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Pottery Technologies and Sociocultural Connections Between the Aegean and Anatolia During the 3rd Millennium BC

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Eva Alram-Stern
Barbara Horejs (Eds.)

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Function and Technology: A Pottery Assemblage from an Early Bronze Age House at Çukuriçi Höyük

Maria Röcklinger[1] *– Barbara Horejs*[2]

Abstract: The interpretation of a vessel's specific use can be based on various analytical components, such as use-wear and residue analysis, particular ceramic fabrics and shapes and, equally important, its archaeological context. This contribution presents contextual studies by discussing the pottery assemblage of a particular house at Çukuriçi Höyük in EBA 1, and discusses its technology and function. Intensive excavations revealed two settlement phases in EBA 1 (2950/2900–2800/2750 BC), with a clear specialisation in early metal production manifested in about 50 workshops. The pottery of the EBA 1 period represents a homogeneous spectrum without crucial developments or changes during a period of about 150–200 years. The vessels are hand-made and show a manageable variety of shapes, types and variations, and surface decoration is generally rare. A large variety of ceramic wares have been identified macroscopically, while fabrics have been tested by petrographic analysis. A critical combination and comparison of these methods revealed several results about EBA 1 pottery at Çukuriçi Höyük. Correlation of vessel shapes and ware groups shows a particular pattern indicating a strong relationship between function and technology in EBA pottery production. Furthermore, local pottery production seems to satisfy the particular needs of the Çukuriçi community, and the focus seems to be on products with a particular function. The interaction between technology and function provides new data for further socio-cultural interpretation of this particular metallurgical community.

Keywords: Pottery use and function, pottery technology, contextual analyses, Çukuriçi Höyük, western Anatolia, Early Bronze Age

Introduction

The case study in this contribution derives from Early Bronze Age (EBA) Çukuriçi Höyük, a tell settlement in western Anatolia. The site is located in the direct vicinity of the ancient city of Ephesos on the central Aegean coast (Fig. 1). It was occupied from the Early Neolithic to the Early Bronze Age period, which means from the early 7th to the first quarter of the 3rd millennium BC. The site is therefore one of the oldest known sites of western Anatolia.[3] Based on a sequence of short-lived ^{14}C-data for the entire EBA occupation at Çukuriçi Höyük, the two settlement phases IV and III can be dated within a time span of a maximum of 200 years, between 2950/2900–2800/2750 BC[4]. Palaeogeographical analysis[5] conducted under the direction of Helmut Brückner showed that the prehistoric coastline can be reconstructed about 1.5km away from Çukuriçi Höyük. For this reason, and also because of maritime archaeozoological finds and obsidian originating from Melos found in all the settlement phases, this can be called a coastal site.[6] The location of the site and its long[7] occupation provides great potential for detailed diachronic studies in this region at the central coast of the Anatolian Aegean.

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2 Institute for Oriental and European Archaeology, Austrian Academy of Sciences; barbara.horejs@oeaw.ac.at.
3 Horejs 2008, 101; Horejs 2010, 169; Horejs et al. 2015.
4 Horejs et al. 2011, 43; Horejs – Weninger 2016; Horejs 2017, 17, Fig. 1.5.
5 Cf. Stock et al. 2015.
6 Cf. Horejs et al. 2010a; Stock et al. 2013. Imported Obsidian from Melos (Bergner et al. 2009), fish and molluscs (A. Galik in Horejs 2008, 101–102).
7 A hiatus is assumed for the second half of the 6th, the 5th and the first half of the 4th millennium.

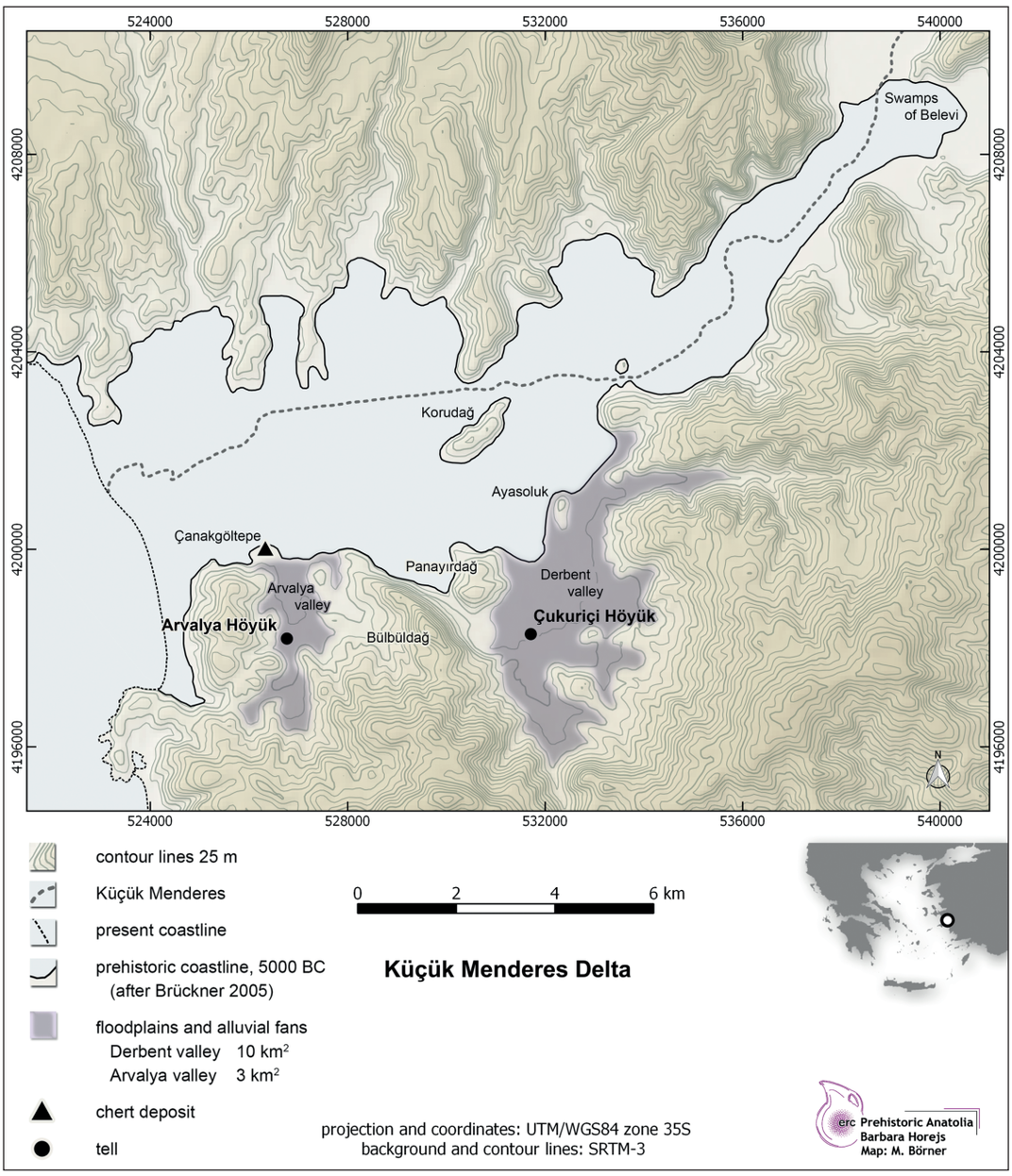


Fig. 1 Location of Çukuriçi Höyük at the prehistoric Aegean lagoon based on palaeogeographic studies (ERC Prehistoric Anatolia/M. Börner, Horejs et al. 2015, 298)

Since the beginning of investigations in 2007,[8] different fields of research such as pottery analysis, archaeozoology, archaeobotany, archaeometallurgy and geology have focused on questions concerning both the chronological development and spatial and socio-economic organisation. The Early Bronze Age settlements of Çukuriçi Höyük IV and III have already been analysed

[8] The EBA 1 occupations have been excavated in two trenches (S1–S4 and M1) between 2007 and 2014 within research projects conducted by Barbara Horejs and funded first by the Austrian Science Fund (FWF Project no. P 19859-G02), and since 2010 by the ERC Project "From Sedentism to Protourban Societies in Western Anatolia" (START Project no. Y 528-G19; ERC Starting Grant Project no. 263339).

extensively. These detailed studies have revealed a community highly specialised in metal processing,[9] textile production and fishing.[10] In addition, everyday crafts and the processing and storage of foodstuffs have been attested. Although a division of labour can be assumed, including highly specialised crafts like metallurgy and pottery production, a vertically stratified society is hardly recognisable.[11] An alternative social model has recently been suggested.[12] For the EBA 1 communities at Çukuriçi Höyük, a homogeneous society without hierarchical organisation is assumed. The dense and consistent structure of the settlement does not show any central building or structures, and metallurgical workshops, which possessed a central role, are spread homogeneously across the settlement area. It is assumed that specialised groups were developing and advancing appropriate knowledge in their fields of activity. This specialisation might have led to a temporary hierarchy within the settlement, but did not lead to the formation of a permanent polity. Several possibilities, including the short-term nature as well as the mode of hierarchy could be responsible for the fact that those social structures are not obvious in the archaeological record. Cemeteries, an important source for hierarchy in archaeology, are unfortunately not known for Çukuriçi Höyük. Although two gold foil beads from Çukuriçi Höyük support the presence of a temporary hierarchy at one stage, neither the architecture (e.g. megara) nor the material culture (e.g. precious and exotic objects) would be affected strongly enough by a temporary stratification to leave an unambiguous record. Similar social patterns are visible in contemporaneous cemeteries such as those at Yortan, Babaköy and Demircihüyük.[13] Those show a relatively homogeneous society without a hierarchy of people or groups. In contrast, these homogeneous societies faced a process of continuous political centralisation, resulting in proto-urban centres.[14] These processes had started no later than the beginning of the 3rd millennium BC, based on developments starting most probably in the 4th millennium BC.[15]

Technological Background

To analyse the technological aspects of pottery from Çukuriçi Höyük, a locally developed system of so-called ware groups (WG),[16] based on a macroscopic description of all significant ceramics, was used. The clustering of single fragments into ware groups was based on criteria pertaining to hardness, porosity, break, colour, temper and surface treatment, and was defined independently of pottery shapes. Certain combinations of these criteria form the ware groups and represent technological categories for the entire settlement sequence. This system of ware groups offers not only a systematic overview of the local technology, but also a practical and useful tool for documenting huge amounts of ceramics from large-scale excavations.[17]

The pottery assemblage of the youngest settlement at Çukuriçi Höyük (phase ÇuHö III), with 814 significant pieces in total, is composed of 77 different ware groups. Within these, 22 wares can be described as fine, eight as fine to medium, 28 as medium, and 19 as coarse wares. These categories are defined by the average porosity and amount of temper particles of the groups. With fine wares, no pores are visible to the naked eye (0.12–0.25mm) and particles are rare (0–5%). Medium wares show pores only occasionally (0.25–0.5mm, 5–25% inclusions), and coarse wares

9 Cf. Horejs 2009; Horejs 2011; Horejs et al. 2011; Mehofer 2015; Horejs 2016.
10 Britsch 2013; Britsch – Horejs 2014.
11 Horejs 2016, 255.
12 See Horejs 2016.
13 Kâmil 1982; Bittel et al. 1939–1941; Seeher 2000.
14 See Horejs 2014.
15 Horejs 2014.
16 Horejs 2007; Horejs et al. 2010b, 15–27; Röcklinger 2015, 21–33.
17 For details of the ware group system and different case studies see Horejs 2007; Horejs et al. 2010b.

show large pores with a diameter greater than 0.5mm and an amount of inclusions of 25% and more.

