previous chapter, it can be assumed that WPDW emerged and became popular in North-Central Anatolia around 4500 BC (witnessed by sites such as Dombalaktepe II, Alisar 14M and Çadır Höyük Ic). In western Anatolia, WPDW appeared in phase II of Gülpınar (5320-4940 cal. BC), with almost twice as many appearing in phase IIIa (4900/4800-4600 BC) compared to phase II; the specimens from phase IIIa are more closely aligned with finds from North-Central Anatolia[78]. In Gedikkaya Cave, which is relatively closer to North-Central Anatolia in terms of distance, similar white painted ornaments have yielded the earliest dates in Anatolia (Stratum 2A, 6000-5500 BC) and traced over an extended period (Stratum 1B, 5500-5000 BC)[79].

We have already mentioned in this study that there were interruptions and an unstable continuity in Western and Southern Anatolia throughout the Ch Age. The arrival of the WPDW-bearing communities in North-Central Anatolia is also irregular, and we can assume that they migrated to the region gradually in different periods. If WPDW was a tradition transmitted within the settled communities themselves, it would at least be expected to show a different style of development compared to other regions[80].

In Aegean-Balkan cultures, as in Anatolia, the decoration types have mostly zigzag and reticular/rhombus patterns with horizontal, vertical and diagonal linear lines. They are predominantly white painted over red, but also over black and brown tones. However, there are distinct differences between the examples from Continental Greece, and the Aegean Islands and the Balkans. While graffiti paint decoration is predominant in the Balkan examples, the samples from[81] Continental Greece and the Aegean Islands are very close to the decorations found in Anatolia. The Thracian examples, on the other hand, are more influenced by Balkan cultures. The spiral ornamentation on graffiti does not apply to the WPDW spread in Anatolia. Although this white paint tradition adopted by Anatolia is represented in a large region with local elements such as Yumuktepe, some application differences and preferences are noticeable. Therefore, the persistent use of repetitive motifs has turned conservatism into tradition. It is necessary to re-emphasise the term "tradition" here, since we do not have sufficient arguments to define a community with just this decoration style as a "culture".

By EB, there is no significant change in WPDW. We can note that white paint was applied only on the exterior surface of the vessels, and that the use of purely linear lines, diagonal line bundles, and elements such as nets were aban-

77 Alişar (von der Osten 1937, fig. 63-65), Büyük Güllücek (Schoop 2005, taf. 9-11), Çengeltepe (Schoop 2005, taf. 13), Büyükkaya Upper Plateau (Schoop 2005, taf. 17-19), Yarıkkaya-Plateau (Schoop 2005, taf. 29) and Ikiztepe (Schoop 2005, taf. 180-181).

78 Takaoğlu 2023, 438.

79 Sarı 2024, 24.

80 There is a comment regarding this Dönmez (2006, 93, 97) thought that the Ikiztepe LCh assemblage came from Central Anatolia and the Upper Yeşilırmak Basin but shared common influence with Aegean-Balkan cultures.

81 French 1961.

doned. Meanwhile, the spread of Intermediate Ware in Central Anatolia narrowed the coastal line, and the use of WPDW did not go beyond the southern extensions of the Canik Mountains[82]. Meanwhile, the Kura-Araxes Culture from the Caucasus was spreading in Eastern Anatolia[83] and coincided exactly with the WPDW boundary! This contact is a complex issue that should be dealt with separately in a different study.

Conclusion

Ware with white paint decoration, known in the Aegean and Balkans before the 6th millennium BC, continued its journey in Anatolia in a different style during the ECh period. Although the exact origin-interaction level is unknown, the application of white paint on the vessel surface, the decoration style and the preferred vessel forms are quite different. Following the chronological gap experienced in most of the continent after the end of the Neolithic in Anatolia at the beginning of the 6th millennium BC, material elements showed that a new community entered Anatolia. In this process, WPDW emerged among many other indicators. The communities carrying this tradition did not disperse to the regions at once but continued their migrations from the MCh period until the end of the EB II period. The communities bearing this find group, which is unique in Anatolia, spread to the Eastern Aegean Islands and Western Anatolia, to the Central Taurus Mountains on the southern line and to North-Western Anatolia on the northern line, and clustered in certain areas in these regions. The absence of WPDW in the Marmara Region, the centre of Central Anatolia and Eastern Anatolia may be explained by the resistance of a different community to expansion in these regions. It is most likely that the communities that arrived in North- Central Anatolia in the second half of the 6th Millennium BC came from Central Anatolia. It is more convincing to accept that the community carrying WPDW arrived around 4500 BC by following the Western Anatolian route.

