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# CONTENTS

<b>New Light on the Early Days of Sagalassos and its Surroundings</b>	<b>7</b>
<i>John Lund</i>	
<b>Late Achaemenid and Early Hellenistic Pisidian Material Culture from Düzen Tepe (SW Anatolia)</b>	<b>11</b>
<i>Dries Daems, Dennis Braekmans, Jeroen Poblome</i>	
<b>The Pottery of Late Achaemenid Sagalassos: An Overview</b>	<b>49</b>
<i>Dries Daems and Jeroen Poblome</i>	
<b>A Taste of Time. Foodways and Cultural Practices in Late Achaemenid-Early Hellenistic Düzen Tepe (SW Anatolia)</b>	<b>63</b>
<i>Sam Cleymans, Dries Daems, Bea De Cupere, Elena Marinova, Jeroen Poblome</i>	
<b>Hellenistic and Italic Amphorae from Sagalassos</b>	<b>97</b>
<i>Patrick Monsieur, Dries Daems and Jeroen Poblome</i>	
<b>Instructions to Authors</b>	<b>119</b>

# LATE ACHAEMENID AND EARLY HELLENISTIC PISIDIAN MATERIAL CULTURE FROM DÜZEN TEPE (SW ANATOLIA)

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## Abstract

The continued importance of pottery studies for the development of the archaeological discipline can hardly be overstated. In this paper we discuss the pottery found at the settlement at Düzen Tepe (SW Anatolia), following the template of the well-established typological and fabric identification practices developed by the Sagalassos Archaeological Research Project for the Sagalassos Red Slip Ware production from Roman imperial times. A newly devised typology of the late Achaemenid to early Hellenistic (5<sup>th</sup> to 2<sup>nd</sup> centuries BCE) material of Düzen Tepe is presented. Comparisons with parallels in pottery material indicate that this material was firmly embedded in a (southwestern) Anatolian framework, generally matching a chronological window from the fourth to third centuries BCE.

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## Keywords

Düzen Tepe, pottery, typology, fabric, late Achaemenid/early Hellenistic period

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## Introduction

Much archaeological work revolves around trying to understand how societies in the past came into being, developed, and often also declined and disappeared from the surface of the earth. Unfortunately, we can no longer witness the workings of these past societies directly. We can, however, study and interpret the material remains they have left us. Naturally, as far as material culture is concerned, many different types of material were used, such as bone, wood, and textile, but most of these are very susceptible to the decay of time, whereas (precious) metals were often re-used in new smelting processes. In general, pottery was widely used for a variety of purposes and breaks relatively easy when dropped. Although certain kinds of pottery sometimes show indications of repair, it was not considered altogether precious as a medium for people to refrain from discarding after its usefulness had expired. The remaining sherds, with varying degrees of fragmentation, are not entirely immune to exposure to the elements, but are on average highly resilient to the wear and tear of time. For many societies, especially those of historic times, this combination of ubiquity and durability has resulted in pottery being by far the most abundant form of material culture left for us to study (perhaps likewise, future archaeologists might turn to the ever-presence of plastics to study societies from the 20th and 21st centuries).

In this paper, we aim to present an overview of the pottery found at Düzen Tepe, a settlement located in the Western Taurus mountain range of the

ancient region of Pisidia in southwestern Anatolia. The settlement was located on a plateau of about 50 ha, overlooking the Ağlasun river valley. Düzen Tepe was discovered by the Sagalassos Archaeological Research Project, then directed by Marc Waelkens, and multi-disciplinary surveying campaigns were coordinated by Hannelore Vanhaverbeke in 2005 and 2006, followed by excavations between 2006 and 2011, coordinated by Hannelore Vanhaverbeke and Kim Vyncke.<sup>1</sup> Preliminary study of the ceramics indicated the overall lack of both the painted ceramics typical for the Archaic period and the high quality slipped wares found in late Hellenistic and Roman imperial times. Instead, the pottery of Düzen Tepe mainly consisted of fairly weathered material with the dull, mottled slip characteristic for the so-called colour-coated vessels, which can be placed in a general bracket between the 5th and 2nd centuries BCE. This suggested occupation period was also corroborated by numismatics and radiocarbon dating.<sup>2</sup>