In absolute numbers, 263 fragments are made of fine and fine to medium ware, 386 of medium ware, and 143 of coarse ware (Fig. 2). 12 fragments were not defined due to their bad state of preservation. The most common ware group (WG 59) is a medium reddish-brown to brown ware, constituting 7.22% of the collection, followed by coarse ware with a red surface and break (WG 58), and fine to medium-black ware (WG 84), each constituting 4.65% of the collection. WG 42 is a medium-fine ware with a reddish-brown to grey core, and constitutes 4.53% of all ware collected (for macroscopic photos and a detailed description see Plate 1). The surface colours range from dark grey/black to reddish-brown and red. At 52%, dark colours like brown or black surfaces form the majority of the finds (Fig. 3).[18]

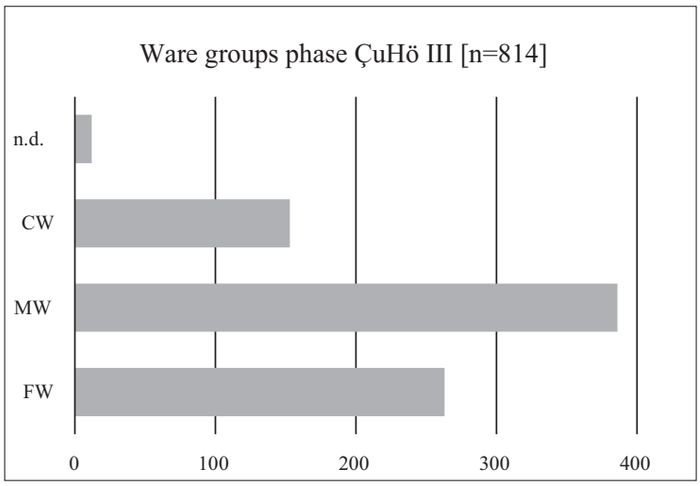


Fig. 2 Distribution of EBA ware groups within ÇuHö III, based on 814 defined characteristic fragments (n.d.: not defined, CW: coarse ware, MW: medium fine ware, FW: fine ware) (ERC Prehistoric Anatolia/M. Röcklinger)

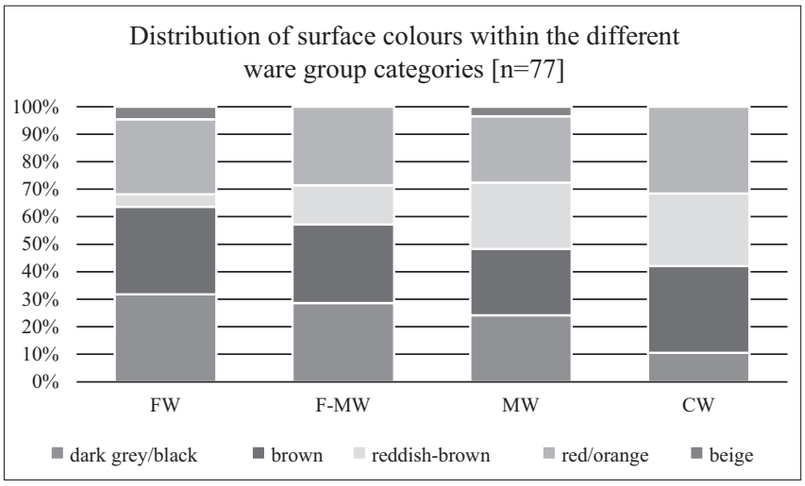
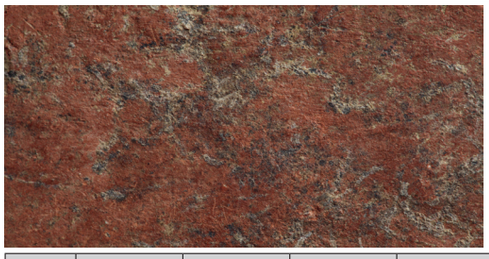


Fig. 3 Distribution of surface colours within the different ware group categories (FW: fine ware, F–MW: fine to medium fine ware, MW: medium fine ware, CW: coarse ware) (ERC Prehistoric Anatolia/M. Röcklinger)

[18] Röcklinger 2015, 34.



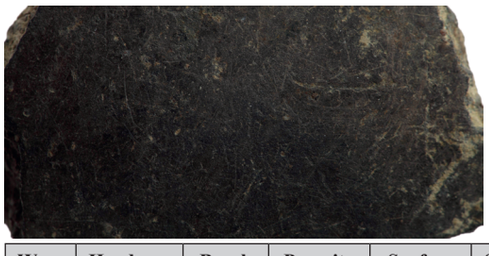

Ware	Hardness	Break	Porosity	Surface	Surface colour inside	Surface colour outside	Colour break
42	hard	slightly slaty	medium	MB	2.5YR4/8	2.5YR4/8	7.5YR4/1
Remarks							
MW: medium fine burnished, dull, slightly uneven, reddish-brown, grey core.							




Ware	Hardness	Break	Porosity	Surface	Surface colour inside	Surface colour outside	Colour break edges	Colour break core
59	hard	slightly slaty	medium	FB	10YR5/3–5/4	5YR4/4–2.5YR4/6	outside: 10YR5/2	2.5Y4/8
Remarks								
MW: finely burnished, smooth, slightly shiny, reddish-brown to brown, red core.								




Ware	Hardness	Break	Porosity	Surface	Surface colour inside	Surface colour outside	Colour break
58	hard	slightly slaty	medium – fine	MB	2.5YR4/6–5YR4/6	5YR3/3	2.5YR4/8
Remarks							
CW: medium fine burnished, smooth, slightly shiny, reddish-dark brown, core continuously red.							




Ware	Hardness	Break	Porosity	Surface	Surface colour inside	Surface colour outside	Colour break
84	hard	grainy	fine	FB	7.5YR2.5/1–10YR3/1	7.5YR2.5/1–10YR3/1	7.5YR4/1–4/3
Remarks							
F– MW: finely burnished, smooth, even, slightly shiny, dark brown to dark grey, core brown to grey.							

Plate 1 Most frequently used ware groups and detailed descriptions (ÖAI/N. Gail)



Fig. 4 Ware group 78 (ÖAI/N. Gail)

In a few cases, ware groups typically for the older settlements at Çukuriçi Höyük (Neolithic and Late Chalcolithic) can be attributed to EBA pottery production as well. These fragments were defined as EBA by typological comparisons. Overall, within ÇuHö III, 29 ware groups, typical of earlier periods (Neolithic and Late Chalcolithic) and used for Early Bronze Age shapes, are present. This situation leads to the interpretation that these particular Neolithic and Late-Chalcolithic ware groups were used continuously for local pottery production until EBA, albeit only in small quantities. Due to their clear typological assignment and relative dating, these sherds were also included in the analyses of EBA pottery.

Fine Wares

Ware groups belonging to the category of fine wares (FW) consist of fine and very fine clays. Fine to medium fine (F-MW) ware will also be examined below. In both groups, (FW and F-MW) temper particles only consist of mineral components and pores that are barely visible to the naked eye, if at all. Surface colours can range from (dark-)grey/black in the case of seven groups, to brown (7 representatives) and reddish-brown (only one group). Six of these wares show a red/orange surface, and two a beige surface. The surface itself can be very fine, medium-fine and fine-burnished[19], which gives a shiny appearance. An exception is ware group 110 (Fig. 11, lower photo) that shows a roughly burnished surface. Traces of a slip indicate that this ware group originally featured a beige-reddish coating on both sides, which gives the impression of a smooth, dense and homogeneous surface. The core of this ware is, in contrast to the surface, light grey with small black elongated inclusions. Up to now, only eight fragments of this group have been identified in the assemblage. One of these fragments is the neck of a small amphora. Overall, 29 different fine and fine-to-medium ware groups are present at ÇuHö III (Tab. 1).

Medium Wares

When it comes to medium-fine pottery (MW), pores are visibly by eye, with a diameter not larger than 0.5mm. Depending on the material, non-plastic inclusions can range from 0.2cm to 0.8cm, although sizes from 0.6 to 0.8cm are rather rare. As with the fine wares, medium wares only feature mineral tempering occurring in different amounts (up to 25%). An exception could be WG 78, where an organic temper is conceivable (Fig. 4). In this case the organic inclusions, making 1–5%

[19] In general, the term ‘burnished’ is used for surface finishing performed with a hard device (usually stone), leaving traces on the surface. The categories of ‘very fine’, ‘medium-fine’ and ‘fine’ describe the intensity of this practice. With fine burnishing, a smooth, glossy surface will be achieved. With rougher burnishing, irregularities can be levelled, leaving a dull surface. In contrast to a very fine burnished surface, polished surfaces were processed with soft tools leaving no traces. Cf. Horejs 2007, 56; Berger 2010.