Research in Samsun has shown that WPDW was present in the region for about 1500 years, that there was no significant change in its decorative style, and that it was never used as the dominant decorative preference, a phenomenon that is also valid for other regions in Anatolia. The abandonment of the WPDW tradition at the end of EB II can be explained by the movement of new communities with a new mass migration to the region (fig. 8).

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82 Türker 2022, 327 ff.

83 Batiuk 2022, 114, fig. 1, 3, 5.

Catalogue[1]

Fig. 2.1 Diklimtepe (sur. 2015). Rim fragment of jar; dark grey (7,5YR4/1) paste with black gritty, white mica, chaff and sand inclusion; in-out strong brown (7,5YR5/6); white paint outside (Type-1); rim d. 9.0, h. 4.7 cm, medium-thick.
Fig. 2.2 Dündartepe (exc. 1940-1941). Rim fragment of jar with knob handle; dark grey (7,5YR4/1) paste with white mica and sand inclusion; white paint outside (Type-1); rim d. 18, h. 5.7 cm, thin-wall.
Fig. 2.3 Tekkeköy (exc. 1940-1941). Rim fragment of jar; bipartite (black outside: 7,5YR2,5/1; brown inside: 5YR4/4) paste with white mica, white gritty, chaff and sand inclusion; reddish brown (5YR4/4) inside; white paint outside (Type-1); rim d. 13, h. 3.8 cm, medium-thick.
Fig. 2.4 Elmacıktepe (sur. 2017). Rim fragment of jar; bipartite (black outside: 7,5YR4/1; reddish brown inside: 5YR5/4) with thin paste; white paint outside (Type-1); rim d. 18, h. 5.4 cm, medium-thick.
Fig. 2.5 Dündartepe (exc. 1940-1941). Rim fragment of jar; brown (7,5YR4/3) paste with mica, white gritty, chaff and sand inclusion; black topped burnished outside, inside in paste colour unburnished; white paint outside (Type-1); rim d. 18, h. 3.5 cm, medium-thick.
Fig. 2.6 Gökçeboğaz (sur. 2016). Body fragment; bipartite (black outside: 7,5YR4/1; yellowish red inside: 5YR5/6) paste with white mica, white gritty, chaff and sand inclusion; white paint outside (Type-1); h. 4.2, w. 3.9 cm, medium-thick.
Fig. 2.7 Diklimtepe (sur. 2015). Body fragment; yellowish red (7,5YR4/6) paste with yellow mica, black gritty, chaff and sand inclusion; white paint outside (Type-1); h. 4.3, w. 4.2 cm, medium-thick.
Fig. 2.8 Dündartepe (exc. 1940-1941). Body fragment with handle; dark grey (7,5YR3/1) paste with white mica, white gritty, chaff and sand inclusion; white paint outside (Type-1); h. 6.5, w. 7.6 cm, medium-thick.
Fig. 2.9 Doğankaya-Tepecik (sur. 2017). Rim fragment of bowl; bipartite (black inside: 7,5YR3/1; yellowish red outside: 5YR5/6) paste with white mica and sand inclusion; white paint outside (Type-1); rim d. 24, h. 3.7 cm, medium-thick.
Fig. 2.10 Gökçeboğaz (sur. 2019). Rim fragment of bowl with tab- and knob handle; bipartite (black inside: 7,5YR4/1; brown outside: 5YR4/6) with thin paste; white paint outside (Type-1); rim d. 16, h. 4.4 cm, medium-thick.
Fig. 3.1 Şirlek Tepe (sur. 2015). Body fragment of bowl; dark grey (7,5YR3/1) paste with white mica and sand inclusion; white paint interior (Type-2); h. 2.2, w. 2.5 cm, medium-thick.
Fig. 3.2 Şirlek Tepe (sur. 2016). Body fragment; dark grey (7,5YR5/1) paste with white mica, white gritty and sand inclusion; smoothed reddish yellow (5YR6/6) in interior; white paint outside (Type-2); h. 5.6, w. 4.4 cm, medium-thick.
Fig. 3.3 Tepekışla/Tödüğün (sur. 2016). Body fragment; dark grey (7,5YR4/1) paste with yellow mica, chaff and sand inclusion; smoothed dark yellowish brown (10 YR 3/4) in interior; white (10YR8/1) paint outside (Type-2); h. 4.6, w. 5.7 cm, medium-thick.
Fig. 3.4 Diklimtepe (sur. 2019). Rim fragment of bowl; dark grey (7,5YR4/1) paste with

