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Anatolian Pot Marks in the 3rd Millennium BC: Signage, Early State Formation, and Organization of Production

ABDULLAH HACAR – K. ASLIHAN YENER*

Abstract

This study presents new information and interpretation of pot marks applied specifically on “Anatolian Metallic Ware” that are dated to the 3rd millennium BC, and distributed in the southern Konya Plain and the southwestern region of Cappadocia. While many specialists have studied this ware group, also referred to as “Darboğaz” vessels, detailed studies have not been conducted on the pot marks themselves. The finds from the Göltepe excavations, when combined with other research data and ethnographic/ethnoarchaeological records, have helped to classify and interpret this signage. According to our preliminary results, there is no relationship between the pot marks and vessel type, sub-ware group, or ownership. Taking into account the general characteristics of the Anatolian EBA and the production techniques of Anatolian Metallic Ware, we discuss whether the pot marks reflect quality control over the production process and serve interregional connectivity.

Keywords: Southern Central Anatolia, Early Bronze Age, pot marks, Anatolian Metallic Ware

Öz

Bu çalışma MÖ 3. binyılda, Konya'nın güneyi ile dağlık alanları da içeren Kapadokya'nın güneybatı bölgesinde yoğun olarak görülen, ‘Anadolu Metalik Mal’ grubuna özgü olarak işlenmiş kap markalarına ilişkin yeni bilgi ve yorumlar sunmaktadır. ‘Darboğaz Kapları’ olarak da adlandırılan bu mal grubu bir çok uzman tarafından ele alınmıştır. Ancak elde edilen verilerin yetersiz olması nedeniyle kap markaları hakkında bugüne kadar detaylı bir çalışma yapılmamıştır. Göltepe kazılarında ve daha önce yapılan diğer araştırmalardan elde edilen detaylı bilgiler, etnografik/etnoarkeolojik veriler ile birleştirildiğinde, Anadolu metalik mal markalarının işlevine ve bu bulunduğu grubunun yansıttığı toplum yapısına ilişkin yeni bakış açıları ortaya çıkarmıştır. Elde edilen ilk sonuçlara göre bu markalar kap tipi, alt mal grubu, kap hacmi veya mülkiyet ile ilgili olarak işlenmemiştir. Bu çalışmada Anadolu'nun İTÇ'deki genel özellikleri ve Anadolu Metalik Mal grubunun üretim tekniği dikkate alınarak kap markalarının, üretimdeki kalite kontrolünü yansıtmış olup olamayacağı tartışılmaktadır.

Anahtar Kelimeler: Orta-Güney Anadolu, İlk Tunç Çağı, kap markaları, Anadolu metalik mal

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Introduction

The pot marks evaluated in this study occur on a specific style of pottery referred to as “Anatolian Metallic Ware” or “Darboğaz” vessels dated to the Early Bronze Age (hereafter, EBA) Ib-IIIa.¹ The ware is distributed at sites mostly in the southern parts of the Konya and Niğde Plains as well as the mountainous areas of the north-facing central Taurus Mountains.² Its use also extends south to Cilicia and the northern and eastern regions of Cappadocia (fig. 1).

The sites of third millennium BC Göltepe - and Kestel tin mine have provided detailed and important data both about the dating and technology of production of this ware as well as the variety of pot marks. These two archaeological sites, approximately 2 km apart, are located near the passes through the central Taurus Mountains near Celaller village, Niğde-Çamardı.³ Göltepe Periods 3a, 3b and 2 are respectively dated to EB Ib (2900-2700 BC), EB II (2700-2450 BC), and EB IIIa (2450-2200 BC).⁴

The large number of examples found at Göltepe has enabled a detailed production analysis of Anatolian Metallic Ware.⁵ Its extraordinary features such as production techniques, forms and surface treatments distinguish Anatolian Metallic Ware from the other contemporary ware groups in Anatolia (figs. 2-10).⁶ One of the unique features of this ware is the prefired pot marks, which consist of straight line, groove, dots and their combinations, incised or impressed on different parts of the handle (table 2, figs. 5-10).

To date no other remarkable pot-marking tradition dated to 3rd millennium BC has been identified in western or central Anatolia. In the Near East or other regions mentioned below, the marking of vessels begins with early state formation periods and with complex economic structures.⁷ These two crucial junctures make the study of 3rd millennium BC Anatolian Metallic Ware pot marks important.

In this study we describe these marks in detail and interpret their possible functions, which have not been discussed thoroughly so far. The interpretations relate only to the general use of the marks, as more data is needed to interpret the symbolic meanings of individual pot-mark motifs. Suggestions are made here about the broader meanings of the marks, especially since they date to a period when social transformations began over wider geographical regions. The data were examined both diachronically and synchronically, and efforts were made to determine whether they reflected social aspects of the population. The qualitative and quantitative characteristics of the Anatolian Metallic Ware on which the marks were incised, the processing techniques, and formal features of the motifs were used in our interpretations. Parallels were also drawn to prehistoric marking traditions in other regions and periods in chronological order. In addition, other Anatolian EBA signages and their possible functions were mentioned.

¹ Mellaart 1963; Öztan 1989; Güneri 1989; Özgüç 1990.

² Mellaart 1954, 1963; Seton-Williams 1954; Mellink 1989; Öztan 1989; Güneri 1989; Özgüç 1990; Yener 2000; Hacı 2017.

³ Yener 1992, 276; Hacı 2017, figs. 2-3.

⁴ Yener 2000, 101-9, table 4; Yener (forthcoming); Yener and Vandiver 1993, 215-21, tables 1-2; Hacı 2016, 194-97, table 2.

⁵ Yener 2000; Friedman 2001; Hacı 2017.

⁶ Mellaart 1954, 1963; Mellink 1989; Öztan 1989.

⁷ Frangipane 2012; Mazzoni 2013; Fischer 2008; Lal 1975; Potts 1981; Bailey 1996; Lindblom 2001.

Anatolian Metallic Ware

General Characteristics

Detailed information on the production of Anatolian Metallic Ware has previously been published.⁸ As a result of the analyses of Göltepe finds, handmade Anatolian Metallic Ware was classified into two subgroups, plain and classic.⁹ Both were produced using similar techniques; however, there are differences in the structural characteristics of the clay and surface treatments. The paste of plain Anatolian Metallic Ware has a larger mineral temper. On the surface of all examples, there are small pits resulting from burned-out limestone or sandy temper, which cause the surface to be rough.¹⁰ The majority of the first group are unslipped, but there are also self-slipped examples.

The paste of classic Anatolian Metallic Ware is more refined and with finer mineral temper than the previous group. This sub-ware group also exhibits a hard and clinky character, which seems to be a result of overfiring.¹¹ However, thin section analysis of Göltepe examples¹² has revealed the use of serpentine clays, which could result in the clinky characteristic without high firing. Neutron activation analysis of Anatolian Metallic Ware reveals that it is a distinct, cohesive group and is unrelated to any other group from the Göltepe ceramic assemblage. Moreover, the composition of Anatolian Metallic Ware does not match favorably with the local alluvial clays around Göltepe. On the contrary, the local clay demonstrates a close geochemical relationship to the tin-rich crucibles, micaceous, and burnished wares.¹³ Another feature that distinguishes classic ware from the plain sub-ware is the more elaborate surface treatment. Besides self-slipping, dark red, brown, black and purple slip also occur (figs. 8.2, 8.4, 9.8). Most vessels of the classic subgroup have black, dark brown, purple or red painted decorations.

Shapes

Due to the production mode mentioned below, the closed vessels have quite standard forms. These forms have a spherical or ovoid body, and the transition from body to neck is very sharp (figs. 3-6). Almost all of the bases have a concave/*omphalos* profile (figs. 2-4). Rarely, some bowls have a flat base. Many examples of the jugs have lugs attached under the rim or on the shoulder opposite the handle (figs. 2, 5.1).¹⁴ In some jars, there are similar lugs on the shoulder between the two handles. These lugs are vertically or horizontally perforated, but there are also semi- or non-perforated examples.

Similar types of jug, jar and cup do not occur in other ware groups; each vessel type is unique to Anatolian Metallic Ware.¹⁵ Up to now, four different forms of bowls, six of jugs, four of jars, one of cup, and one of baby feeder were identified (figs. 3-4).

⁸ Mellaart 1963; Öztan 1989; Hacılar 2017.

⁹ Hacılar 2017.

¹⁰ Mellaart 1963, 228; Öztan 1989.

¹¹ Mellaart 1963, 210; Hacılar 2017, 23-24.

¹² Friedman 2001.

¹³ De Sena and Friedman 1997; Friedman 2000.

¹⁴ Hacılar 2017, figs. 5.7, 5.10, 7.8.

¹⁵ Mellaart 1963, 228-35.

Specialized Production Process of Anatolian Metallic Ware

General Definitions of Craft Specialization

In ethnographic and ethnoarchaeological studies, different types of specialization have been defined based on analyzing the standardization, quality and statistical data that can be determined in the material.¹⁶ In these studies, specialization is generally classified as “attached” and “independent” (referring to production conditions) or “full-time” and “part-time” (referring to working time) or “individual”, “kin-based” and “workshop” (referring to production environment).¹⁷ Since the condition and environment of each production type is different, it is assumed that the pottery produced in different types of production modes will reflect their own production organization. For example, as “attached” and “independent” production types have completely different conditions and environment, the finished products are completely different from each other.