Ware group	Brief description
1	Surface: slipped and burnished, thick red to reddish-brown slip, burnishing traces visible, slightly shiny; break: grey to brown-greyish core
3	Surface: slipped, thin light-beige to white slip, smooth and shiny; break: red to reddish-brown sherd with thinner dark grey core
11	Surface: fine burnished, brown, dense surface; break: reddish-brown core
18	Surface: finely burnished, smooth, red slip; break: partially thick dark reddish-brown core – partially continuously burned
19	Surface: finely burnished, smooth, slightly shiny; break: dark grey to black, core continuously dark grey to black
24	Surface: finely burnished, smooth, brown surface; break: core continuously dark grey
41	Surface: finely burnished, smooth, slightly shiny, brown to grey brown; break: brown edges, core reddish-brown
43	Surface: finely burnished, smooth, slightly shiny; break: surface and core dark grey to black
47	Surface: medium fine burnished, dull surface, smooth, brown; break: core continuously brown
53	Surface: very fine burnished and polished, smooth, shiny, burnishing traces visible; break: surface and core dark grey to black
54	Surface: slightly shiny, smooth, red slip inside, brown to grey; break: core grey
64	Surface: finely burnished, smooth, dull, beige; break: core salmon to light rose
79	Surface: very fine burnished and polished, dense surface, shiny, brown, slightly uneven; break: broad grey core
82	Surface: medium fine burnished, smooth, dull, brown to reddish-brown; break: irregular reddish-brown to grey with red edges and grey core
83	Surface: finely burnished, smooth, shiny, burnishing traces visible, dark brown to dark grey; break: core red to dark grey
84	Surface: finely burnished, smooth, slightly shiny, dark brown to dark grey; break: core brown to grey
87	Surface: smooth, even, slightly shiny, brown to dark grey; break: reddish to dark grey
88	Surface: fine to medium fine burnished, highly micaceous ware, slightly shiny, burnishing traces visible; break: brown to dark brown
91	Surface: medium fine burnished, burnishing traces visible, slightly uneven, slightly shiny, red sherd with dense surface
105	Surface: finely burnished, even, shiny, brown to grey; break: core continuously red to brown
110	Surface: roughly burnished, temper perceptible, beige to red slip inside and outside; break: grey with fine black, yellow and white inclusions
116	Surface: very fine burnished, even, smooth, soft, slim black slip; break: core homogeneous, dark grey to black
181	Surface: finely burnished, smooth, slightly uneven, impressed decoration (rings); break: core dark grey
302	Surface: medium fine burnished, irregular surface, slim reddish-brown slip; break: grey core
306	Surface: finely burnished and painted, outside grey to dark brown, painting not covering
312	Surface: medium fine burnished, continuously grey
345	Surface: very fine burnished, very hard, thick orange slip, dull; break: core light grey with small white and red inclusions
8881	Surface: roughly burnished, even, rough, red to orange
8882	Surface: very fine burnished, even, slightly shiny, orange; break (exterior): orange; grey core, break multi-layered

Tab. 1 Fine ware groups (single wares: light grey)

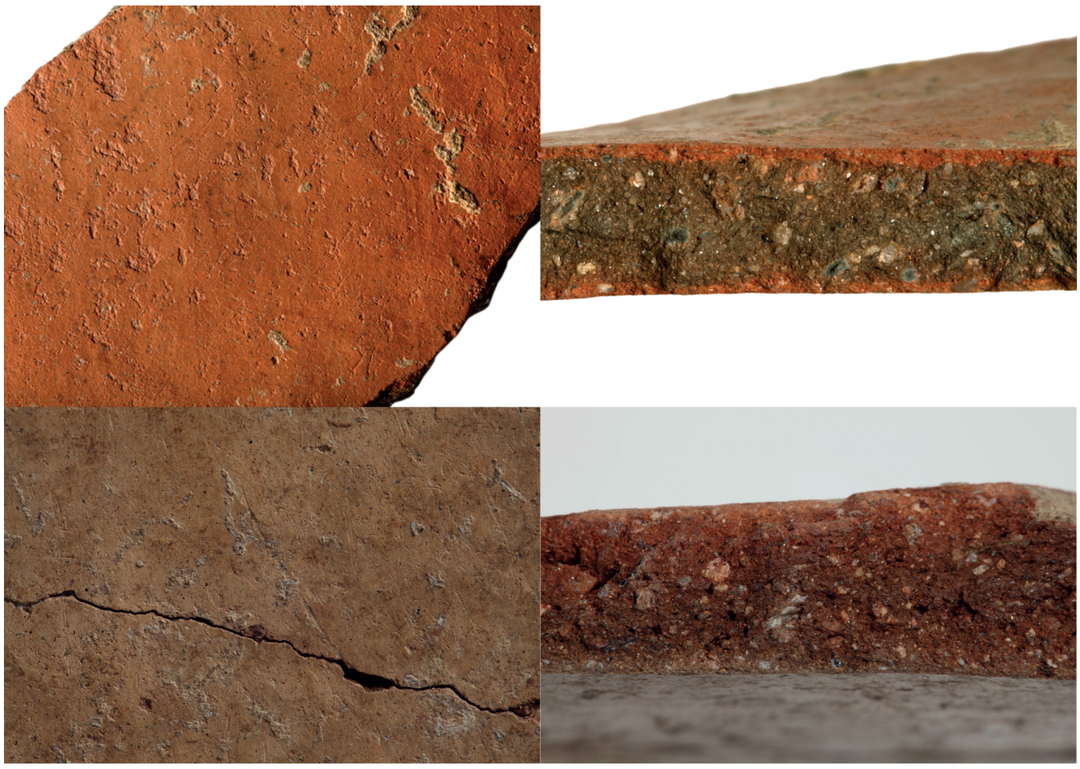


Fig. 5 Ware groups 5 (upper photo) and 89 (lower photo) (ÖAI/N. Gail)

of all temper particles, are between 0.2 and 0.4cm in size, and therefore are described as rare and medium sized. Surface colours mainly range from dark grey/black and brown to reddish-brown and red. Grey and beige wares rarely occur. Overall, seven dark grey/black, seven brown, seven reddish-brown and seven red/orange as well as one beige ware groups are known within this collection. The surfaces of the medium-fine-wares show manifold treatments. So far, slipped, fine-burnished, very fine burnished and polished as well as medium-fine and roughly burnished surfaces are known in this category. Further surface treatments can be combinations of roughly burnished and roughly wiped surfaces with a sludgy slip, along with medium-fine burnished and wiped wares with a sludgy slip. The two slipped groups (WG 5 and 89) are typical for the Neolithic period of the settlement (Fig. 5). Since these fragments are clearly affiliated with EBA vessels by typology, these two ware groups have been included in the analyses as well (Tab. 2).

Coarse Wares

In contrast to the ware categories described above, the pores of coarse wares (CW) are clearly visible to the naked eye with a general size over 0.5mm. The non-plastic inclusions can reach sizes up to 0.8cm and are very frequent, ranging between 5% to over 25%. Within this facies, red and reddish-brown surface colours are dominant. Grey and black wares form the minority at 10% of the collection. The spectrum of surface treatments ranges from medium fine and roughly burnished, roughly burnished and wiped surfaces, to hybrid forms of roughly burnished and roughly wiped surfaces with or without a sludgy slip. Fine burnished and polished as well as fine burnished surfaces are not common. Three particular groups within the coarse wares form the so-called “pithos-wares”, mainly used for producing pithoi (Fig. 6). This category is characterised by high porosity, a roughly burnished red to reddish-brown surface, and commonly a wall thickness of over 1cm (Tab. 3).

Ware group	Brief description
5	Surface: medium fine burnished, thin orange slip, smooth and slightly shiny; break: core dark grey
8	Surface: medium fine burnished, grey, grey-brown to reddish-brown, burnishing patterns clearly visible, dull, slightly uneven but dense; break: core red to dark grey
17	Surface: roughly smoothed, uneven, dull, yellowish-brown slip (?); break: dark grey core
26	Surface: roughly burnished, red; break: red surface (exterior), black core and interior surface
27	Surface: finely burnished, smooth, brown to black; break: dark grey core
30	Surface: roughly burnished, dull, surface and core continuously red
36	Surface: finely burnished, dense, brown, burnishing patterns visible; break: dark reddish-brown
37	Surface: finely burnished, greyish-brown to brown, slightly shiny; break: dark grey
40	Surface: roughly smoothed, dull, brown-grey; break: brown to dark grey core
42	Surface: medium fine burnished, slightly uneven, reddish-brown; break: grey core
46	Surface: medium fine burnished, burnishing traces visible, slightly uneven, slip?, slightly shiny, red to reddish-brown; break: continuously reddish-brown to brown
48	Surface: finely burnished, even, dull, slightly shiny, dark grey; break: continuously reddish-brown
49	Surface: medium fine burnished, cracky; break: dark grey core, highly micaceous
50	Surface: roughly burnished and smoothed, uneven, red, slip (?); break: interior red, core and break grey
52	Surface: medium fine burnished, grey, cracky; break: dark grey core, highly micaceous
55	Surface: finely burnished, smooth and even, shiny, burnishing patterns visible, dark grey to black; break: continuously reddish-brown
56	Surface: medium fine burnished, burnishing patterns visible, brown to grey; break: brown to grey
59	Surface: finely burnished, even, slightly shiny, reddish-brown to brown: break: red core
61	Surface: medium fine burnished, even, slightly shiny; break: continuously dark brown
71	Surface: medium fine burnished, brown to grey, heavily micaceous; break: continuously dark grey to red (exterior) and dark grey (interior)
76	Surface: medium fine burnished, even, dull, red; break: slim brown core
78	Surface: roughly burnished, sludgy slip, imprints of plants, brown; break: thick grey core
85	Surface: medium fine burnished, dull, burnishing patterns visible, slightly uneven, reddish to brown; break: continuously brown
86	Surface: medium fine burnished, slightly uneven, dull, brown; break: brown core
89	Surface: finely burnished, white to beige slip on a red to brown sherd, even and shiny; break: micaceous
100	Surface: medium fine burnished, beige to brown slip, sludgy slip?, imprints of plants, highly micaceous, rough but even; break: dark grey
117	Surface: finely burnished, burnishing patterns partially visible, dark grey; break: continuously dark grey core, highly micaceous
201	Surface: medium fine burnished, burnishing patterns pertly visible; break: core continuously red, core edges red to reddish-brown, brown
9842	Surface: very fine burnished and polished, beige surface and break

Tab. 2 Medium fine ware groups (single wares: light grey)

The surface treatment can differ from category to category. In the case of fine wares, fine-burnished surfaces are dominant at 56%, followed by medium-fine burnished at 21%, and very fine burnished and polished surfaces at 13%. Frequently applied treatments on medium-fine wares are medium-fine burnished surfaces at 45%, and finely burnished surfaces at 26%. Roughly wiped surfaces with a sludgy slip form the minority at 15%. Vessels made of coarse wares mostly show medium-burnished surfaces at 48%. The second frequently applied treatment is a roughly burnished surface with a sludgy slip (25%).