1 Abbreviations used in the catalog Year of Excavation (exc.), Year of Survey (sur.), Operation (op.), Phase (ph), Diameter (d), Height (h), Width (w).

white mica, white gritty and sand inclusion; white paint interior (Type-2); rim d. 18, h. 2.2 cm, medium-thick.
Fig. 3.5 Doğankaya-Tepecik (sur. 2019). Rim fragment of bowl; dark grey (7,5YR4/1) paste with white mica and sand inclusion; white paint interior (Type-3); rim d. 20, h. 2.8 cm, medium-thick.
Fig. 4.1 Dündartepe (exc. 1940-1941). Rim fragment of jar with handle; dark grey (7,5YR4/1) paste with white mica, white gritty, chaff and sand inclusion; brown (7,5YR5/3) interior; white paint outside (Type-3); rim d. 12, h. 9.7 cm, medium-thick.
Fig. 4.2 Dündartepe (exc. 1940-1941). Rim fragment of jar with handle; brown core (7,5YR4/1) dark grey paste with white mica and sand inclusion; white paint outside (Type-3); rim d. 10, h. 7.1 cm, medium-thick.
Fig. 4.3 Dündartepe (exc. 1940-1941). Rim fragment of jar; bipartite (dark grey outside: 7,5YR4/1; reddish brown inside: 5YR4/4) paste with white mica, chaff and sand inclusion; white paint outside (Type-3); rim d. 22, h. 3.7 cm, medium-thick.
Fig. 4.4 Dündartepe (exc. 1940-1941). Rim fragment of jar; bipartite (dark grey outside: 7,5YR4/1; brown inside: 7,5YR5/4) paste with white mica and sand inclusion; white paint outside (Type-3); rim d. 8, h. 6.1 cm, medium-thick.
Fig. 4.5 Tekkeköy (exc. 1940-1941). Rim fragment of jar with rope holes; brown core (7,5YR4/4) with thin paste; brown (7,5YR5/4) burnished outside, light brown (7,5YR6/3) inside; white paint outside (Type-3); rim d. 13, h. 4.2 cm, medium-thick.
Fig. 4.6 Tekkeköy (exc. 1940-1941). Rim fragment of bowl with tab-handle; brown core (7,5YR5/4) with thin paste; brown (7,5YR4/4) burnished outside, dark brown (7,5YR3/3) in inside; white paint outside (Type-3); rim d. 15, h. 4.8 cm, medium-thick.
Fig. 4.7 Tekkeköy (exc. 1940-1941). Rim fragment of bowl with tab- and knob handle; brown core (7,5YR4/4) with thin paste; yellowish brown (5YR5/6) burnished outside, dark brown (7,5YR3/3) in inside; white paint outside (Type-3); rim d. 15, h. 4.4 cm, thin-wall.
Fig. 4.8 Dündartepe (exc. 1940-1941). Rim fragment of bowl; very dark grey (7,5YR3/1) paste with white mica, chaff and sand inclusion; white paint outside (Type-3); rim d. 22, h. 6.7 cm, medium-thick.
Fig. 4.9 Doğankaya-Tepecik (sur. 2017). Rim fragment of bowl; very dark grey (7,5YR3/1) paste with white mica and chaff inclusion; white paint interior (Type-3) with incrustation; rim d. 22, h. 3.8 cm, medium-thick.
Fig. 4.10 Dündartepe (exc. 1940-1941). Rim fragment of bowl with knob handle; very dark grey (7,5YR3/1) paste with white mica and sand inclusion; reddish brown (5YR4/4) in inside; white paint outside (Type-3); rim d. 20, h. 8.6 cm, medium-thick.
Fig. 4.11 Tekkeköy (exc. 1940-1941). Rim fragment of bowl with knob handle; bipartite (dark grey outside: 5YR4/1; light brown inside: 7,5YR6/3) paste with white mica, white gritty and sand inclusion; white paint outside (Type-3); rim d. 18, h. 6.0 cm, medium-thick.
Fig. 5.1 Dündartepe (exc. 1940-1941). Rim fragment of jar; brown (7,5YR5/4) paste with paste with white mica, chaff and sand inclusion; white paint outside (Type-4); rim d. 10, h. 8.7 cm, medium-thick.
Fig. 5.2Paşaşeyh (sur. 2017). Body fragment; dark grey (10YR4/1) paste with paste with white mica, chaff and sand inclusion; brown (7,5YR4/2) in inside self-slip; white paint interior (Type-4), h. 5.0, w. 6.2 cm, medium-thick.
Fig. 5.3 Dündartepe (exc. 1940-1941). Body fragment; brown core (7,5YR4/2) paste