## Methodology

In light of the strategic role ceramological investigations have played in the research agenda of the Sagalassos Project, the operational methodological framework has been designed in order to be able to classify each fragment, and not to ignore anything. The classifying and processing of pottery fragments is based – essentially – on fabric and shape. As a matter of policy, this approach permeates the classification procedures applied to any distinctive archaeological period in the history of the region, ensuring the highest possible degree of uniformisation and systematisation of information. These procedures reflect not only our level of knowledge, but also past persons' and communities' technical skills, socio-cultural choices, ways of doing things, preferences and expressions, economic relations with and integration within frameworks of any size, and so forth.

A clay paste or fabric we define through the observation of combined macroscopic properties, whereby we maintain David Peacock's system of fabric characterisation.<sup>3</sup> Our preliminary macroscopic fabric classification is backed up and refined following a programme of chemical and mineralogical fingerprinting, as well as raw materials provenancing.<sup>4</sup> As far as shapes are concerned,

1. Vanhaverbeke *et al.* 2010, pp. 106-110. From 1990 to 2013, the fieldwork activities and research programme were directed by Marc Waelkens and from 2014 onwards by Jeroen Poblome.
2. Vanhaverbeke *et al.* 2010, pp. 118-119; Poblome *et al.* 2013, 531.
3. Peacock 1977.
4. Braekmans 2010; Braekmans *et al.* 2017.

the systematics of the applied classification operate on the nominal scale of measurement. As such, the resulting typology is arbitrary, in the sense that any other logic of classification could have been followed. From the outset, however, it was our intention to develop and work within a pre-arranged system, classifying material according to the principles of non-dimensional taxonomy, and not paradigmatic ones for instance, or a classification system based on the systematics of grouping following no pre-arranged abstract template.

For each studied locus, generic functionality, typology and quantified information of the pottery is registered. The Functional Level is subdivided into four subheadings: General Functional Category, Functional Category, Specific Functional Category and Object. This tiered hierarchy works from a more general presumed function to the more specific. Secondly, type/variants are usually created based on the presence of certain morphological, decorative or sometimes technical characteristics. Thirdly, count and weight allow for a full count and weight quantification – of rims (R), bases (B), body sherds (BS) and handles (H) respectively. The typology constructed here follows the example of the well-established typology of the Roman imperial production of Sagalassos Red Slip Ware (SRSW) in describing a number of distinct types through a polythetic set of attributes.<sup>5</sup> These attributes are linked to fabric and morphology as main parameters for typological classification. The envisaged typology needs to reflect the strategies employed by producers and choices made by consumers. It must therefore combine a typological description of the end-products with the identification of used fabrics. Each type code contains a letter denoting its respective typological group, including: cups (A), bowls (B), dishes (C), plates (D), containers (F), *pithoi* (G), jugs/jars (H), and cooking vessels (Q).

Next, a number is added to differentiate specific forms within the different type groups, (arbitrarily) starting with 100, so for example A100 for a basic cup form. Different types are then allocated different numbers, rising with 10 for each new type, so A110, A120, and so forth. For any consistently recorded variant of a specific type, a new number is allocated rising with 1, so for the A100 type variants are denoted with A101, A102, and so on. The code numbers used for the different types have been selected to comply where possible with the existing SRSW typology. We therefore adopted existing numbering whenever typological continuity could be observed, and allocated new numbers succeeding the existing SRSW numbers whenever new types were identified. As full typological continuity can of course not be expected

5. Poblome 1999.

throughout different time periods, this resulted in certain discontinuities in numbering within type groups. In exchange, however, we gain a significant increase in potential for typological comparison over different chronological periods, which allows maximum highlighting of continuity and discontinuity in material culture whenever possible.