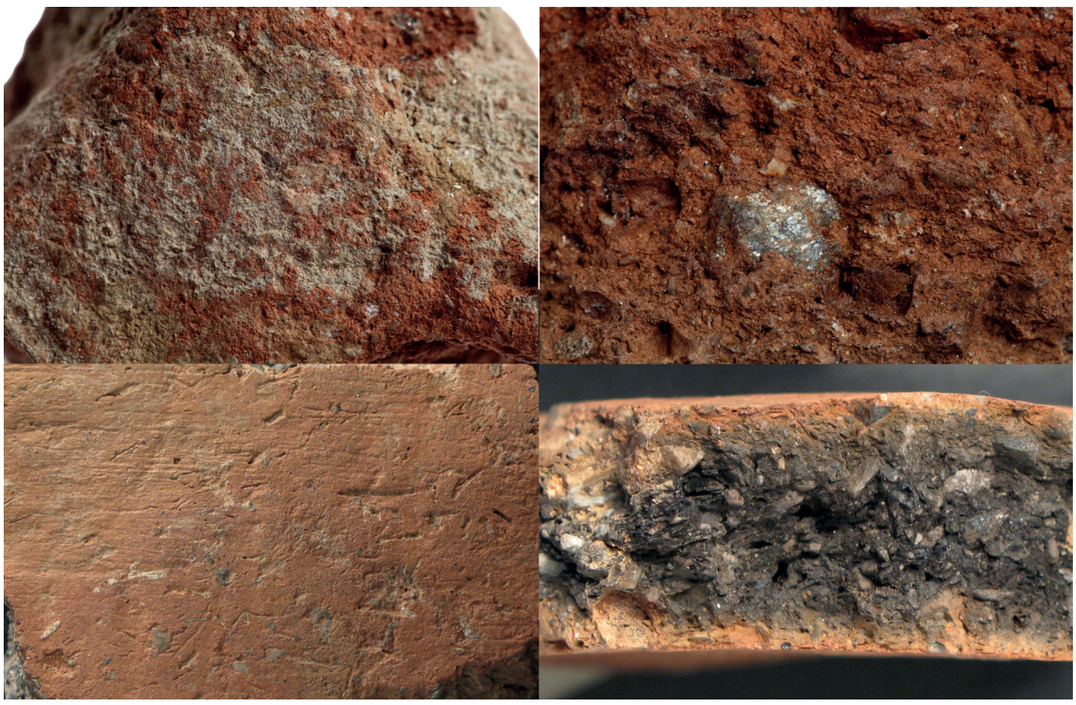


Fig. 6 Ware groups 34 (upper photo) and 45 (lower photo) (ÖAI/N. Gail)

Ware group	Brief description
15	Surface: roughly smoothed, reddish-brown sludgy slip, brown, dull and uneven; break: dark grey core
16	Surface: roughly burnished, dark reddish-brown; break: continuously dark grey to black
20	Surface: roughly burnished, slim beige to brown slip, slightly uneven, slightly shiny; break: black
23	Surface: roughly burnished and roughly smoothed, uneven, red to brown; break: dark grey core
32	Surface: roughly smoothed, sludgy slip, brown, uneven; break: brown
44	Surface: roughly burnished and roughly smoothed, uneven; break: continuously red to red-dish-brown
51	Surface: medium fine burnished, slightly uneven and slightly shiny, slip on the exterior; break: reddish-brown, grey core
58	Surface: medium fine burnished, even, slightly shiny, reddish-dark brown; break: continuously red
60	Surface: roughly burnished, brown sludgy slip, uneven; break: continuously brown core
77	Surface: roughly burnished, sludgy slip, uneven, grains tangibly, brown to grey; break: continuous-ly grey core
80	Surface: finely burnished and polished, dark grey to black slip, burnishing traces visible, slightly uneven, shiny; break: brown to dark grey
81	Surface: medium fine burnished, slim dark grey to black slip, slightly uneven, slightly shiny; break: brown, heavily tempered
313	Surface: medium fine burnished, partially uneven, red slip (?)
314	Surface: medium fine burnished, burnishing patterns visible, even, slightly shiny, heavily burnt
9841	Surface: medium fine burnished, thick red slip on both sides; break: light grey core
	“Pithos wares”
34	Surface: roughly burnished and roughly smoothed, sludgy slip, red to brown; break: dark grey core
35	Surface: medium fine burnished, red to reddish-brown suface; break: red
45	Surface: roughly burnished, uneven; break: continuously red to reddish-brown core
827	Surface: very fine burnished, red slip

Tab. 3 Coarse ware groups (single wares: light grey)

Overall, at 48%, medium fine wares are the prevailing group within the Early Bronze Age settlement ÇuHö III. Fine wares are represented at 33%, and coarse ones at 19%.

Besides the results of the analysis of the macroscopically defined ware groups, on-going broad technological studies including petrographic and geochemical analyses by L. Peloschek clearly reveal evidence for local pottery workshops at the settlements of ÇuHö IV and III.[20] Additional geo-archaeological surveys within this archaeometric project brought several clay sources to light that were used by the EBA potters.

Typological Background and Chronology

The ceramic spectrum of EBA 1 Çukuriçi Höyük (phases ÇuHö IV and III) forms a homogeneous group of wares and shapes, and is embedded in a supra-regional context. The pottery of both EBA phases is hand-made. Common shapes are so-called *Knickrandschalen*, jugs with high beak-like spouts and dome-shaped shallow bowls. Tripod cooking pots also form a prevailing shape.[21] From its shape, the EBA 1 pottery of Çukuriçi Höyük can be associated with Troy I (phases Troy Ib-c, not the earliest stage), the cemetery of Yortan, and the phases XIX–XVII of Beycesultan.[22] Younger shapes, such as wheel made plates or *depata amphikypella*, do not form part of the assemblage.[23] Based on these comparisons, the two most recent settlement phases of Çukuriçi Höyük can be dated to the beginnings of the Early Bronze Age (EBA 1 by Efe[24]) and consequently to the first centuries of the 3rd millennium BC[25] in relative chronological terms. A sequence of 12 radiocarbon dates fixes the Çukuriçi settlements IV and III between 2950/2900–2800/2750 BC. This date can be synchronised with the re-evaluation and modelling of the Troy Ib/c tree-ring sequence (2780 BC), thus placing phases ÇuHö IV and III at the beginning of the Early Bronze Age,[26] soon after 3000 BC and Troy Ia.

The ceramic types of EBA Çukuriçi Höyük can be correlated with Troy Ib-c,[27] Beycesultan XIX–XVIII and Aphrodisias-Pekmez LC4–EB1/2(?),[28] Yortan,[29] Emporio V–IV, Thermi I–II[30] and Poliochni (phase blue),[31] and form a horizon that spans at least 200 years and corresponds at its core to the EBA 1.[32]

Vessel Shapes and Types

The pottery assemblage of ÇuHö III includes eleven different categories describing the general shape of the vessels[33] (see Plate 2). The most common shapes are shallow bowls (26%) followed by tripod cooking pots (11%), narrow-mouthed vessels and jugs (both 4%). Other shapes are amphorae, jars, deep bowls, globular jars, and miniature- and special shapes. Within the biggest

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20 FWF project "Interaction of Prehistoric Pyrotechnological Crafts and Industries" (P 25825) managed by B. Horejs; Peloschek 2014; Peloschek, this volume.
21 Horejs 2010, 169.
22 Horejs 2011, 161.
23 Horejs 2011, 161.
24 Efe 1988, fig. 98.
25 Horejs 2011, 162.
26 Horejs et al. 2011, 43; Horejs – Weninger 2016.
27 Blegen et al. 1950.
28 Sharp Joukowsky 1986.
29 Kâmil 1982.
30 Lloyd – Mellaart 1962.
31 Cultraro 2004; Doumas – Angelopoulou 1997.
32 Blegen et al. 1950; Lloyd – Mellaart 1962; Sharp Joukowsky 1986; Korfmann – Kromer 1993, 164–169; Horejs et al. 2011, 41.
33 For detailed information about ÇuHö III pottery typology, see Röcklinger 2015.

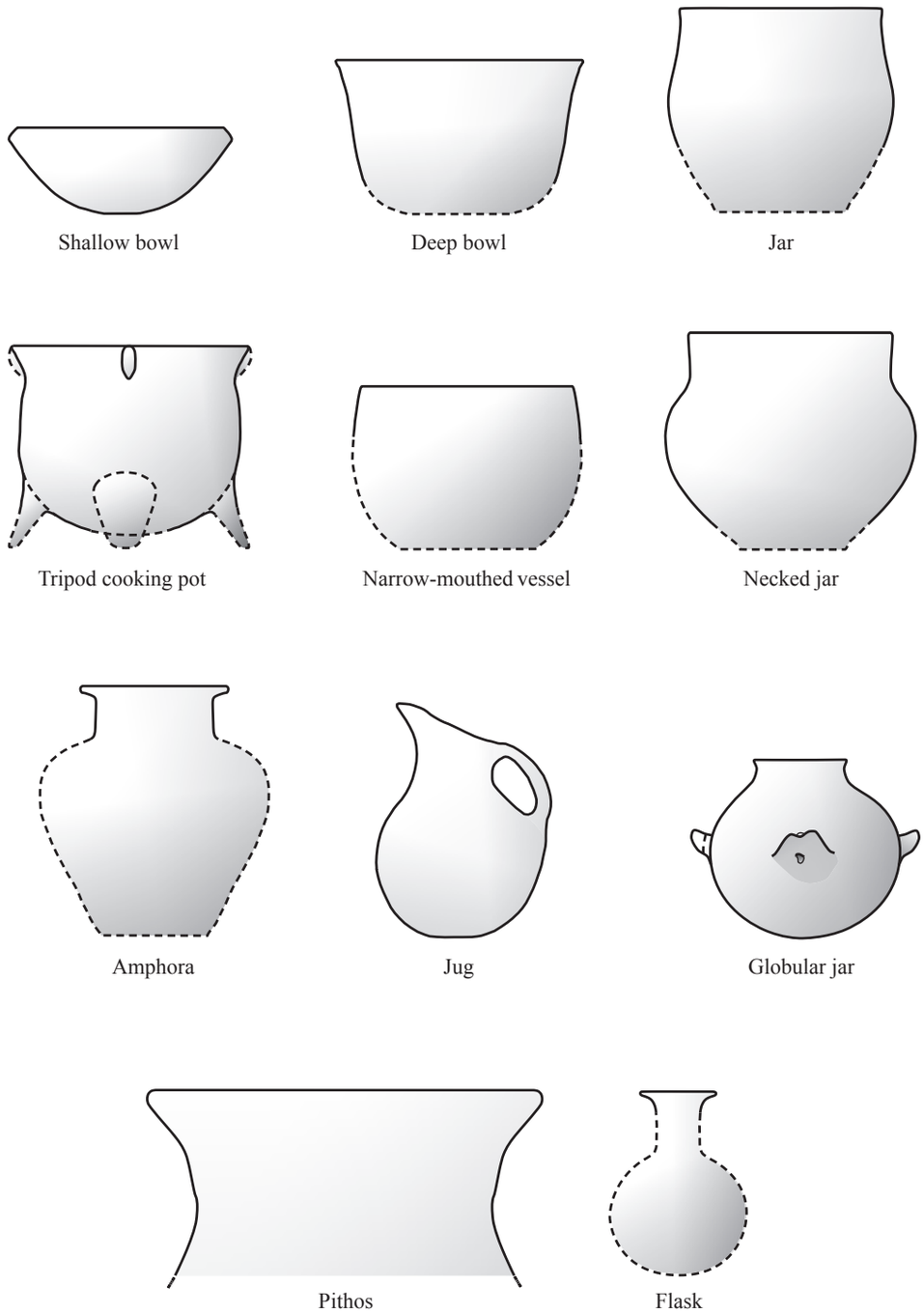


Plate 2 EBA 1 shapes of ÇuHö III (ERC Prehistoric Anatolia/M. Röcklinger)