with white mica, chaff and sand inclusion; white paint outside (Type-4); h. 5.9, w. 6.9 cm, medium-thick.
Fig. 5.4 Gökçeboğaz (sur. 2019). Body fragment; dark grey (7,5YR4/1) paste with white mica, chaff and gritty inclusion; grayish brown (10YR5/2) in inside; white paint interior (Type-4); h. 9.3, w. 6.7 cm, medium-thick.
Fig. 5.5 Şirlek Tepe (sur. 2016). Body fragment; dark grayish brown (10YR4/2) paste with white mica, chaff and sand inclusion; white paint interior (Type-4); h. 4.6, w. 5.9 cm, medium-thick.
Fig. 6.1 Dombalaktepe (sur. 2016). Rim fragment of bowl; dark grey (7,5YR4/1) paste with white mica and sand inclusion; white paint interior (Type-1); rim d. 24, h. 4 cm, medium-thick.
Fig. 2 – Dombalaktepe (sur. 2019). Rim fragment of bowl; dark grey (7,5YR4/1) paste with white mica and sand inclusion; white paint interior (Type-3); rim d. 20, h. 3.1 cm, medium-thick.
Fig. 6.3 Dombalaktepe (exc. 2021, op. K14d14B19, ph. II/3b). Rim fragment of bowl; dark grey (7,5YR4/1) paste with chaff and calcite inclusion; in-out light brown (7,5YR5/3); white paint interior (Type-1); rim d. 15, h. 2.5 cm, medium-thick.
Fig. 6.4 Dombalaktepe (exc. 2021, op. K14d15B26, ph. II/4b). Rim fragment of bowl; dark grey (7,5YR4/1) paste with white mica, sand and calcite inclusion; white paint interior (Type-2); rim d. 20, h. 3.8 cm, thick-wall.
Fig. 6.5 Dombalaktepe (exc. 2021, op. K14d15B26, ph. II/4b). Rim fragment of jar; dark grey (7,5YR4/1) paste with white mica, sand and calcite inclusion; brown (7,5YR5/2) inside; white paint outside (Type-1); rim d. 13, h. 3.8 cm, medium-thick.
Fig. 6.6 Dombalaktepe (exc. 2021, op. K14dB18, ph. II/2b). Rim fragment of jar with handle; dark grey (7,5YR4/1) with thin paste; white paint outside (Type-1); rim d. 8, h. 3.5 cm, medium-thick.
Fig. 6.7 Dombalaktepe (exc. 2021, op. K14c, ph. II/1c). Rim fragment of jar; dark grey (7,5YR4/1) paste with gritty, white mica, chaff and sand inclusion; white paint outside (Type-1); rim d. 18, h. 8.0 cm, medium-thick.

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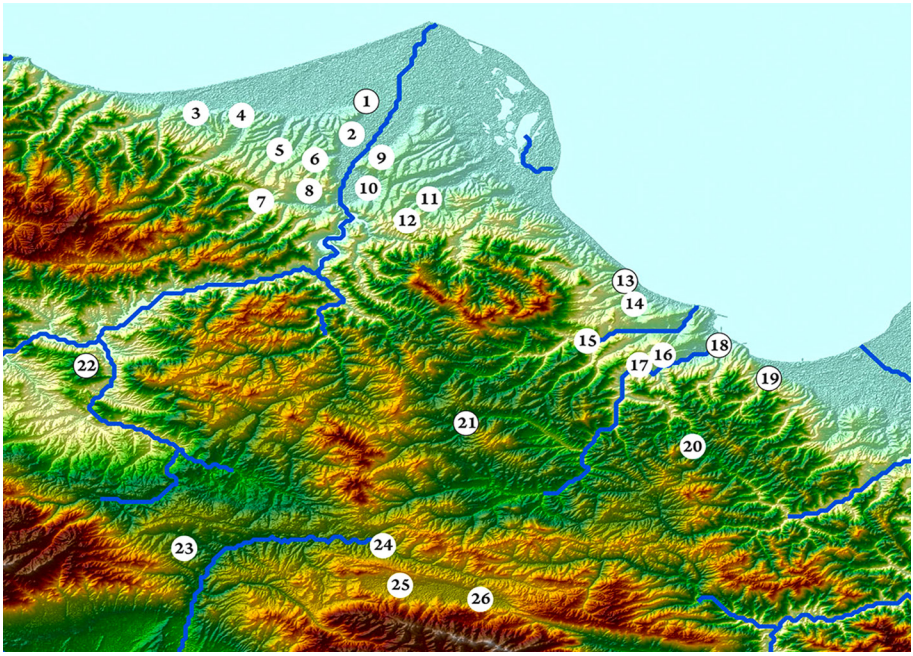