Full typological description also includes fabric identifications, with distinct fabrics denoted with a unique code number preceding the type codes. Previous petrographic and geochemical analysis identified a number of pottery fabrics for the late Achaemenid and early Hellenistic period at Düzen Tepe and Sagalassos, providing fabric numbers starting from the number 200 (TABLE 1).<sup>6</sup> In conclusion, a full identification of an Achaemenid bowl (A120) produced in the local buff tableware fabric (no. 237) would therefore be in the form of '237A120'. This system of numbering best fits with established practice at Sagalassos following the SRSW typology and allows quick classification and identification during material studies.

TABLE 1: List of fabrics with corresponding number and relative occurrence based on total of 26,813 sherds (Braekmans 2010).<sup>7</sup>

Fabric	Fabric no.	Percentage
black core	4	NA
LT1	227	28.0
LT2	228	12.4
LT3	229	11.4
cookware	230	22.5
LT4	232	3.9
metamorphic ware	233	0.1
grog ware	234	0.2
micaceous fabric	235	0.4
grey ware	236	3.4
buff ware	237	6.4
black-glazed tableware	238	0.1
orange-red tableware	239	4.4
red tableware	240	5.0
Hellenistic tableware	241	0.4
white ware	242	0.2
red lustrous wheelmade ware	243	NA
grey buff ware	244	NA
dense grey ware	245	0.7
gritty orange-red ware	246	NA

6. As proposed by Braekmans 2010, pp. 103-122. The choice to start from 200 was made to allow sufficient space for later additions of fabrics from other time periods.
7. Percentages not always available; fabric 4 was not noted separately; fabric 243 was not encountered at Düzen Tepe proper; fabrics 237 and 244 were counted together; fabric 246 was added afterwards.

## The productive landscape: Raw materials selection

It has been argued that both Sagalassos and Düzen Tepe were largely self-sustaining communities in late Achaemenid and early Hellenistic times, who relied heavily on the local landscape in the immediate surroundings of the settlements for their most basic functions and provisions.<sup>8</sup> The production of pottery was in this period likewise oriented on a local productive landscape, with raw material derived mainly from nearby sources and distribution of the end-products limited to the settlement and the immediate hinterland. Petrographic analysis of the pottery found throughout the wider territory<sup>9</sup> of Sagalassos and Düzen Tepe has identified thirteen overall petrographic groups, related, besides one distinctly non-regional source group, to four regional ceramic production groups based on both common petrology and clay chemistry: A) Burdur basin groups, B) detrital clay groups from the Çanaklı and Ağlasun basin, C) a mixed flysch–limestone group, and D) an ophiolitic–volcanic group.<sup>10</sup>

The clays derived from the Burdur area were only sparsely encountered at Düzen Tepe, with only 8 diagnostic pieces identified, mainly related to bowl functionality, as well as two jars. The detrital clays were derived from the north-western parts of the nearby Çanaklı valley (located at a distance of 4-5 km from Düzen Tepe). These clays were used systematically in Roman imperial times for the tableware production of SRSW, but were already in use for the production of the higher-end spectrum of finer tableware in Hellenistic times<sup>11</sup>, as well as part of the common ware production at both Sagalassos and Düzen Tepe<sup>12</sup>. The flysch–limestone group was produced with clays derived from weathered ophiolite found on the flanks of the mountain ranges around the Ağlasun and Çeltikçi valleys.<sup>13</sup> Clay quarrying was, for example, attested at Sagalassos in the central depression to the east of the city centre, in what in Roman times would become the Eastern Suburbium. Here, core-drills provided evidence of a *palaeosol* horizon developed on top of a clay quarry phase that could be dated to the period between 370-200 BCE.<sup>14</sup> This *terminus ante quem* for the quarrying activities suggested these clays were already in use in late Achaemenid and early Hellenistic times.

8. Daems and Poblome 2016.

9. I.e. the research area of the current Sagalassos Archaeological Research Project, more or less coinciding with the territory controlled by Sagalassos in Roman imperial times.