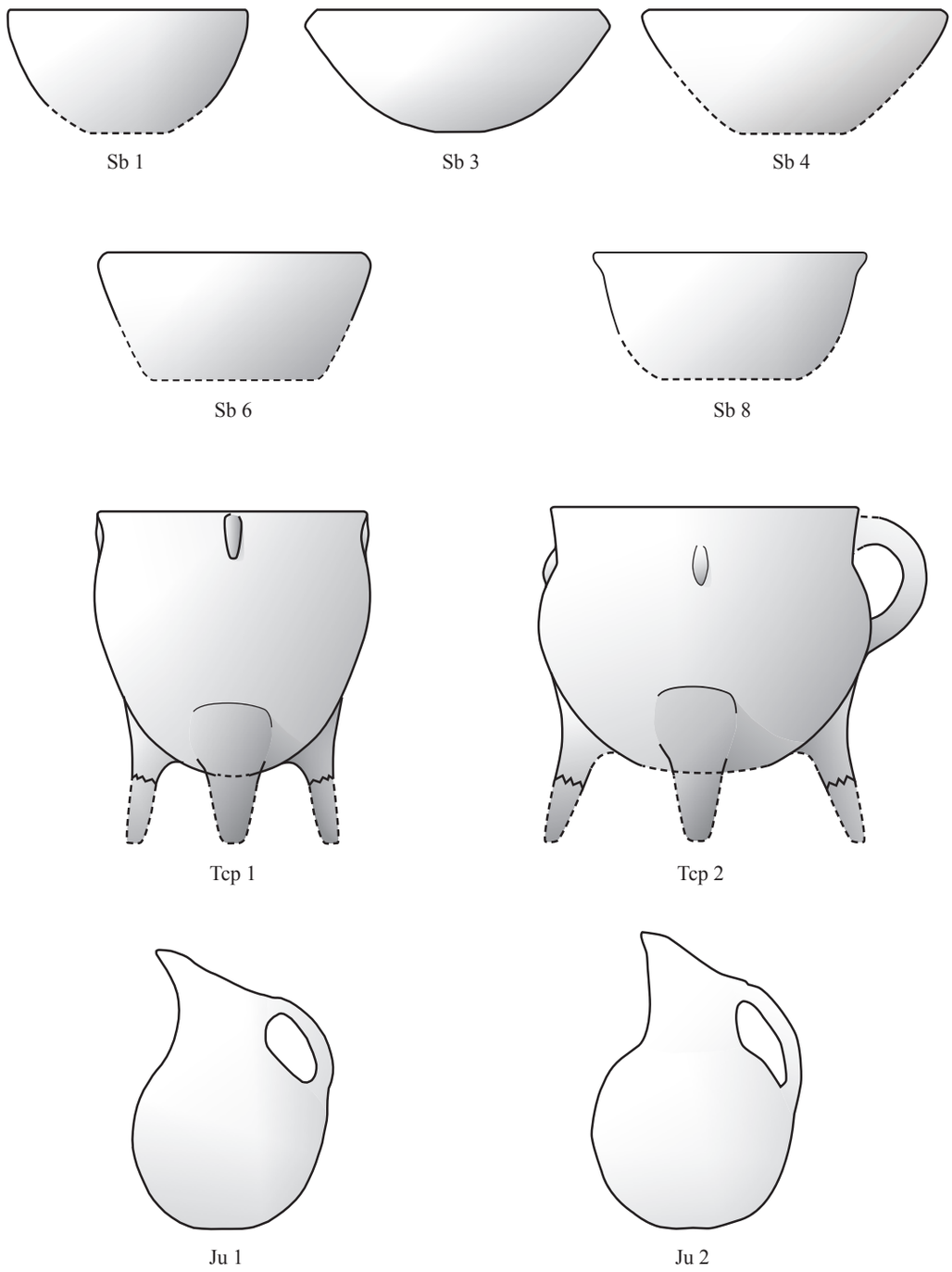


Plate 3 Most common pottery types at ÇuHö III; Sb 1: dome shaped shallow bowl; Sb 3: shallow bowl with a rim contracting heavily inwards; Sb 4: open shallow bowl; Sb 6: narrow-mouthed shallow bowl; Sb 8: shallow bowl with funnel-shaped rim; Tcp 1: tripod cooking pot with slightly curved rim; Tcp 2: tripod cooking pot with funnel-shaped rim; Ju 1: simple jug with sloping rim; Ju 2:jug with high beak-like spout (ERC Prehistoric Anatolia/M. Röcklinger)

group of vessels, five different types can be distinguished (see Plate 3). Besides simple dome-shaped, open-mouthed, narrow-mouthed and funnel-shaped shallow bowls, shallow bowls with an inverted, carinated rim (Sb 3: *Knickrandschale*) form the bulk and therefore the prevailing shallow-bowl type. Since there is a lack of completely preserved shallow bowls within this settlement phase, comparisons with the older Early Bronze Age occupation (ÇuHö IV) show us that simple/flat or, more commonly, rounded bases were used for these shapes. Typical appliqués are simple round knobs, vertically or horizontally pierced knobs, and horizontal handles with triangular or oval cross-sections sitting on the rim. Massive horizontal lugs, typical of Troy type A12,[34] are not attested at the site. Generally, handles are very rare among these shapes.



Fig. 7 Jug with high beak-like spout and white painting (ÖAI/N. Gail)

Tripod cooking pots come in two slightly different types. The first type shows a slightly curved neck and a round shoulder, resulting in a globular body. For this type, simple knobs opposite the handle are typical. The second type (Tcp 2) has a slightly funnel-shaped neck and a more flattened transition to the body. Due to the fragmentation of these vessels, it remains unclear if this type's rims are level throughout or, as in one better preserved case from room 1 – ÇuHö III, slightly rising to a point opposite the vertical strap handle.[35] This special feature might have served as a kind of spout. The vertical strap handle has an oval cross-section. Typical appliqués are long and narrow knobs positioned vertically on the transition from the shoulder to the neck. Since comparable types are only present at Beycesultan (phases XVIII, XVII, EB1),[36] Emporio[37] and Thermi,[38] a regional group for this shape can be assumed during the EBA 1. In other contemporaneous sites such as Troy, Demircihüyük and Liman Tepe, the tripod cooking pot types described above seem to occur only in later phases (Troy V[39], Demircihüyük "Q",[40] Liman Tepe EBA III[41]). Within phase ÇuHö III, the bulk of these vessels are of ware group 59, followed by 77. Overall, 90 fragments of these vessels were found in the layers of phase ÇuHö III.

Jugs are divided into two different types represented by 35 characteristic fragments within ÇuHö III. The two types consist of a simple jug with a sloping rim and a jug with a high beak-like spout. Both types have round or slightly flattened bases. The usual jug at ÇuHö III possesses a high beak-like spout (type Ju 2). Simple jugs are represented by only two examples. Both types most commonly have vertical handles with a round or oval cross-section starting at the rim. A unique example is a small specimen of a type-2 jug with white-painted parallel lines and three appliqués (Fig. 7). One of these is a vertical pierced lug. Although the others are not preserved, we assume that these belong to the same type of handle appliqué as the better maintained example.

34 Blegen et al. 1950, 60.
35 Cf. Fig. 12.
36 Llyod – Mellaart 1962, 122, fig. P.16,1, 2, 4,16; 128, fig. P.19.10; sheet 3.27.
37 Hood 1981, 186, fig. 99.27; 394, fig.178.1179.
38 Lamb 1936, plate IX.26.
39 Podzuweit 1979, 212, plate 20.2.IV.
40 Efe 1988, plate 60.9.
41 Day et al. 2009, 346, fig. 3.

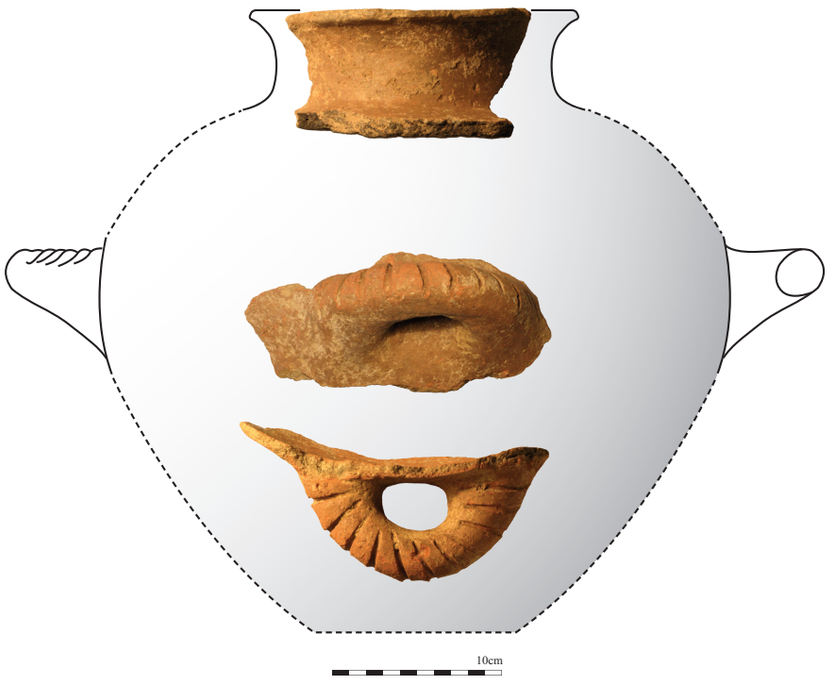


Fig. 8 Reconstruction of an EBA 1 amphora with horizontal handle (ERC Prehistoric Anatolia/M. Röcklinger)

Only nine amphora fragments were found at ÇuHö III. Since no complete profile of this shape is preserved within either EBA settlement phases at Çukuriçi Höyük, the typological assignment is based on the vessels' neck region. Within this phase, three different amphora types are present. Typical amphorae in EBA 1 Çukuriçi Höyük feature a cylindrical neck and a horizontally bent rim. Based on correlating the ware groups, characteristic horizontal handles with round cross-section and grooved decoration on the upper side can be associated with these shapes (Fig. 8). These handles have their best comparisons with so-called "stamnoi[42]" typical of the EBA Cyclades. According to A. Angelopoulou, this "two-handled container jar with splayed-out neck" does not appear earlier than EB II.[43] Since our examples derive from closed contexts, not dating later than 2740 BC,[44] the assumed time of first emergence of these shapes might be reassessed at least for the eastern Aegean region.[45]

Decoration

At ÇuHö III, only 8% of all Early Bronze Age fragments are decorated. It is possible to distinguish between painted, impressed (fluted, grooved, scratched, impressed rings), incised and pierced fragments as well as different types of appliqués. Out of the 70 decorated pieces, only 38 were assigned to particular vessel shapes. The most frequently decorated shapes are tripod cooking pots and shallow bowls. In terms of handles, the horizontal type described above is associated with amphorae, and is the most decorated type.