Fig.1 Spreading of Locations and types of WPDW around Samsun Region: 1. Ikiztepe (Type 1-4), 2. Şirlek Tepe (Type 1-4), 3. Gökçeboğaz (Type 1, 3-4), 4. Dedetepe (Type 3), 5. Tepekışla/Tödüğün (Type 2), 6. Tepetarla (Type 1), 7. Paşaşeyh (Type 4), 8. Elmacıktepe (Type 1, 3), 9. Kelebeş Tepe (Type 1), 10. Doğankaya-Tepecik (Type 1-3), 11. Dede Tepe / Ikizpınar (Type 1, 3), 12. Bakırdere Höyük (Type 1), 13. Dombalaktepe (Type 1-3), 14. Kümbettepe (Type 3), 15. Gök Tepe (Type 1, 3-4), 16. Bağtepe (Type 3), 17. Uzgur Höyük (Type 1), 18. Dündartepe (Type 1, 3-4), 19. Tekkeköy (Type 1-2), 20. Diklimtepe (Type 1-3), 21. Kaledoruğu (Type 1), 22. Oymaağaç/Nerik (Type 1, 4), 23. Havza-Tepecik (Type 1), 24. Salur / Yük Tepe (Type 1), 25. Mıhlı Tepe (Type 1), 26. Kurban Höyük (Type 1). (pointed on map by Authors).