In attached specialization, raw material of high quality is usually supplied by the elites or ruling class, and experienced specialists are also selected/employed by them. Thus the elites have direct control over *chaîne opératoire*, and the products are generally prestige or luxury objects.¹⁸ These objects are produced in a limited number and are high quality. However, highly standardized mass products of low quality, which occur first in the Near East in the 5th and 4th millennium BC, can also be produced in this mode of production.¹⁹ In contrast to the special products of the first production mode, these mass-produced vessels produced under the control of elite groups are intended for ration distribution among the employees of the elites or other similar purposes.²⁰ Interestingly, as mentioned in detail below, many of these vessels bear pot marks.

In the independent specialization model, production can be made for all segments of society. The production environment has more flexible conditions, as it is often not directly controlled by the elite or political structures.²¹ Production is generally shaped by demand and continues as long as demand continues. In this production mode, the types of specialists can also be quite different. Full-time and part-time, household, kin-based, dispersed or more institutionalized workshops can produce their products independently.

Specialized Production Process of Anatolian Metallic Ware

A statistical analysis of the degree of standardization in Anatolian Metallic Ware has not been conducted so far. However, the visual morphological analysis by the authors, and the thin section and neutron activation analysis conducted by other scholars, provide important evidence for specialization.²² The specialized production characteristics of Anatolian Metallic Ware, which also distinguish it from the other contemporary wares, can be listed as follows:

- Refined, intentionally tempered fabric
- Methodical and mass production

¹⁶ Rice 1991; Costin and Hagstrum 1995; Blackman et al. 1993; Roux 2003.

¹⁷ Costin and Hagstrum 1995, 620-21; Costin 2000, 389-90; Roux 2003, 768-69.

¹⁸ Clark and Parry 1990, 293-94; Costin 1991, 12; Costin and Hagstrum 1995, 620.

¹⁹ Frangipane 1993, 2012.

²⁰ Frangipane 2012, 43-44.

²¹ Costin 2000, 392-93; Costin and Hagstrum 1995, 620-21.

²² Friedman 2000; Hacı 2017.

- High production rates
- Quality and fineness
- Standardization
- Unique features of appearance and shape type
- Pot marks

Ethnoarchaeological studies show that in specialized production, raw material and paste temper are not randomly collected but are intentionally selected by the specialists.²³ Apart from the high-quality clay used in the production of Anatolian Metallic Ware, some tempers were intentionally chosen for certain purposes. According to Friedman's interpretations, the pyroxene (magnesium silicate) revealed by thin section and neutron activation analysis were intentionally added to the paste by the potters to give the clinky characteristic, which is a distinctive feature.²⁴ Apart from this, the potters developed new methods and techniques which were developed for mass production, thus decreasing diversity. As explained below, the use of molds for individually shaped parts and some tools for final adjustment were developed to ensure the quality and standardization (fig. 2).

A specialized production technique that involved different stages was developed for this handmade process (fig. 2). The first stage entailed the use of a mold to form the body. Evidence for this occurs in very standardized forms, sizes, smooth concave bottom profiles, and thin body walls.²⁵ In addition, scraping marks on the inner surface of the sherds would have occurred when placing and fitting the clay into the mold²⁶ (fig. 2). After shaping the body, the handle hole and the notches in the area to be joined with the neck were opened²⁷ (fig. 2). In the second stage of production, the neck was shaped on a leather hard (or maybe bone dry) body. Thus, the dry and hard notches of the body passed through the wet and soft clay of the neck. Before the clay was dried again, handle holes must also have been opened on the neck. In the third stage, handles were inserted into the body (fig. 2). The joins of body-neck, neck-handles and body-handles were covered with a second layer of clay to smooth all the joins in the fourth stage (fig. 9.2). Slipping, burnishing, painting and application of pot marks were done after these operations.

Very standardized forms, which are specific to Anatolian Metallic Ware, have been produced with this production technique. There are no local differences in the fabric characteristics or shapes of the vessels recovered from different settlements. Anatolian Metallic Ware vessels obtained from the core region -the settlements located in the southern of Konya and in the southwest of Cappadocia- and Kültepe located in eastern Cappadocia, Tarsus and Mersin-Yumuktepe located in Cilicia are indistinguishable from each other.

These distinctive features are not precisely similar either to the prestige objects or the mass-produced coarse vessels of the attached specialization process or to vessels produced during the independent production process which has flexible production conditions and environment identified in ethnographic and ethnoarchaeological studies. In fact, the characteristics

²³ Costin 2000, 380; Costin and Hagstrum 1995, 622.

²⁴ Friedman 2000, 161-70.

²⁵ Mellaart 1963, 228; Hacıar 2017, 24.

²⁶ Hacıar 2017, 24-25.

²⁷ Mellaart 1954, 193; Öztan 1989, 408; Hacıar 2017, 24-25.

seen in the two different kinds of attached specialization, namely the “quality” of the prestige goods produced by attached specialist in a small number and the “mass production” and high “standardized” forms, seem to have come together in Anatolian Metallic Ware.

Anatolian Metallic Ware Pot Marks

Of the Anatolian Metallic Ware recovered from Göltepe and Kestel Mine, which includes the two sub-ware groups (plain and classic), a total of 274 rim and handle sherds were directly analyzed by the authors.²⁸ 65 handle pieces (19 plain and 46 classic) from Göltepe and four handle pieces (2 plain and 2 classic) from Kestel were marked (table 1). Other pot marks in the core region were included in the study from publications. The examples of marked vessels from Karaman and the southern Konya region were obtained from archaeological surveys.²⁹ Marked vessels were also found in the Ereğli plain and Ulukışla valley.³⁰ Anatolian Metallic Ware sherds were also recovered outside the core region in Cilician and Cappadocian EBA settlements such as Tarsus-Gözlükule and Mersin-Yumuktepe in Cilicia, Kilisetepe in Göksu Valley/*Calycadnus*, Acemhöyük, and Kültepe in western Cappadocia (table 1).

General Characteristics

The methodical production technique of Anatolian Metallic Ware resulted in a large number of similar vessels. One can hardly distinguish between Anatolian Metallic Ware vessels retrieved from different sites in other regions, several of which were included in this study. Standardized production also occurred in the 50 identified pot-mark motifs. The harmonization of the motifs and sizes of the pot marks is immediately noticeable (table 2) (figs. 5-10). Motifs consisted of combinations of parallel, intersecting or perpendicular lines, dots or grooves. However, there are also examples of a horizontal or vertical line, dot or groove applied individually. Pot marks were usually located on the top of the handles. However, there were also examples applied on the rear, right or left sides, as well as the bottom part of the handles (motifs 8, 10, 18, 25, 28, 30, 32-33) (figs. 6.4, 6.6-7, 7.5, 8.4-5, 8.7, 9.5).

It is important to determine whether the marks are applied before or after firing in order to define the function of the pot marks. The reason for this scrutiny is that most prefired marks are related to the production process, whereas postfired marks are determined by the vessels' users and are related to vessel contents or property.³¹ All Anatolian Metallic Ware pot marks were applied before firing. Most of the marks have a characteristic accumulation of clay along the edges, which could only occur on unfired clay (figs. 8-10). Some examples indicate that the slip leaked into the mark interior.

Some pot marks applied to the two sub-ware types of Anatolian Metallic Ware have different characteristics. Generally, the motifs in the plain category consist of wider or longer lines and grooves and dot combinations (e.g., motifs 8, 14-15, 38, 44-50) (figs. 5.5, 5.6, 7.2, 7.7, 7.8, 8.1, 8.6, 10.3-7). On the other hand, the motifs of the classic Anatolian Metallic Ware consist of thinner and narrower lines and dots (e.g., motifs 1-5, 10-13, 16-19, 23-28, 34-37) (figs. 5.1-2,

²⁸ The results of our analysis and classification for the pot marks retrieved from all sites mentioned in text can be seen in table 2. This table contains information on 50 different motifs, their position on the handle, the type of the vessels on which marks are applied, the settlements they were retrieved, and their dating.

²⁹ Mellaart 1963; Güneri 1989.

³⁰ Mellaart 1954, 1963; Öztan 1989.

³¹ Hirschfeld 2008, 120.

5.4, 5.7, 6.1-7, 8.2-5, 8.7, 9.2-5, 9.7-8). However, some common motifs were used in both sub-ware groups.

From the scoring, it appears that at least four different tools were used for marking. One of them is a sharp-edged tool with a convex outline that shaped the wide grooves on plain Anatolian Metallic Ware (figs. 7.2, 8.1, 8.6). Another appears to be a flat, rounded tool that formed oval marks specific to this sub-ware type (fig. 8.6). In addition to these, a slim, flat tool and a pointed tool could probably have been used to shape lines (figs. 5.1, 5.7, 8.2, 8.4-5) and dots (figs. 5.8-9, 8.3, 9.1, 9.6) which occur in both sub-groups.