42 Rambach 2000, Tafel IV, 9.
43 Angelopoulou 2008, 159.
44 Horejs – Weninger 2016, 133.
45 Although these vessels are particularly typical for the Cyclades, comparisons with other regional sites like Liman Tepe and Bakla Tepe show that these shapes also appear regularly in EBA sites in the Izmir region, again dating to EBII (oral information from V. Şahoğlu, Neolithic on-site symposion at Çukuriçi Höyük, 11th–12th October 2014).

Correlation of Shapes and Wares

For the interpretation of a vessel's specific use, the definition by H. Riemer[46] is used. He assumes that narrow-mouthed vessels are used for contents that will be stored for a longer period, whereas open and deep vessels should allow easy access to the content, and vessels like jugs and shallow bowls are used for consuming meals and drinks. The combination of the assumed function and the macroscopically defined ware groups shows that, at ÇuHö III, medium-sized shapes, used to store ingredients and defined in typological terms as narrow-mouthed vessels and amphorae, were made mainly of medium fine wares. Pithoi, as already mentioned earlier, were generally made of coarse wares (Tab. 4). Vessels used for preparing food, or which were intended to grant easy access to their contents, were basically made of medium fine wares as well (Tab. 5). Shapes for consuming food or drinks such as shallow bowls, jugs, and flasks, were commonly made of fine and medium-fine wares (Tab. 6).

Shape	FW	MW	CW
N	7	21	5
A	3	4	2
Nj	2	5	2
Gj	2	0	0
P	0	1	10
Total	14	31	19

Tab. 4 Correlation of vessels used for storage with the respective ware categories (N: Narrow-mouthed vessels, A: Amphorae, Nj: Necked jars, Gj: Globular jars, P: Pithoi; FW: Fine ware, MW: Medium fine ware, CW: Coarse ware)

Shape	FW	MW	CW
Tcp	13	44	26
Db	2	5	1
J	1	6	1
Total	16	55	28

Tab. 5 Correlation of vessels used for preparing food with respective ware categories (Tcp: Tripod cooking pot, Db: Deep bowl, J: Jar; FW: Fine ware, MW: Medium fine ware, CW: Coarse ware)

Shape	FW	MW	CW
Ju	16	13	7
Sb	104	75	20
Fl	2	0	0
Total	122	88	27

Tab. 6 Correlation of vessels used for consuming foods and drinks with respective ware categories (Ju: Jug, S: Shallow bowl, Fl: Flask; FW: Fine ware, MW: Medium fine ware, CW: Coarse ware)

[46] Riemer 1997.

If we look at the appearance, and in particular the surface colours of the different ware groups, it is apparent that shallow bowls, with 82% of the *Knickrandschalen* variety, are almost exclusively made of dark (dark grey, dark brown and black) ware groups. Storage vessels (amphorae, narrow-mouthed vessels, necked jars, globular jars and pithoi) feature medium-fine (50%) and roughly burnished surfaces (17%). Smaller storage vessels also show finely burnished surfaces (15%). Vessels used for cooking or preparing food mostly show a medium-fine or finely burnished surface. Rough burnishing with a sludgy slip represents only 19%. The latter treatment occurs with 74% of tripod cooking pots. Shapes such as shallow bowls or jugs most frequently feature a finely burnished (41%) finish, followed by a medium finely burnished surface (29%).

The Case Study – Room 6

Various analytical methods can be used for interpreting a vessel's particular use. These can be use-wear and residue analysis, but the particular ceramic fabrics along with the shapes also reveal something about primary function. Contextualising pottery with other find categories, features and stratigraphy, and incorporating other fields of research, such as metallurgy, archaeobotany or archaeozoology, gives us the opportunity to gain further insight into socio-cultural processes. In addition to the socio-cultural information gained from analysing metal processing, textile production, stock herding and plant remains, the study of pottery enables us to gain detailed insight into craft specialisation and organisation as well as the general organisation of a settlement. The aim of this case study was to discover whether there were particular technological groups or properties that correlate with pottery shapes and assumed functions, and if these can be linked with an EBA local pottery production site with specialised products focused on function. Further questions regarding the production itself should clarify if, how and to what extent pottery production for a particular purpose took place within the settlement.

The pottery assemblage of room 6, the best-preserved room of phase ÇuHö III, shows a typical assemblage (in wares and shapes) of EBA 1 at Çukuriçi Höyük, and therefore forms a sound base for analysing the connection between function and technology in pottery production. In addition, technological comparisons within the settlement should provide a better understanding of pottery technology at Çukuriçi Höyük III.

Architecture and Features

Early Bronze Age layers contain agglutinative architecture, composed of rectangular rooms. According to spatial analyses and detailed studies of the depositional processes that took place within these buildings and rooms, a multifunctional use with manifold activities can be assumed for the youngest settlement phase (ÇuHö III). Detailed analyses of the deposition processes were based on the architecture, pottery, metallurgical features and small finds and other find categories (e.g., burned clay, grinding stones). Comparison of these spatial studies led to the result that special rooms were exclusively used for metal processing, while others were used primarily for everyday life. Although metal processing took place in almost every single room, in some cases metallurgical craft activities did not play a major role.[47]

The pottery assemblage discussed here hails from room 6 (Fig. 9) which is located to the south of the preserved part of the tell and consists of a rectangular space surrounded by stone wall socles. This room shows four different levels of use, each represented by individual clay floors including four oven installations, two pits, and one *in situ* pottery assemblage. The oldest level (D) contained only one oven installation and no finds. The most interesting level of use is the more recent level C. It contained two ovens as well as the *in situ* pottery assemblage mentioned

[47] Röcklinger 2015.

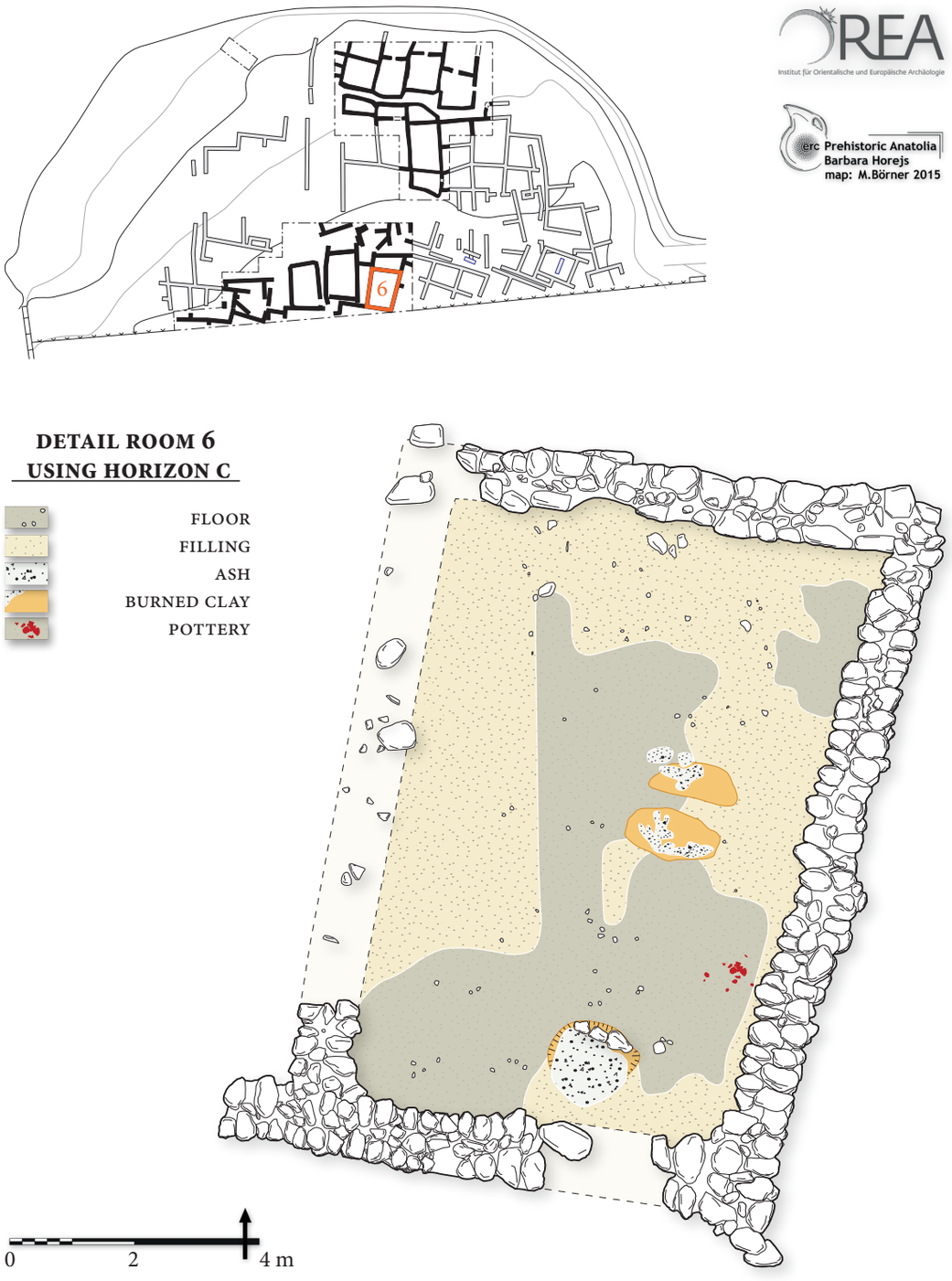


Fig. 9 Location of room 6, ÇuHö III and close-up of level C (ERC Prehistoric Anatolia/M. Börner)

above. The first oven (oven 12) was located at the southern wall of the room and consists of eight different layers. The second oven (oven 16) was located in the centre of the room, and contained ash and burned clay. Between these two structures a pottery assemblage was found. The jug with a high beak-like spout was around 50% preserved. It was lying horizontally on the stamped clay floor and because of its relatively good state of preservation it can be interpreted as belonging to this phase of use. The floors within the settlement show a special pattern. Most of them had been

built reusing material from former occupation layers, which can be seen in the composition of the ceramic material in the floors. It is therefore statistically attested that, within the floors, there is a high amount (up to 50%) of sherds belonging to older phases like the Neolithic or the Late Chalcolithic. Since the floors of room 6 mirror this special situation, large parts of material coming from the floors had to be excluded from analysing the rooms' primary use.