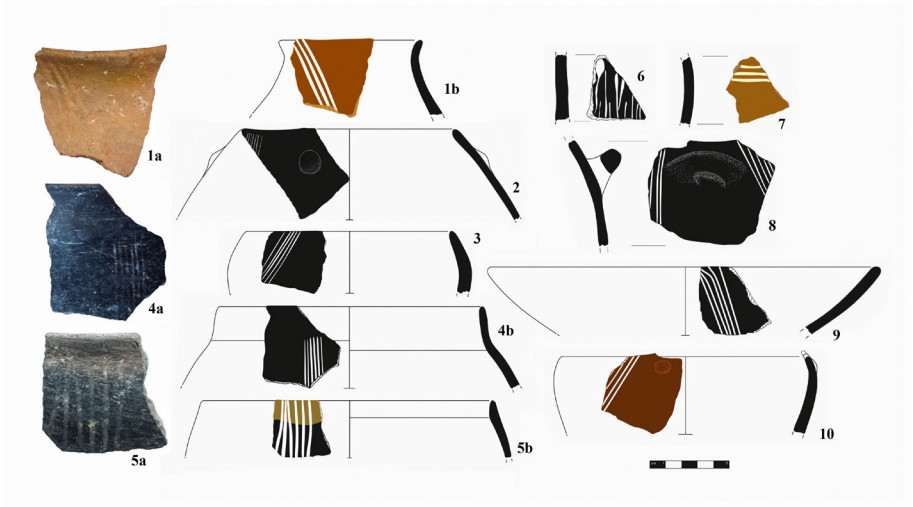

Fig.2 Selected WPDW samples for Type-1 from Samsun Survey

Fig.3 Selected WPDW samples for Type-2 from Samsun Survey

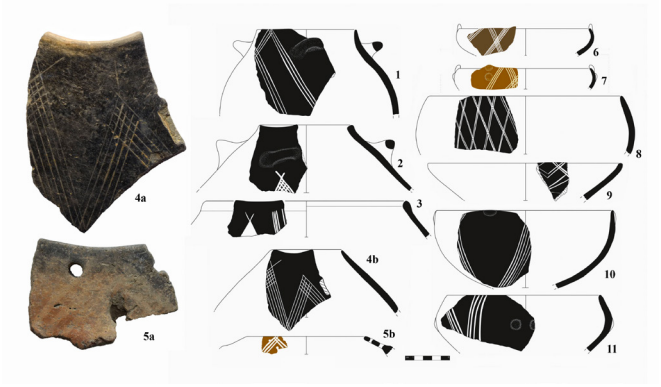

Fig.4 Selected WPDW samples for Type-3 from Samsun Survey

Fig.5 Selected WPDW samples for Type-4 from Samsun Survey

Fig.6 WPDW samples from the Dombalaktepe excavation

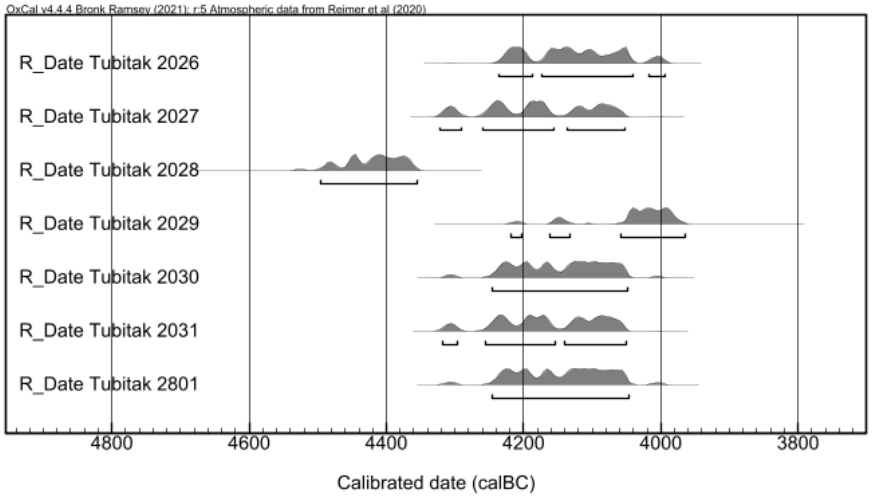

Fig.7 Dombalaktepe plot dates formed by Bayesian statistical modelling

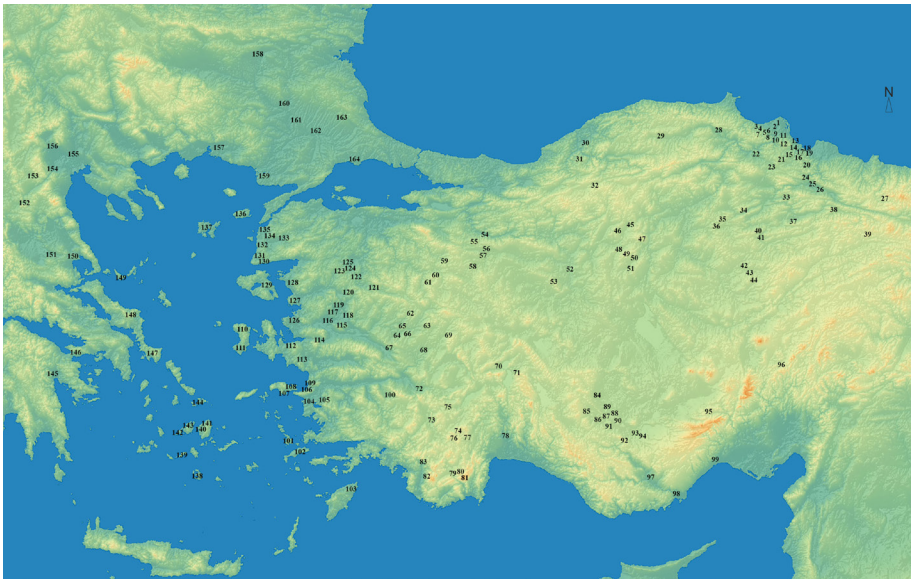

Fig.8 Spreading of WPDW tradition: [1] Ikiztepe, [2] Şirlek Tepe, [3] Gökçeboğaz, [4] Dedetepe, [5] Tepekışla/Töduğün, [6] Tepetarla, [7] Paşaşeyh, [8] Elmacıktepe, [9] Kelebeş Tepe, [10] Doğankaya-Tepecik, [11] Dede Tepe (Ikizpınar), [12] Bakırdere Höyük, [13] Dombalaktepe, [14] Kümbettepe, [15] Gök Tepe, [16] Bağtepe, [17] Uzgur Höyük, [18] Dündartepe, [19] Tekkeköy, [20] Diklimtepe, [21] Kaledoruğu, [22] Oymaağaç/Nerik, [23] Havza-Tepecik, [24] Salur (Yük Tepe), [25] Mıhlı Tepe, [26] Kurban Höyük, [27] Küllüce II, [28] Kovuklu Kaya, [29] Hoşkadıntepesi, [30] Inönü, [31] Kemelen, [32] Hadrianopolis, [33] Devret, [34] Kuşsaray, [35] Büyük Güllücek, [36] Alaca Höyük, [37] Maşat Höyük, [38] Komana, [39] Maltepe/Kılhıdık, [40] Kayatepesi, [41] Çördüklü Tepe Üstü, [42] Çadır Höyük, [43] Alişar, [44] Fevzi Çakmak Höyüğü I, [45] Bitik, [46] Asarcık/Ilıca, [47] Etiyokuşu, [48] Çayyolu, [49] Koçumbeli, [50] Ahlatlıbel, [51] Karaoğlan, [52] Polatlı-Karahöyük, [53] Yazır Hüyük, [54] Gedikkaya, [55] Demircihüyük, [56] Orman Fidanlığı, [57] Kes Kaya, [58] Asmainler, [59] Seyitömer, [60] Höyüktepe, [61] Aizanoi, [62] Aktaş, [63] Ayvacık, [64] Dutluca, [65] Yele Höyük, [66] Karayakuplu, [67] Kızılkabaağaç, [68] Beycesultan, [69] Kusura, [70] Ulağı