The sizes of the pot marks vary in direct proportion to the motifs and vessel size (figs. 5-10). With the exception of the motifs covering the entire handle area in the plain sub-group, most of motifs fit into a 1-3 cm square area (table 2) (figs. 5.5, 7.7-8, 10.3-7). It is important to point out that the size of Anatolian Metallic Ware pot marks and motifs are much more standardized than the pot marks of other sites mentioned below.

Apart from the incised or impressed pot marks on handles, some painted motifs on Anatolian Metallic Ware could also function as pot marks. They usually consisted of geometric shapes such as a swastika, crescent, lines and dots applied to the middle or upper part of the pot body. In addition to Göltepe, EBA vessels with painted signs occur at Ereğli-Çayhan, Mersin-Yumuktepe and Konya-Kerhane.³² If this assumption can be proven, the number of pot mark types and quantities will also increase for the 3rd millennium BC. This signage tradition continues into the 2nd millennium BC,³³ and expands to other media such as metal weapons and tools as well, especially in Syro-Anatolia.

Dating and Rates

Pot marks occur on plain Anatolian Metallic Ware vessels at the earliest during Göltepe EB Ib. This sub-ware group remained in use until the end of the EB IIIa. In all phases of the EBA, the percentage of plain Anatolian Metallic Ware vessels is only 2% among all ware groups. For this reason, the use and production of this sub-ware category remained at a limited level compared to classic Anatolian Metallic Ware.³⁴ The percentage of classic Anatolian Metallic Ware, which appears in EB II (2700-2450 BC), is about 23% of all wares.³⁵ Classic Anatolian Metallic Ware is thus the most typical ware group at Göltepe Period 3b (EB II). Further, the intensive use of this ware continued in the next phase. In Göltepe Period 2-EB IIIa, (2450-2200 BC) classic Anatolian Metallic Ware at 19% is the second most common pottery group, after dark burnished ware.

Since only rim fragments were used in the statistical studies of Göltepe pottery, it is impossible to determine the exact percentage of the pot-marked vessels. However, it should be emphasized that more than half of the handles evaluated in the classification are pot marked. It is highly probable that most of the two handled vessels carry only one pot-marked handle. Besides, as mentioned above, if some painted motifs on the bodies are also pot marks, these vessels may not have any handle pot marks, although in MBA Alalakh both occur.³⁶ Therefore,

³² Öztan 1989, figs. 17, 19, 33; Garstang 1953, fig. 122; Mellaart 1963, fig. 12.15.

³³ Yener 2020.

³⁴ Hacıoğlu 2016, 78-79.

³⁵ Hacıoğlu 2016, 86-87; 2017, 27-28.

³⁶ Yener 2020.

instead of giving exact percentages for pot marked vessels, for now it is more accurate to state that more than half of the Anatolian Metallic Wares were produced with incised or impressed pot marks during the EB II and EB IIIa periods.

Distribution

The geographical distributions of the 50 pot-mark motifs and their percentage of use are not easy to determine. Although a variety of motifs exist, they are not numerous enough for statistical evaluation except for a few examples. What is apparent, however, is that a wide geographical area in central Anatolia has shared signage traditions and many motifs co-occur. Common motifs were found both at Göltepe and other sites where surface surveys were conducted; for example, motif 3 is the most frequent. Similarly, motifs 1, 4, 6, 7, 9, 10, 13, 21, 22, 34, 36, 47, 49 occur both at the core region (Karaman and southern part of Konya)³⁷ and other sites outside this zone. Pot-marked sherds of both plain and classic Anatolian Metallic Ware were found at Karapınar I (motif 21), Topraktepe (motifs 4, 13), and Kanaç (Kıbrıs) (motifs 3, 4, 21, 22) (fig. 1, table 2). Only the pot-marked classic Anatolian Metallic Ware vessels were found at Eminler (motif 36), Kocahöyük I-II (motifs 1, 3, 4, 6, 13, 36), Kerhane (motifs 1, 3, 4, 7), Domuzboğazlayan (motif 1), Üçhöyük (motif 9), Kızılviran (motif 11), Sarlak (motif 13, 16, 17?), and Kozlubucak (motif 32).

Anatolian Metallic Ware pot marks were also retrieved from surveyed sites from the Ereğli plain to Ulukışla³⁸ along the northern flanks of the Taurus and the passes. Beytepe (motifs 16, 22, 36) and Ulukışla (motif 49) have pot-marked sherds of both plain and classic Anatolian Metallic Ware; Çayhan (motif 3), Hüsnüye (motif 9), and Darboğaz (motif 13) have only classic Anatolian Metallic Ware examples. All the pot-marked sherds found on survey in the sites of the western, northern and eastern parts of Cappadocia belong to only the classic Anatolian Metallic Ware sub-group. Pot marks were recovered from Kültepe-Gülağaç (motif 10) and at Acemhöyük (motifs 3, 6).³⁹ Apart from this, there is also a miniature jug with a pot mark from Kültepe.⁴⁰

Both sub-groups of Anatolian Metallic Wares with pot marks occur at Tarsus-Gözlükule in Cilicia, which is an important site for dating wares (motifs 7, 47).⁴¹ At Mersin-Yumuktepe and Kilisetepe, examples were found of the classic Anatolian Metallic Wares.⁴² An example of a pot mark from Troy (motif 1), located a long distance away from the core area, also belongs to the classic Anatolian Metallic Ware group.⁴³

Other Pot-Marking Traditions

Generally, Near Eastern examples of prefired pot marks are considered as trademarks, numerical values reflecting the vessel volume, or as a sign indicating the potter, workshop, user, co-operative production or standardization due to centralized political control. Pot marking began quite early in the Neolithic and continued in early historic periods. Neolithic pot marks usually

³⁷ Mellaart 1963; Güneri 1989.

³⁸ Mellaart 1954, 1963; Öztan 1989.

³⁹ Hacı 2016; Öztan 1989.

⁴⁰ Özgüç 1986, 38, fig. 3.21.

⁴¹ Goldman 1956, 121, figs. 192, 250-51.

⁴² Symington 2007, 302, fig. 369.236-37; Garstang 1953, fig. 122.

⁴³ Blegen et al. 1950, 170, fig. 250.7.

consisted of crescents in relief, as well as straight lines or uneven knobs, which were applied randomly to the lower part of the body near the bottom. Karen D. Vitelli⁴⁴ states that these pot marks may be signs of kinship relations whereby families who produced pottery during certain times of the year continued this production throughout generations. New generations, who learned pottery production from their parents would have continued to apply these pot marks, which symbolized family identity.

The vessels found in Malatya-Arslantepe and dated to 4th millennium BC also bear pre-fired pot marks. They consist of randomly incised line and dot combinations and occur on almost all vessels that reflect mass and collective production developed as a result of a changing economy and political structure. For this reason, Marcella Frangipane⁴⁵ has stated that the pot marks were made by potters to distinguish their vessels after collective drying and firing in a mass-production model supported by the central economy. At around the same time in the greater Near East, pot marks began to appear when socio-economic transformations were contemporary to Arslantepe. Prefired pot marks appeared in the early Indus valley Harappan period at the end of the 4th millennium BC and are considered to be the roots of Harappan script.⁴⁶ Similar pot marks were found in the Kerman region in Iran at Tepe Yahya and dated to the Early Proto-Elamite (IVB) period, the beginning of the 3rd millennium BC.⁴⁷

Dated to the second half of 3rd millennium BC, pot-marking practices from Syria and Jordan appear during early state formation processes. Some of the pottery at Ebla bear incised or impressed prefired pot marks. Motifs consist of crescent, star, trefoil, circle, simple cross, parallel or intersecting lines, groove, or dots.⁴⁸ Pot marks on jars and storage jars were usually placed under the rim or upper part of the body. However, on some bowls or cups, pot marks were applied to the base. EBA Al Kharaz in Jordan yielded incised prefired marks applied to the body, base or under the rim and bear similarity to Ebla. There are also handles with pot marks.⁴⁹

Interestingly, the closest analogous examples for the handle marks of Anatolian Metallic Ware occur in the Aegean and Cyprus, where incised or impressed pot marks were applied to the bodies and bases, as well as to handles. However, it is not clear whether or not these two traditions are influenced by each other. As Susan Sherratt⁵⁰ notes, the lack of research in the south and southwest coastal regions of Anatolia prevents us from interpreting the connections between Anatolia and the Aegean and Cyprus, especially during the EBA. The earliest examples in the Aegean are dated to EBA II-III, contemporary with our region and continued until the end of 2nd millennium BC.⁵¹ Examples in Crete and Cyprus are similarly dated to the Early, Middle and Late Bronze Ages.⁵² Motifs consist of simple line or dot combinations.⁵³ According to some scholars,⁵⁴ some of these signs reflect Linear A or B syllables or numerical values.

⁴⁴ Vitelli 1977, 17, 29-30, figs. 1, 2, 10-26.

⁴⁵ Frangipane 1993; 2012, 44-45, figs. 3-4.