10. Braekmans *et al.* 2017.

11. Poblome *et al.* 2002; Poblome 2016.

12. Braekmans *et al.* 2017, p. 16.

13. Neyt *et al.* 2012.

14. Vermoere *et al.* 2001.



Additionally, control excavations conducted at the Upper Agora confirmed that an anomaly previously noticed through geophysical research was actually a large pit, resulting from clay quarrying activities before the construction of a public square at this location.<sup>15</sup> Although it cannot be conclusively proven that these specific quarries were necessarily exploited for pottery production, it does seem plausible that at least part of the clay raw materials were used by potters, as ceramics attributed to this group seem to represent the main type of production of common wares and buff wares in the region during late Achaemenid and early Hellenistic times. Finally, pottery related to the ophiolitic-volcanic group seem to be associated with the entire range of common wares found at Düzen Tepe. It can be suggested that the illite-rich clays from the immediate vicinity of the settlement proper specifically were used to produce the ceramics associated with this group.<sup>16</sup> Both storage and cooking ware functionalities appear to have been especially associated with this group, while, strikingly, no tableware seems to have been produced using these clays.

The fabrics listed here were first described by Dennis Braekmans within the framework of his Ph.D. dissertation on the petrographic and geochemical analysis of pottery found at Sagalassos, Düzen Tepe and the wider study region. Here, we follow both the macroscopic fabric classification, description and numbering proposed by Braekmans.<sup>17</sup> A full list of the fabrics encountered at Düzen Tepe, along with corresponding fabric numbers and relative occurrence, can be found in TABLE 1. It must be noted that a number of the listed fabrics was only encountered very rarely, whereas others did not yield any diagnostic fragments so far. We limit our fabric descriptions to those relatively frequently encountered in the diagnostic material of Düzen Tepe.

## Fabrics (Fig. 1)

### COMMON WARE

A first major fabric group within the ceramic assemblage of Düzen Tepe consists of a number of common wares characterised by the mutual presence of lime particles used as temper for production purposes. These 'lime-tempered' (LT) common wares cannot always be clearly distinguished from one another in macroscopic analysis. A certain degree of overlap between

15. Talloen and Poblome 2016.

16. Neyt *et al.* 2012, p. 1301-2; Braekmans *et al.* 2017, p. 17.

17. Braekmans 2010; Braekmans *et al.* 2017.

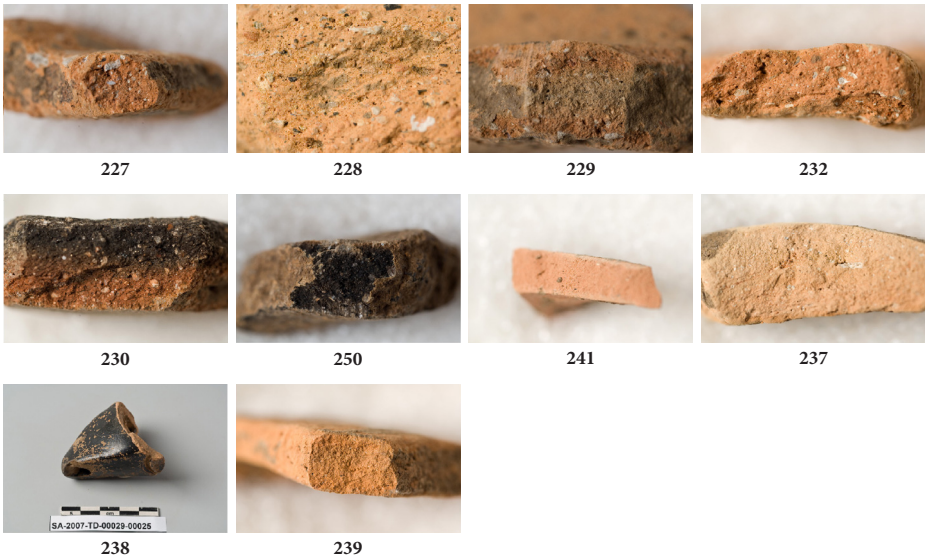


FIG 1. Pottery fabrics at Düzen Tepe.

the fabrics within this group can therefore not be excluded. The LT<sub>1</sub> fabric (227) is fully oxidized with a light red to reddish brown colour (5YR 6/6 – 5/8 dark to light red). Sherds belonging to this fabric generally have medium to extensive pores, a rough texture and hackly fracture. Inclusions consist mainly of limestone (+), biotite (+), feldspars (+), calcite (++) , chert (-), grog (-), pyroxene and amphibole (--) particles. Inclusions are unevenly distributed and can be up to 2 mm in size. No traces of surface treatment have been observed, apart from partial to full smoothening.