Tepe (Gençali), [71] Yaka-Köşk, [72] Asopos Tepe, [73] Hasanpaşa, [74] Kevker/Kevzer, [75] Mancarlı, [76] Akkilise Höyük, [77] Kemer, [78] Karain, [79] Gilevgi Höyük, [80] Karataş-Semayük, [81] Söğle Bey, [82] Girmeler/Tavabaşı, [83] Çaltılar [84] Kara Höyük, [85] Bayat Höyük, [86] Çatalhöyük -west, [87] Sarıhasantolu, [88] Kuzey Sarlak, [89] Çumra 'F' Höyük, [90] Kepirce I-II, [91] Batum Höyük, [92] Koca Höyük II, [93] Sinneli, [94] Can Hasan, [95] Beytepe, [96] Ayşepınar-Menengi, [97] Maltepe (Kilise Tepe), [98] Silifke Kale, [99] Yumuktepe, [100] Pekmeztepe (Aphrodisias), [101] Vathy, [102] Kephalos, [103] Kalythies, [104] Killiktepe (Milet), [105] Malkayası, [106] Kadıkalesi, [107] Heraion, [108] Kastro Tigani, [109] Ayasuluk, [110] Agio Gala, [111] Emporio, [112] Liman Tepe, [113] Bakla Tepe, [114] Ulucak, [115] Halitpaşa II, [116] Hacırahmanlı, [117] Kennez II, [118] Kayışlar, [119] Dağdeviren, [120] Yortan, [121] Üveyliktepe (Sındırgı), [122] Babaköy, [123] Pamukçu, [124] Paşaköy, [125] Ovaköy III, [126] Ege Gübre, [127] Çandarlı, [128] Höyücektepe/Kaymaktepe, [129] Thermi, [130] Çoşkuntepe, [131] Gülpınar (Smintheion), [132] Hanaytepe, [133] Alacalıgöl, [134] Troya, [135] Kumtepe, [136] Uğurlu, [137] Poliochne, [138] Akrotiri, [139] Mavri Spilia, [140] Grotta, [141] Zas Cave, [142] Antiparos Cave, [143] Saliagos, [144] Ftelia, [145] Argos, [146] Korinth, [147] Agia Triada Cave, [148] Skoteini Cave, [149] Cyclops Cave, [150] Tsangli, [151] Sesklo, [152] Arapi Magula, [153] Mavropigi-Filotsairi, [154] Nea Nikomedeia, [155] Giannitsa, [156] Axos, [157] Paradimi, [158] Karanovo, [159] Hoca Çeşme, [160] Kumocağı/Avarız, [161] Tepeyanı, [162] Alpullu, [163] Aşağı Pınar, [164] Toptepe.