⁴⁶ Lal 1975, 173-74, fig. 1.

⁴⁷ Potts 1981, 107, 115-19, fig. 1.

⁴⁸ Mazzoni 2013, 93-94, figs. 5.1, 5.11-13, 5.21-26, 5.37.

⁴⁹ Fischer 2008, 138, figs. 136.2, 136.4; Feldbacher and Fischer 2008, 391-98, figs. 328-31.

⁵⁰ Sherratt 2013, 89-92.

⁵¹ Bailey 1996, 215, 240-43, pls. I-V; Lindblom 2001, pls. 49-56.

⁵² Hirschfeld 2008, 124; Åström 1966, 149-92, fig. 4, pls. 44-48; Frankel 1975.

⁵³ Åström 1966; 1969; Bailey 1996; Bikaki 1984.

⁵⁴ Edgar 1904, 177-80; Evans 1904, 181-85; Åström 1966, 149-92; Sherratt 2013; Hirschfeld 1993, 2008.

To date, no other pot-marking tradition dated to the 3rd millennium BC has been identified in other parts of Anatolia except for a few examples in some EBA settlements such as Troy, Tarsus Gözlükule and Karataş.⁵⁵ However, after the beginning of the 2nd millennium BC, the percentage of pot-marked vessels increased steadily. This ratio is at the highest level in all the centers that were within Hittite imperial territory, especially in the Late Bronze Age.⁵⁶ The incised or impressed pot marks dated to the 2nd millennium BC were mostly applied on the pot bodies. However, there are a few examples applied on handles.⁵⁷ Interestingly, incised examples reflect similar motifs as Anatolian Metallic Ware handle pot marks.⁵⁸

Marie-Henriette Gates⁵⁹ sees the pot marks as an indicator of Hittite administrative control. According to Claudia Glatz,⁶⁰ LB pot marks point to an organization of cooperative production in which independent experts collaborate at a certain stage of production. Some experts who have considered the individual meanings of the motifs have interpreted them as numerical values or hieroglyphic script.⁶¹ Mara T. Horowitz,⁶² working with LBA Alalakh pot marks, sees them as serving interregional connectivity, broadly defining what appears to be the case with earlier Anatolian Metallic Wares.

Other Signage Systems during the Anatolian EBA

With new research, the number of marks and signs on different materials dated to the EBA in Anatolia is increasing. Some interesting finds were recovered from Bademağacı, located in southwestern Anatolia and dated to the EBA II (2600-2500 BC).⁶³ Three disc-shaped clay objects, called *numeric (?) tablets* by Gülsün Umurtak, bear prefired incised or impression marks applied by fingernails or some kind of tools.⁶⁴ Since the signs are repeated in a certain order, Umurtak suggests that these signs may carry numerical values that indicate the amount of countable goods.⁶⁵

In addition to these limited numbers of finds, many EBA settlements, such as Troy, Tarsus, Karataş-Semayük and Kusura, yielded a large number of spindle whorls that bear some incised or impressed signs.⁶⁶ The signs consist of crosses, chevrons, twigs and comb-like marks.⁶⁷ Due to the character of some signs and their repetitive orders, some scholars have made some similarities between these signs and Linear A signs.⁶⁸

⁵⁵ Waal 2017, 114-15, fig. 1; Bachhuber 2015, 78; Schmidt 1902, 90; Goldman 1956; 123-24, figs. 256, 352; Mellink 1965, 249, fig. 44.

⁵⁶ Seidl 1972; Gates 2001; Müller-Karpe 1988; Glatz 2012.

⁵⁷ Seidl 1972, figs. 8-23.

⁵⁸ Seidl 1972, figs. 21.b1, b3-4, b8, b10, 22.b20.

⁵⁹ Gates 2001, 137-38, 140-41.

⁶⁰ Glatz 2012, 32-35.

⁶¹ Seidl 1972, 75-76; Müller-Karpe 1988; Mielke 2006, 153-54.

⁶² Horowitz 2017.

⁶³ Umurtak 2009.

⁶⁴ Umurtak 2009, 2, figs. 3-5.

⁶⁵ Umurtak 2009, 3-4.

⁶⁶ Waal 2017, 115-16; Goldman 1956; 328-30, figs. 446-50; Mellink and Angel 1966, 250, figs. 34-36; 1967, 52-53, 57.

⁶⁷ Waal 2017, 115-16.

⁶⁸ Waal 2017, 115-16, figs. 4-5.

The number of EBA seals and sealings have also increased with recent research. Sites in southwestern Anatolia, such as Bademağacı, Hacılar Büyük Höyük, and Kandilkırı, were added to the settlements of Troy, Tarsus, Karataş-Semayük where seals had been obtained earlier.⁶⁹ Over 100 seals were recovered from Bademağacı EBA levels.⁷⁰ During the recent excavations at Kültepe more than 1000 sealings/*bullae*, probably of northern Syrian or Mesopotamian origin, have been found in the rooms of an administrative structure which may prove both economic links between these regions and administrative recording and control over the circulation of goods.⁷¹

Anatolian stamp seals occurring since the Neolithic have geometric signs and are usually made of clay or, in small numbers, of stone or metal. The most common motifs consist of groups of dots, straight or wavy lines, angle-filled cross and hatched cross.⁷² There are various suggestions regarding the function of Anatolian seals: a symbol of individual or family identity, amulet, ritual or magical object or textile decoration tools.⁷³ Early Bronze Age seals may be similarly multifunctional. However, there was an increase in the number of seals and sealings during this period, and some were discovered in public areas. This case probably indicates that in the EBA some of the seals were also being used by the elites for administrative recording and control.⁷⁴

In this period a few seal-impressed vessels were also retrieved from Troy, Tarsus-Gözlükule, Mersin-Yumuktepe and Karataş-Semayük.⁷⁵ Michele Massa⁷⁶ has classified these seals into four different types based on shapes and motifs: Anatolian, Aegean, cylinder with geometric, and cylinder with figurative motifs. Although the function of the seal-impressed vessels is uncertain, they are particularly important in terms of demonstrating regional relationships and the circulation of products.

Discussion

The motifs on spindle whorls, numerical (?) tablets, seals and sealings may indicate that in the EBA the use of cognitive signage was becoming widespread in many social areas of daily life. Cultural complexity, increased levels of socio-political networking, and relations with Near Eastern communities may have facilitated the spread of these practices. However, the 3rd millennium BC pot marks discussed here were incised or impressed specifically on Anatolian Metallic Ware and are entirely different from all other contemporary wares due to the techniques applied during the production process such as the preparation of the paste to shaping and firing. Furthermore, there is no significant pot-marking tradition in Anatolia in the 3rd and 2nd millennium BC or even in the 2nd millennium BC, except some examples mentioned above.

⁶⁹ Blegen et al. 1950, 256, fig. 408; Goldman 1956, 232-33, 240-41, figs. 392-98; Mellink 1965, 250, fig. 33a-b; 1967, 264, figs. 54-56, 58-59; Umurtak 2015; 2013; Oğuzhanoğlu 2019.

⁷⁰ Umurtak 2013, 52.

⁷¹ Kulakoğlu and Öztürk 2015.

⁷² Massa 2016, 132-33; Umurtak 2013, 52.

⁷³ Umurtak 2000, 6-7; 2013, 53; Çilingiroğlu 2009, 7-12.

⁷⁴ Bachhuber 2015, 131, 155-62; Massa 2016, 137-38; Umurtak 2013, 52-53; Kulakoğlu and Öztürk 2015.

⁷⁵ Massa 2016, 139-41; Blegen et al. 1950, 256, fig. 408; Goldman 1956, 236, figs. 396-97.

⁷⁶ Massa 2016, 139-40, figs. 5.21-5.23.

James Mellaart's statement clearly defines the distinctive characteristics of Anatolian Metallic Ware:

No single class of pottery in Southern Anatolia can claim such an individual and unique appearance, in texture, shapes and decoration, as the metallic ware of the Konya Plain. Throughout its use it preserved these qualities and there is no evidence that it ever borrowed a single shape from the other classes of pottery which were in use at the same time.⁷⁷

All these features, namely the pot marks applied on a ware group which have standard, specific shape types and production techniques, are not unusual just for Anatolia but also for most geographical regions where the above-mentioned marking traditions are seen.

The uniformity of Anatolian Metallic forms and their spread over a large area with a certain order caused us to analyze the function of the pot marks. Mitigating against pot marks being related to vessel typologies comes from the fact that there are larger numbers of pot-mark motifs compared to the number of vessel types. Also, different pot marks occur on the same vessel types, and similar motifs can be seen on different vessel types (table 2). In addition, similar pot-mark motifs occur at different sites. These suggest that the possibility of pot marks being symbols of property relationships is less likely. It cannot also be said that all pot marks carry numerical values that reflect the size of the vessels, since vessels with different volumes have similar pot-mark motifs. However, on occasion some marks may carry numerical values. For example, motif 43 and similar motifs consisting of a combination of different numbers of dots and lines probably bear numerical meanings.