The next level (B) showed an accumulation of clay, which separates this level of use from the former level (C). Level B contained a floor and its repairs, as well as different layers of collapsed walls with pieces of plastering, and a possible post-hole or a pit. Within this level, no evidence for an oven was apparent. The most recent level (A) consisted of different clay layers, floor levels, a pit and an oven, which was located slightly to the south of the centre of the room.

Because of the oven installations and other finds connected to metal processing such as a pounder, a cone, a fragment of a crucible, pieces of slagged clay and a needle, this room is interpreted as a metal workshop. A change of use was not recognisable through all four levels. The results of analysing the deposition processes lead to the result that, due to finds' state of preservation, their approximate size and other criteria, only seven pottery vessels can be used for spatial analyses across all four levels of use. This assemblage consists of an amphora, two jugs, a tripod cooking pot and three shallow bowls.[48] Nevertheless, since the material is well-stratified and the levels have been dated by ^{14}C, it can be used for technological analyses.

Ceramics

Amphorae

Within room 6, only one characteristic fragment belonging to an amphora is preserved (Fig. 10). In general, the most frequent ware groups used for these vessels are the fabrics 42 and 110 (Fig. 11). WG 42 is a medium fine ware with a medium finely burnished reddish-brown surface and a slightly slate-like break. WG 110 is a fine but roughly burnished fabric with a red surface and a grey break.

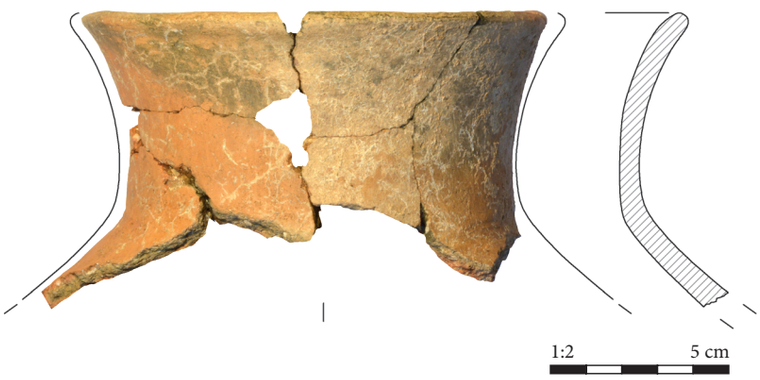


Fig. 10 Amphora, room 6, level A (08/505/1/10+16) (ERC Prehistoric Anatolia/Th. Urban)

[48] Röcklinger 2015, 111–116.

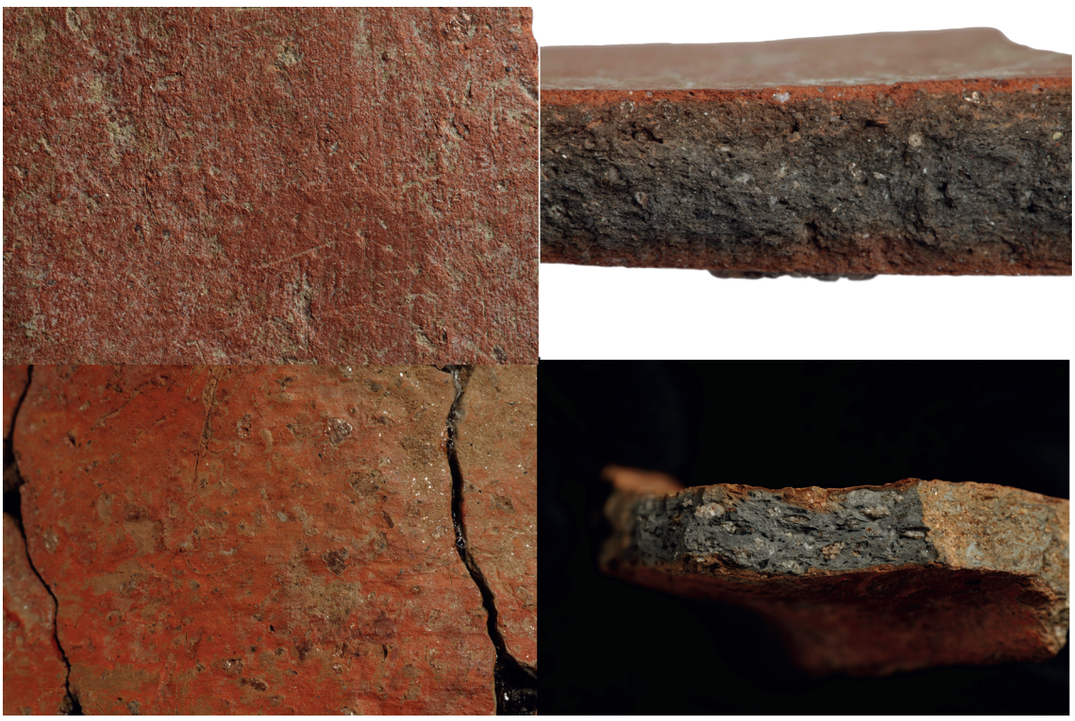


Fig. 11 Ware groups 42 (upper photo) and 110 (lower photo) (ÖAI/N. Gail)

Although it was not possible to determine the exact ware group of this particular piece, its closest counterpart is WG 42. According to the petrographic analyses,[49] WG 42 belongs to the main fabric used at Çukuriçi Höyük. This contains coarse mica schists and quartz mica schists, and shows a highly micaceous clay matrix. Because of its excellent thermal properties due to increased silica content, it is often used for cooking pots as well.

Tripod Cooking Pots

Within room 6, 13 sherds of tripod cooking pots were found. Twelve of them were made of the main fabric already described. One was made of WG 77. As already mentioned above, along with WG 59 (main fabric), this group shows the most common fabrics used for this vessel type (Fig. 12). Ware group 77 (Fig. 13) belongs to the so-called sand-tempered fabric that only occurs within the EBA pottery. Important information given by the petrographic analyses is that this fabric was tempered with coarse-grained mica schist intentionally in order to make it very heat resistant, which evidently is useful for cooking pots. This special property of the fabric and the fact that the sand was inserted intentionally shows us that the inhabitants of EBA Çukuriçi Höyük had a well-developed strategy for combining technology with functionality in the vessels they made.

Jugs

In comparison to storage or cooking vessels, jugs (Fig. 14) show a more diversified fabric repertoire. The jugs from room 6 are made predominantly using petrographic main fabric. The jug

[49] The petrographic analyses were conducted by Lisa Peloschek, within the project "Interaction of Prehistoric Pyrotechnological Crafts and Industries", under the direction of Barbara Horejs and financed by the Austrian Science Fund (FWF Project no. P 25825).



Fig. 12 Tripod cooking pot (06/218/1/1) (ERC Prehistoric Anatolia/Th. Urban)



Fig. 13 Ware groups 59 (upper photo) and 77 (lower photo) (ÖAI/N. Gail)

already mentioned with a high beak-like spout, found on the floor of level C, is made of WG 87, a fine metamorphic, reducing fired fabric with quartz and carbonates. Another example was made of WG 84, a fabric with calcite as a natural temper. In comparison to other houses within ÇuHö III, six fabrics were preferred in this case. Four of them (WG 19, 58, 78, 86) belong to the petrographic group of the main fabric (see e.g., Fig. 15 top). Most commonly used is the ware group 76 (Fig. 15), which can be described as a hard, medium-fine fabric with a grainy break. Based on

the petrographic analyses, this ware group can be determined as a fabric with metamorphic rocks and slate.

Shallow Bowls

Like jugs, shallow bowls (Fig. 16) show a more diversified fabric repertoire. Within room 6 all five ÇuHö III shallow-bowl types are present. The bulk is made out of the main petrographic fabric (WG 46, 49, 54, 55, 60, 61, 85, 105), followed by a reducing burnt fine metamorphic fabric with quartz and carbonates (WG 87). The most common ware group for shallow bowls in this settlement phase, WG 84, is found in three items in this room. This ware group can be defined as a fabric with naturally occurring calcite, which is characterised by the presence of discrete calcite grains in a slightly micaceous and partially calcareous clay matrix. Macroscopically, it is described as a fine to medium-fine fabric with a brown to grey core and a dark-brown to dark-grey medium fine burnished surface. The clay for this fabric most probably comes from a different source than that used for the main petrographic fabric. As investigations conducted by L. Peloschek and D. Wolf show, this raw clay material is rarely found in the surroundings of Çukuriçi Höyük. Besides these two groups, the second most used group within room 6 is WG 87. Together with WG 53, it also forms the second most frequently used ware group in phase ÇuHö III. Both show a fine to medium-fine burnished dark-brown to dark-grey surface and a dark-brown to greyish-black break. It may be a variant of the main fabric, but made from much finer sediment. The composition of the fabric is probably not connected to the function of the vessels, but it is definitely connected to the appearance of these vessels.

Looking at surface colours, one can see that 82% of shallow bowls – so-called *Knickrandschalen* (type Sb 3) – are made of dark-coloured (dark grey, dark brown and black) ware groups. 59% of all dark wares used for this shallow bowl type are fine fabrics, 34% are medium fine and 7% coarse fabrics. The most frequently used ware group is WG 87, a fine and hard fabric with an almost clean to slightly slate-like break, followed by WG 84, a fine to medium-fine hard fabric with a grainy break and WG 53, which is again a fine but very hard fabric with an almost clean to slightly slate-like break. The surface treatment of these fabrics ranges from very fine burnished and polished to roughly or medium-fine burnished. In total, seven ware groups are finely burnished, and four show a medium-fine burnish (Fig. 17). Only two of these groups show a slip on the outside. WG 116 is a fine ware with a clean break and a very finely burnished surface. In contrast, WG 80 is a coarse ware with a grainy break, a polished surface and a slip (Fig. 18). A third group, which is represented only with one fragment, shows a red slip on the inside.

Shallow bowls, generally interpreted as vessels for consuming food or drinks, are usually made of fine and medium fine wares. 59% of the *Knickrandschalen* are made of fine wares, and 77% of them are of dark brown to black wares. The surfaces are mostly well burnished and show a nice and shiny appearance.