According to other views, pot marks may carry a symbolic meaning related to the vessels' contents. If some high-value products had been produced under the control of a possible centralized power and redistributed using these vessels, the signs could represent certain products being distributed. The spread of Anatolian Metallic Ware over a large area outside the core region supports this possibility. However, this idea is also less viable since the pot marks also include miniature vessels such as cups, jugs and baby feeders.

The general characteristics of the Anatolian EBA may provide possible answers to the interpretation and function of pot marks. The questions – who produced these vessels and who were the recipients – are important considerations to define the types of production organization.⁷⁸ As noted above, it is noteworthy that signage on vessels begins in specific geographical regions exhibiting evidence of early state formation. Furthermore, local political structures during the EBA such as public/administrative architectural remains and elite graves yielded prestige objects in western and central Anatolia.⁷⁹ The boundaries of certain pottery groups centered in these specific regions around 2700-2200 BC could be markers for emerging territorial political structures.⁸⁰ According to some,⁸¹ these regional political institutions may have managed the production of certain products (especially metal) and the circulation of some goods during the EBA II-III.⁸² Prestige objects recovered from settlements such as Troy, Alacahöyük

⁷⁷ Mellaart 1963, 228.

⁷⁸ Costin and Hagstrum 1995, 621.

⁷⁹ Bachhuber 2015; Şahoğlu 2019; Mellink and Angel 1966.

⁸⁰ Efe 1998, 2004; French 1969, 19-55; Bittel 1942, 187-91.

⁸¹ Bachhuber 2015, 155-62, 185; Massa 2016, 261; Şahoğlu 2019, 119-20.

⁸² Yener 2015; Bachhuber 2015, 78-79, 131; Umurtak 2013, 52-53; Massa 2016, 137-38; Şahoğlu 2019, 119-20; Kulakoğlu and Öztürk 2015.

and Eskiypar suggest both the existence of an elite class and a specialist class directly attached to these elites and who controlled trade. Therefore, some of the seals, sealing or seal-impressed vessels recovered from Anatolian EBA settlements point to administrative control over the production and circulation processes.

The characteristics of Anatolian Metallic Ware do not precisely correspond to the characteristics of attached or independent specialization identified in ethnographic and ethnoarchaeological studies. However, these vessels seem to have the criteria which occur in the two kinds of attached specialization models mentioned above: high-quality, standardization and mass production.⁸³ The combination of these conditions indicates that the production of these vessels was not limited to elite groups or for the persons working for elites. Rather, political institutions in central Anatolia organized and controlled the production for a larger sector of society, perhaps better termed “middle class” in today’s terminology. Therefore, the production of Anatolian Metallic Ware would have been carried out by attached/semi-attached specialists under direct or indirect patronage of the administration in the workshops. The vast majority of Anatolian Metallic Ware pot marks could be indicators that the political structure had developed to control the quality and scale of production.

This as-yet not well-defined socio-political structure is likely to have been developed from local dynamics within central Anatolia, independent from the complex societies of the Near East. The production parameters and distinctive signage features of Anatolian Metallic Ware vessels reflect an administrative style different from neighboring regions. For this reason, we can state that these polities have their own organizational mechanisms as seen in the use of regionally shared symbolic signages. For now, it is most plausible to say that assuring production quality in the workshops was a priority for this EBA political entity in southern central Anatolia.

Conclusions

Regardless of glimpses of political coherence in the EBA⁸⁴ perhaps spurred on by the trade of vital raw materials such as metal, outside of central Anatolia, regional Balkanization of pottery seems to be more the norm. Each region attached importance to the production of their special wares, especially for cultural identity and the differentiation from the “others” during the formative periods of larger polities. Similar strong regional expressions had previously been pointed out for metal typologies⁸⁵ throughout Anatolia during the EBA as well.

Throughout central Anatolia, however, pot-mark distributions suggest stricter control of quality and a high degree of organizational standardization not observed in any other region of Anatolia. Abdullah Hacıoğlu⁸⁶ has suggested that this can be interpreted as the result of a more institutionalized political structure in the region. Mining activities and the control of the passes in the study area may have contributed to the institutionalization of production, trade organization and specialization. It is noteworthy that the signage on vessels begins in certain geographical regions during the periods of early state formation. The shared features of pot-mark motifs across a wide geographical region in Anatolia could be indicative of a flourishing trade

⁸³ Costin 1991, 12; Costin and Hagstrum 1995, 620; Frangipane 2012, 44-49.

⁸⁴ Efe 1998, 2004; French 1969, 19-55.

⁸⁵ Yakar 1984, 1985; Yener 2000.

⁸⁶ Hacıoğlu 2017.

enabled by the safe and appropriate production and exchange environments. These intra-Anatolian exchange networks during the EBA are very apparent in metal trade,⁸⁷ a majority of which link similar sites that utilize Anatolian Metallic Wares. The shared signage pot-mark traditions mentioned in this article are yet another facet of the same regional interconnectivity. This interconnectivity is fueled by the trade of mining resources, especially the polymetallic ores which contributed to the growth and power of EBA societies.⁸⁸

Unfortunately, we do not have much data to directly support these interpretations, and this will not be obtained until comprehensive research begins to be carried out in the Karaman, Ereğli and Bor plains. These are the core regions of Anatolian Metallic Ware and where “large city-size mounds”⁸⁹ dated to the EBA are located. However, the socio-political conditions in other regions where pot marks occur (Near East and Indus valley) share the general characteristics of the Anatolian EBA and the unique features of Anatolian Metallic Ware. So we can at least suggest that these handle pot marks, whether or not a sign of administrative control over the production processes, clearly reflect the presence of the complex economic and production organization in our region, which is ultimately different from the other Anatolian regions.

⁸⁷ Yener et al. 2015.

⁸⁸ Yener 2015, Yener (forthcoming).

⁸⁹ Mellaart 1963, 205.

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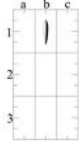

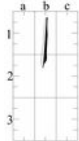






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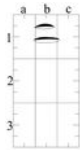









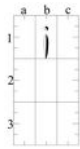


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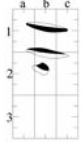





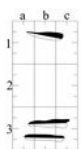

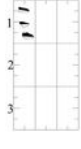
TABLE 1 Table showing the number of marked sherds.


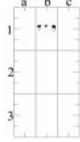



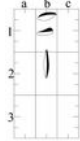








AMW	Sub-ware	Excavation						Survey			Total
		Göltepe	Kestel	Acemh.	Tarsus	Kultepe	Troy	J. Mellaart	S. Güneri	A. Öztan	
	Plain	19	2	-	2	-	-	5	-	-	28
	Classic	46	2	2	1?	1	1	17	28	3	101
	Total	65	4	2	3	1	1	22	28	3	129


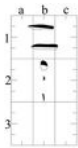

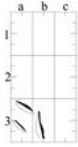







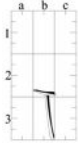


TABLE 2 Anatolian Metallic Ware pot marks. Column 3 shows the positions of the motifs when laid flat. Each of the twenty grids corresponds to a section of the cylindrical handle. Column b, the front; column d, the back; and columns a and c, the right and left sides of the handle. Rows 1, 2 and 3 roughly represent the top, middle and bottom sections of each side.




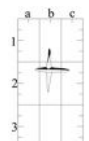

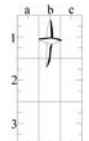

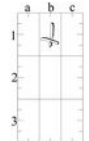



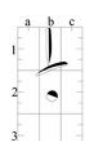

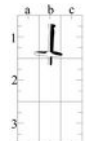
Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
1			Classic	Jr.2 ?	Göltepe/3 Kocahöyük Kerhane Domuz-boğazlayan Troy?	EB II-IIIa	Güneri 1989, figs. 8.2, 9.1-2 Blegen et al. 1950, fig. 250.7
2			Classic	?	Göltepe	EB II	
3			Classic (fig. 5.1)	Jg.1 Jg.2 Jg.2 (Miniature) Jg.4 Jr.1 ?	Göltepe/6 Kestel Kocahöyük Kerhane Kanaç Çayhan-Ereğli Acemhöyük	EB II-IIIa	Güneri 1989, figs. 8.12, 9.9 Mellaart 1963, figs. 15.12, 16.16 Öztan 1989, figs. 20, 22
4			Classic	Jg.1 Jg.3 Jg.6 Jr.1 Jr.2?	Göltepe/3 Kerhane/3 Kocahöyük Kanaç Topraktepe	EB II-IIIa	Güneri 1989, figs. 10.3, 10.5, 10.6 Mellaart 1963, figs. 15.1, 15.11, 16.7
5			Classic	?	Göltepe	EB II or IIIa	