Conclusion

The Early Bronze Age pottery assemblage of Çukuriçi Höyük phase ÇuHö III consists of 77 different macroscopically defined ware groups. These groups can be divided into fine, fine to medium fine, medium fine and coarse wares. The most frequently used ware groups belong to the medium-fine category, followed by fine and finally by coarse wares. A comparison of ware groups with vessel function showed that medium-sized vessels suitable for storing food e.g., amphorae and narrow-mouthed vessels, were mainly (46%) made of medium-fine wares, whereas pithoi were, with the exception of one example, made of coarse fabrics. Vessels for preparing food were made of medium-fine fabrics (52%). Containers used for consuming food or drinks (jugs, shallow bowls and bottles) were mainly made of fine wares (48%), followed by medium-fine wares (39%). Regarding the appearance of these different vessels, it is striking that shallow bowls, and



Fig. 14 Jug from room 6 (09/886/1/1) (ERC Prehistoric Anatolia/Th. Urban)

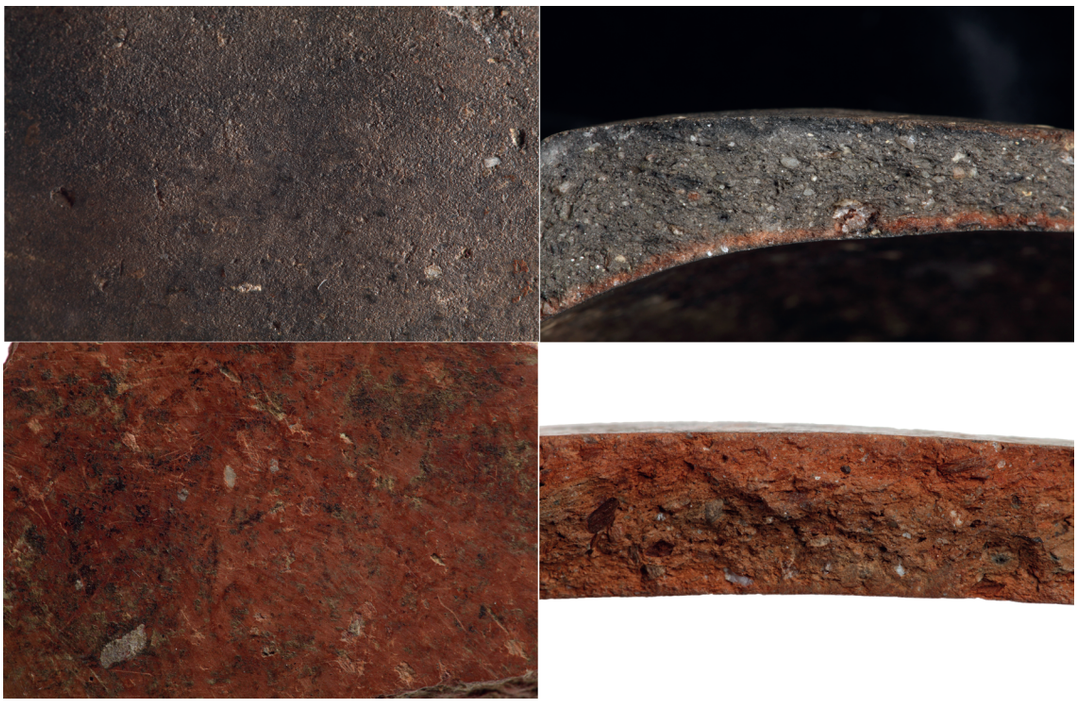


Fig. 15 Ware groups 19 (upper photo) and 76 (lower photo) (ÖAI/N. Gail)

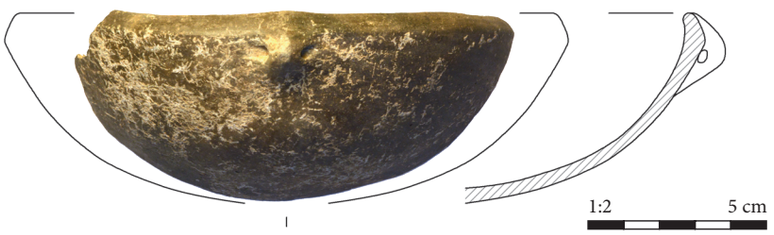


Fig. 16 Shallow bowl from room 6 (08/505/1/7) (ERC Prehistoric Anatolia/Th. Urban)



Fig. 17 Ware groups 87 (upper photo) 84 (middle photo) and 53 (lower photo) (ÖAI/N. Gail)

especially the so-called *Knickrandschalen*, which represent 82% of all shallow bowls, are made exclusively of dark-coloured (dark grey, dark brown, black) ware groups. This leads to the assumption that the selection of the colour and surface of these vessels was a specific practice in pottery production. Since colour does not have any functional aspect, the dark-coloured pottery production at ÇuHö phase III can be seen as a stylistic element or a particular fashion for the EBA *Knickrandschalen*. Producing these wares required a continuous reducing atmosphere during firing. This had to be balanced with the surface treatment. Shapes used for consuming food featured a dense surface to prevent liquids from penetrating into the vessel wall, and surfaces were usually burnished, even when not slipped. To prevent the burnished surface from flaking, low firing temperatures were required. Consequently, very specific knowledge was essential for producing these shallow bowls. Another successful way of 'sealing' these vessels was through the application of a slip. A good example of this practice is WG 80. This roughly made fabric with a grainy fracture was coated with a black slip to make the porous surface denser. Another fabric (WG 116), which can be described as a soft fabric, also was covered with a slip to improve surface properties. In contrast, no special surface appearance was created for shapes used for preparing or storing

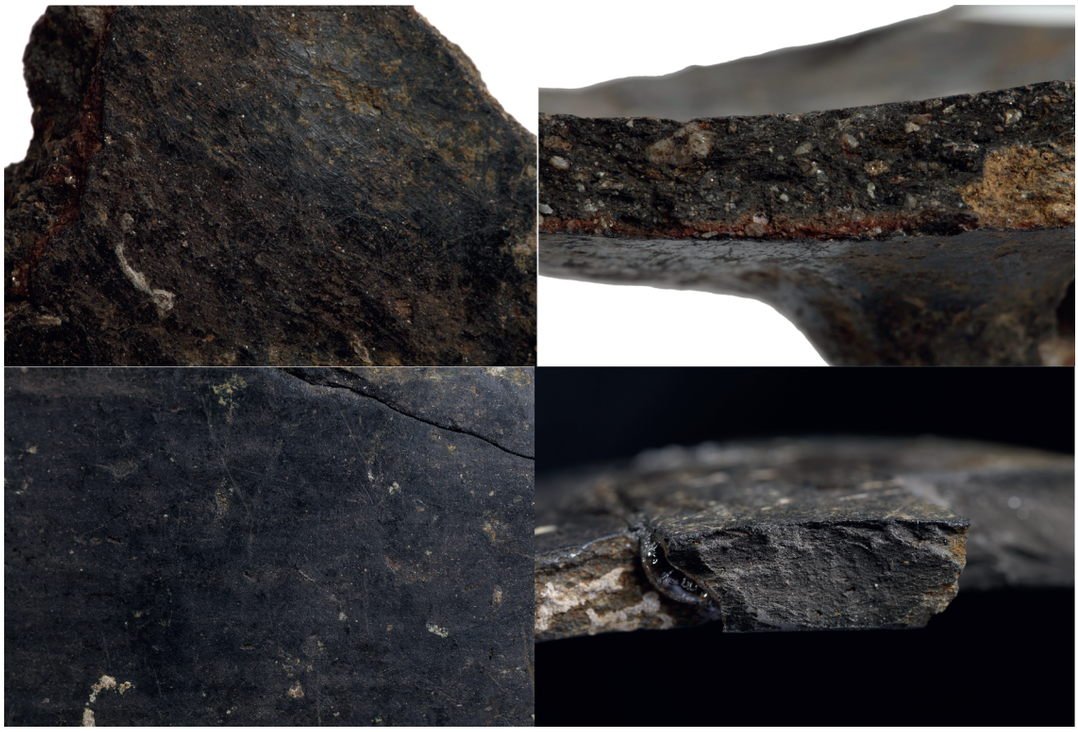


Fig. 18 Ware groups 116 (upper photo) and 80 (lower photo) (ÖAI/N. Gail)

foodstuffs. It can therefore be stated that functionality and design were combined for producing these particular tableware shapes.

In the pottery assemblage of room 6, 14 ware groups were preferred. Seven of them belong to the main petrographic fabric, which consists of mica schist, quartz-mica schist, epidote, albite and occasional micrite. The main fabric most commonly appears in jugs (four out of six). The other fabrics preferred for jugs include metamorphic rocks and slate (WG 76) as well as calcite as a natural temper (WG 41). According to L. Peloschek, the last mentioned group is a fabric of special interest. It is as yet unclear whether this clay originates from a different region, or whether it has a source near the tell that has not yet been discovered. A comparison of petrographic groups with known clay sources suggests that all other fabrics used for EBA pottery can be considered as local fabrics.

As indicated by the special knowledge required to produce black burnished wares and for instance ware group 77 (tripod cooking pots), pottery production and the exploitation of specific clay sources were conscious acts. Fabrics were prepared purposefully, particularly with regard to their thermal properties and their general composition. In the case of WG 77, clay was intentionally sand-tempered to produce heat-resistant vessels, which indicates a strong connection between the supposed function of a vessel and the technological background.

In conclusion, we can say that the EBA pottery production for the consumers at Çukuriçi Höyük was a specialised craft. Not only the choice of clay sources and their natural properties, but also tempering, surface treatment and firing as well as the combination of function, technology and appearance played important roles. This is visible in the choice of fabrics e.g., for cooking pots and their needed thermal properties. Since no potter's workshop at or around Çukuriçi Höyük has so far been identified, the use of local clay sources and the concise evidence of wares and fabrics lead us to assume that pottery production was carried out either within the Çukuriçi settlement or in its direct vicinity. Therefore, beside metal processing and textile crafts, pottery production was a local craft sector at Çukuriçi Höyük during EBA 1.

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Today archaeometric approaches to pottery are commonly utilised in Aegean Bronze Age archaeology. Pottery experts in the Aegean are now able to use various methods based on a well-established scientific framework and comparable data. This state-of-the-art interdisciplinary approach to Aegean ceramics produces a large amount of new and complex data, used by specialists and non-specialists, for interpretations about socio-cultural phenomena.

Therefore, the main aim of this conference volume is to bring together archaeometric experts, and their scientific questions and data, with traditional archaeological pottery analysis. This enables broader archaeological and cultural contextualisation within one particular geographical area and time horizon – the Early Bronze Age 1–2 periods (3000–2300 BC) on both sides of the Aegean.