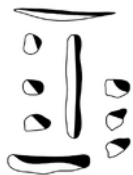




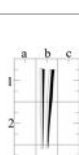

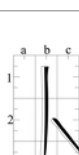

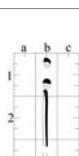
Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
6			Classic Plain (figs. 5.7, 8.1-2)	Jg.2 Jr.2 Jr.3 ?	Göltepe/4 Kestel Kocahöyük/2 Acemhöyük	EB II-IIIa	Güneri 1989, figs. 8.5, 9.10 Öztan 1989, fig. 28
7			Classic Plain (figs. 7.1, 8.3)	Bf.1	Göltepe Kerhane Tarsus	EB II-IIIa	Güneri 1989, fig. 10.8-9 Goldman 1956, fig. 250
8			Plain	?	Göltepe/2	EB II-IIIa	
9			Classic Plain	B.1 Jg.2 ?	Göltepe Üçhöyük Hüsniye	EB IIIa	Güneri 1989, fig. 10.1 Öztan 1989, fig. 12
10			Classic	?	Göltepe	EB II	Hacı 2016, cat. no. 366
11			Classic	?	Kızılviran	?	Mellaart 1954, fig. 143
12			Classic	?	Göltepe	EB IIIa	




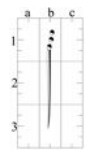

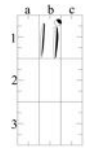
Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
13			Classic (fig. 5.4)	B.3? Jg.2 Jr.1 ?	Göltepe/3 Kestel Kocahöyük Topraktepe Sarlak Darboğaz	EB II-IIIa	Güneri 1989, figs. 8.9, 9.3 Öztan 1989, fig. 13
14			Plain (fig. 7.2)	?	Göltepe Kestel	EB II	
15			Plain (fig. 8.6)	?	Göltepe	EB II	
16			Classic	Jr.2 ?	Beytepe Sarlak	?	Mellaart 1954, fig. 99; 1963, fig. 16.23
17			Classic (fig. 7.4)	?	Göltepe Sarlak?	EB II	Mellaart 1963, fig. 15.16
18			Classic (figs. 6.6, 8.4)	Jr.3	Göltepe	EB II	
19			Classic (figs. 6.6, 8.7)	Jr.3	Göltepe	EB II	

Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
20			Plain	Jg.6	Göltepe	EB II	
21			Plain Classic (figs. 5.9, 9.1)	Jg.6 Jr.3? ?	Göltepe/3 Kanaç Karapınar I	EB II-IIIa	Güneri 1989, fig. 9.8 Mellaart 1963, fig. 15.17, 16.2
22			Classic Plain	Jg.6 ?	Göltepe/3 Kanaç Beytepe	EB II-IIIa	Güneri 1989, fig. 9.15 Mellaart 1954, 98
23			Classic	?	Göltepe	EB II	
24			Classic (figs. 6.5, 9.2)	Jr.3	Göltepe	EB II	
25			Classic (fig. 8.5)	?	Göltepe Kultepe (Gülağaç)	EB II	
26			Classic (fig. 5.8)	Jg.2 (Miniature)	Göltepe	EB II	

Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
27			Classic	?	Göltepe	EB II	
28			Classic	?	Göltepe	EB II	
29			Plain (figs. 5.3, 9.6)	Jg.2 (Miniature)	Göltepe	EB II	
30			Classic (fig. 7.5)	?	Göltepe	EB II	
31			Classic (figs. 6.3, 9.3)	Jr.3	Göltepe	EB II	
32			Classic	?	Kozlubucak	?	French 1965, fig. 4.18
33			Classic	?	Göltepe	EB II or IIIa	

Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
34			Classic (fig. 6.1)	Jr.2 ?	Göltepe Beytepe	EB II	Mellaart 1954, fig. 117; 1963, fig. 16.19
35			Classic (figs. 6.4, 9.5)	Jr.3	Göltepe	EB II	
36			Classic (figs. 6.2, 9.4)	Jr.2 ?	Göltepe/3 Kocahöyük Eminler	EB II-IIIa	Güneri 1989, fig. 9.18; Mellaart 1963, fig. 16.15
37			Classic	Jr.3	Göltepe	EB IIIa	
38			Plain (fig. 5.2)	Jg.2 (Miniature)	Göltepe	EB Ib	
39			Classic (fig. 9.8)	Jr.3	Göltepe	EB II	
40			Classic	?	Göltepe	EB II or IIIa	

Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
41			Plain (fig. 9.7)	?	Göltepe	EB II or IIIa	
42			Classic (figs. 7.3, 10.1)	?	Göltepe	EB II	
43			Classic (figs. 7.6, 10.2)	B.1?	Göltepe	EB II or IIIa	
44			Plain	?	Göltepe	EB II	
45			Plain (figs. 7.7, 10.3)	Jg.6?	Göltepe	EB II	
46			Plain (fig. 10.4)	?	Göltepe	EB II or IIIa	
47			Plain (figs. 5.5, 10.6)	Jg.6 ?	Göltepe Tarsus	EB II-IIIa	Goldman 1956, fig. 251

Motif Number	Motif	Position	Sub-Ware Group/Figs.	Type	Settlement/ Number of Pieces	Date	Reference
48			Plain (fig. 10.5)	Jg.6?	Göltepe	EB II-IIIa	
49			Plain (figs. 7.8, 10.7)	Jg.5 Jg.6 ?	Göltepe Ulukışla	EB IIIa	Mellaart 1954, fig. 124
50			Plain (fig. 5.6)	Jg.6	Göltepe	EB II	

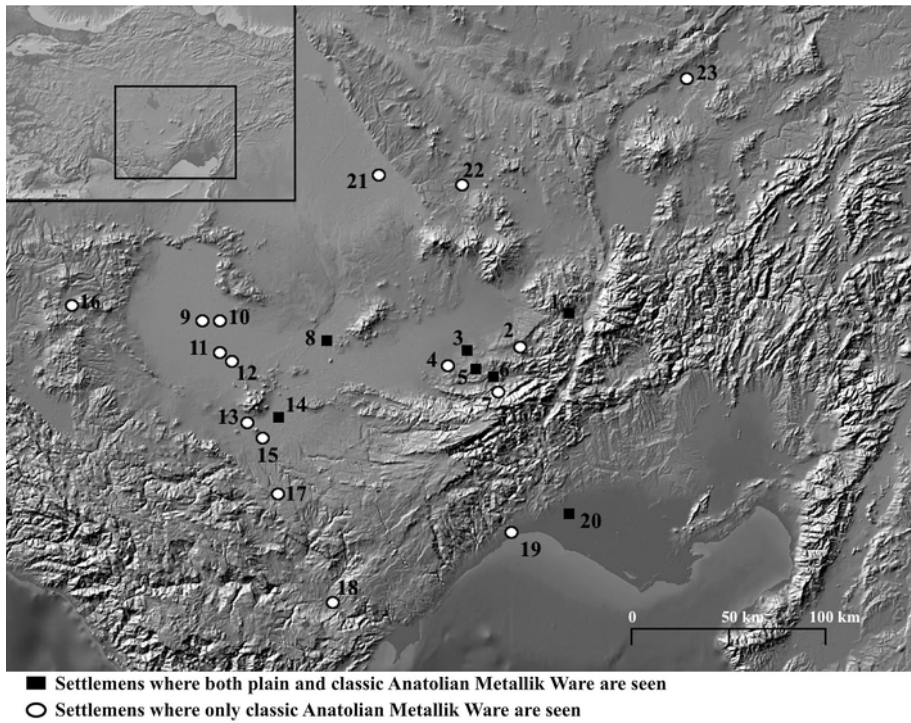


FIG. 1 Map of sites mentioned in the text (1- Kestel and Göltepe, 2- Hüsnüye, 3- Topraktepe, 4- Çayhan-Ereğli, 5- Beytepe, 6- Ulukışla, 7- Darboğaz, 8- Karapınar I, 9- Domuzboğazlayan, 10- Kerhane, 11- Sarlak, 12- Üçhöyükler, 13- Eminler, 14- Kanaç, 15- Kocahöyük, 16- Kızılviran, 17- Kozlubucak, 18- Kilisetepe, 19- Mersin-Yumuktepe, 20- Tarsus, 21- Acemhöyük, 22- Kültepe [Gülağaç] 23- Kültepe).



FIG. 2 General characteristics of Anatolian Metallic Ware.

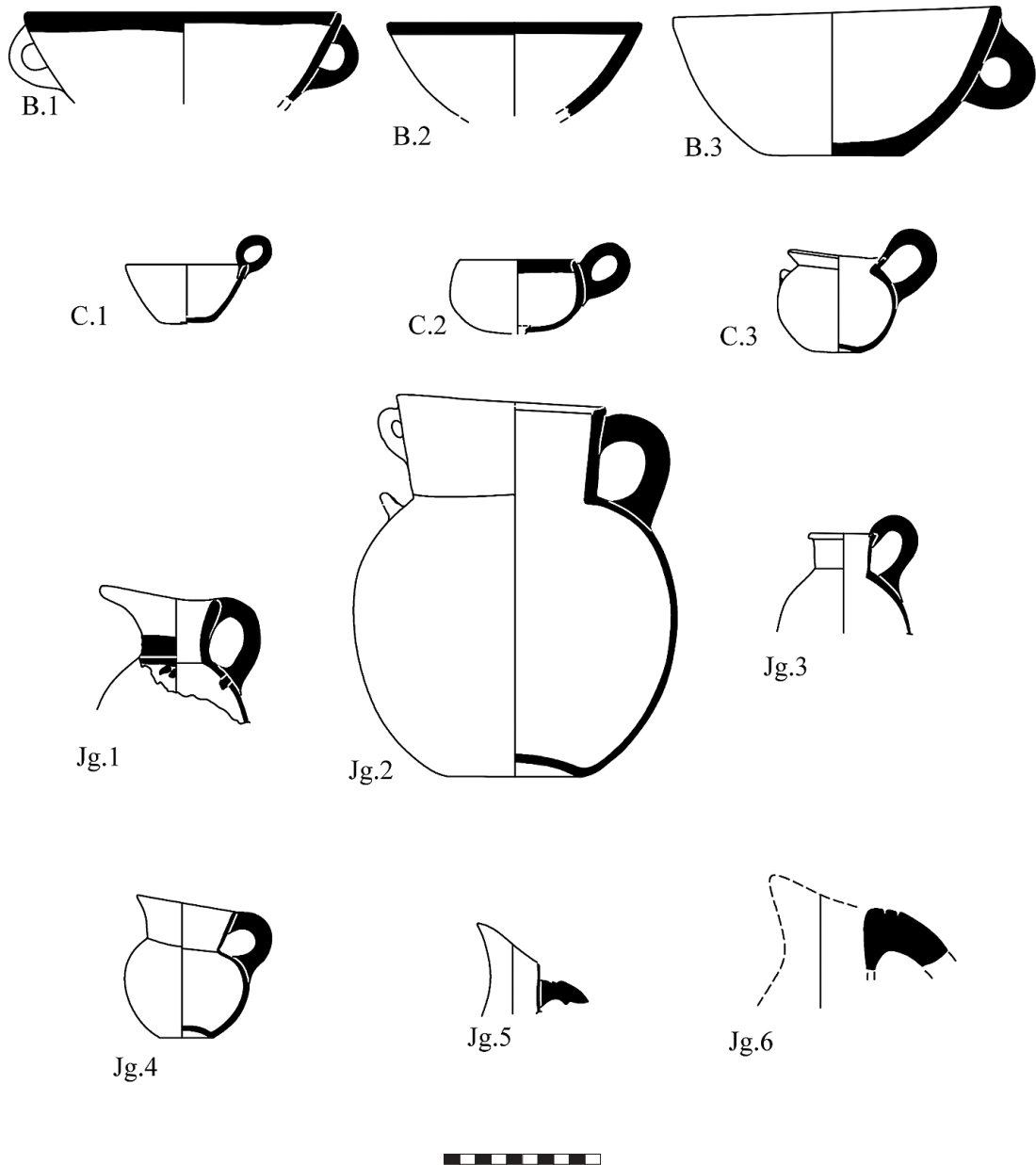


FIG. 3 Anatolian Metallic Ware types; drawing by A. Hacı.

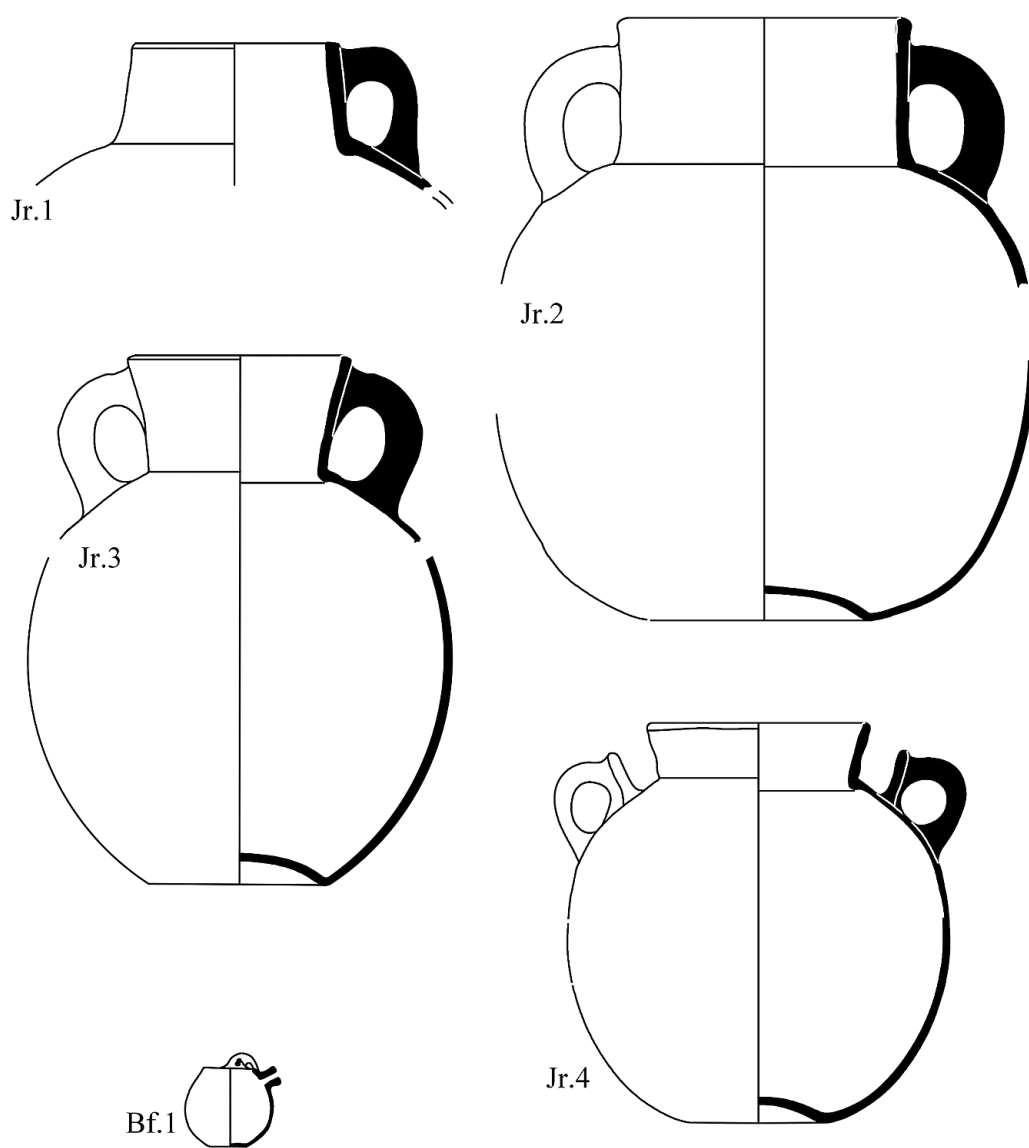


FIG. 4 Anatolian Metallic Ware types; drawing by A. Hacı.

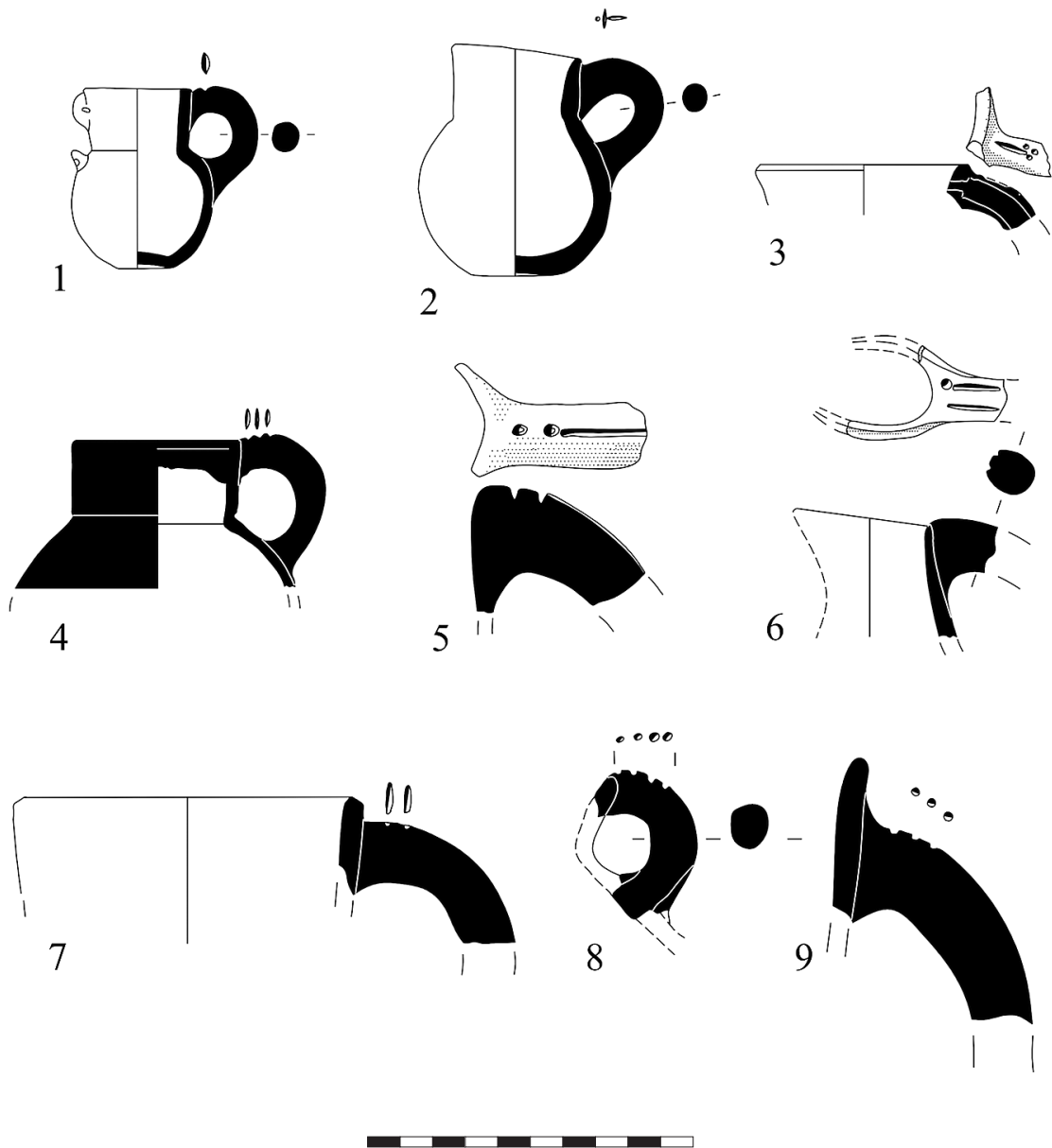


FIG. 5 Anatolian Metallic Ware vessels with handle marks from Göltepe; drawing by A. Hacı.

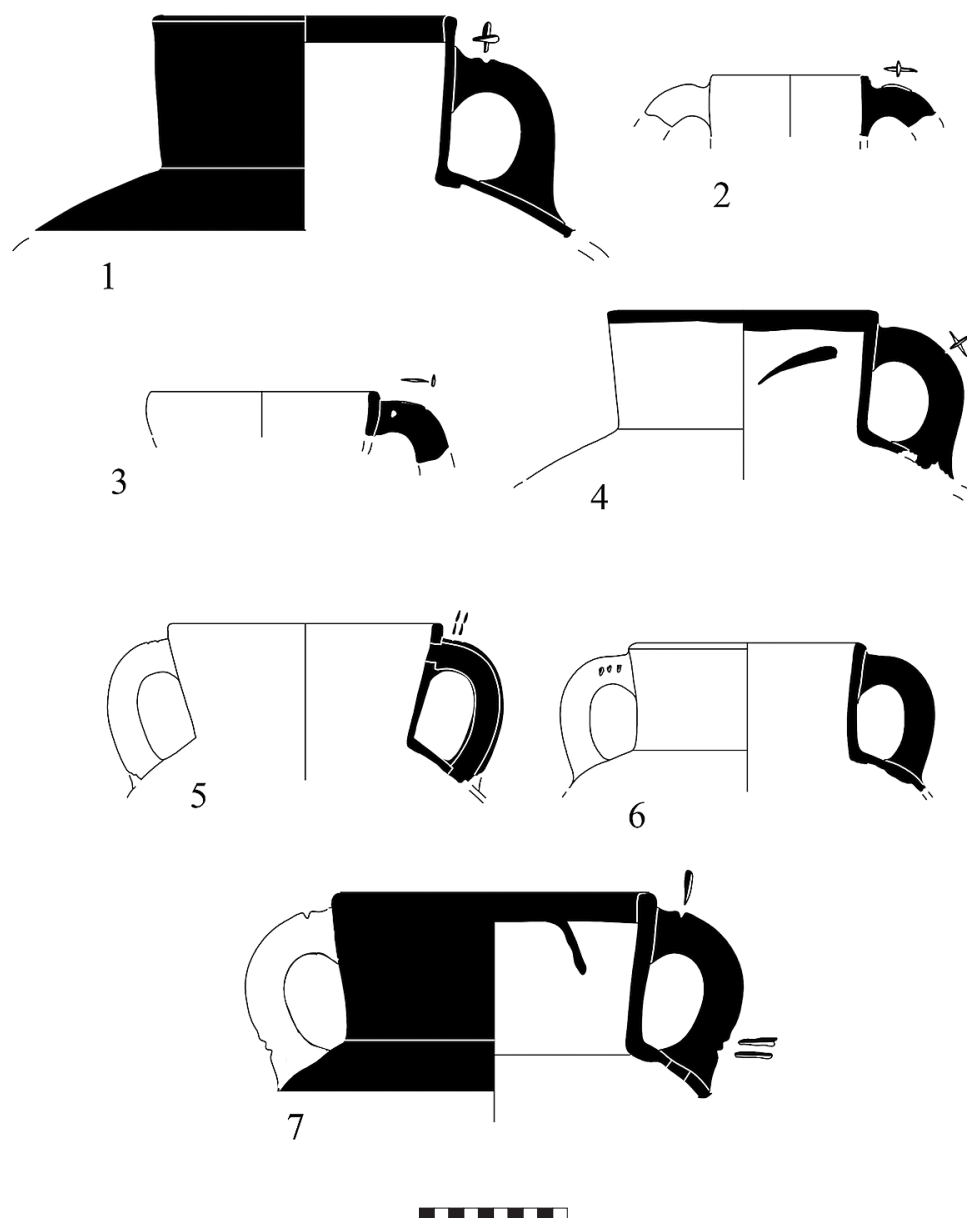


FIG. 6 Anatolian Metallic Ware vessels with handle marks from Göltepe; drawing by A. Hacı.

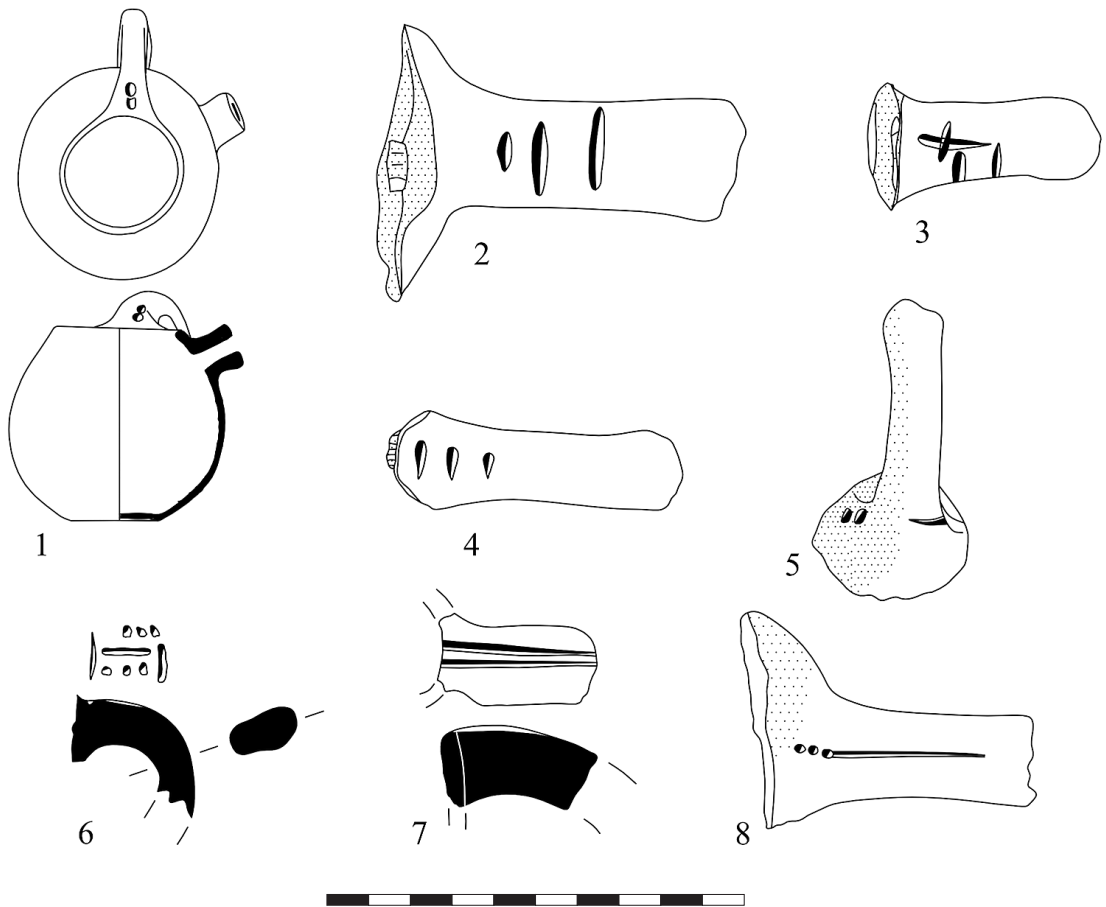


FIG. 7 Anatolian Metallic Ware vessels with handle marks from Göltepe; drawing by A. Hacı.



FIG. 8 Anatolian Metallic Ware vessels with handle marks from Göltepe; photograph by A. Hacı.



FIG. 9 Anatolian Metallic Ware vessels with handle marks from Göltepe; photograph by A. Hacı.



FIG. 10 Anatolian Metallic Ware vessels with handle marks from Göltepe; photograph by A. Hacı.