Besides fabric 227, three additional variants of lime-tempered fabrics have been identified. All four share, for a large part, the same characteristics; observed differences can be mainly related to overall colour and composition of inclusions. The LT<sub>2</sub> fabric (228) is slightly less oxidized compared to LT<sub>1</sub> and can be most clearly distinguished by its overall lighter brown colour. Additionally, it differs from LT<sub>1</sub> in compositional respect, containing more chert (-), lime (+), and volcanic (possible basalt or andesite) (++) inclusions. A third variant of the lime-tempered fabrics of Düzen Tepe (229) is generally fully oxidized as well, although a considerable number of sherds in this fabric has a characteristic large grey core while still retaining oxidized margins. The fabric is compositionally characterized by a higher amount of lime (++) , quartz (+) and some pyroxenes (-), and occasionally also grog and reddish chert. It was noted that this fabric was more extensively represented in vessels

with storage and or jug functionalities<sup>18</sup>, however, some bowls made in this fabric were identified as well (APPENDIX 1). Finally, the fourth variant, termed ‘orange limestone-tempered’ fabric (232) is quite similar in overall composition to LT1 but can be distinguished by the abundant amount of limestone inclusions, sometimes up to 3 mm in size. Other inclusions are quartz (+), feldspar (+), grog (-) and some volcanic rock (basalt) fragments (--). Sherds in this fabric also appear to systematically show a more intense orange colour (7.5YR 6/8 yellowish red). This fabric was applied most frequently to large storage vessels, although again a number of bowls were identified as well. A rare variation of this fabric consistently has a 1/3 reduced core, with both the interior and exterior retaining the characteristic orange colour and a wholly similar composition compared to their fully oxidized counterparts. All four lime-tempered fabrics derive from the same local sources but have variations in composition that seem to weakly correlate with functional differences, for example the greater range and number of inclusions used in the manufacture of storage vessels.

#### COOKWARE

In Braekmans’ original classification, two types of cookware were subsumed along with the four lime-tempered wares under the general heading of common wares. As the cookware fragments of Düzen Tepe were distinguishable from the other fabrics in being highly and consistently enriched in volcanic material and/or mica minerals<sup>19</sup>, and showed virtually no limestone inclusions, we decided to separate these two groups. However, as the original numbering sequence was retained, the cookware in TABLE 1 can still be found among the lime-tempered common wares. Moreover, originally a distinction was made between cookware I and cookware II, respectively fabrics 230 and 231, with the only distinction being an apparently systematic blackening observed in type II. As it was unclear whether this blackening was due to a systematic uneven production sequence or rather the result of secondary firing and as both types have the same compositional systematics of inclusions, we decided to group both types together into a single cookware fabric (230). This fabric was characterized by a light brown to red brown matrix (10R 5/8 Red) and a highly gritty overall feel and texture. Inclusions comprise high amounts of volcanic rock (basalts and andesites) fragments (++), quartz (++), biotite (++), pyroxenes and amphiboles (+), feldspars (+), as well as some olivine (--), iron oxides (--), calcite (--), and chert (--). Inclusion sizes can range up to 2 mm, with an irregular, cracked pattern of elongated pores observable as well.

18. Braekmans 2010, p. 108.

19. Braekmans *et al.* 2017, p. 5.

Additionally, a second major cookware fabric that is found in the wider region of Düzen Tepe and Sagalassos can be found at Düzen Tepe as well: the gritty black core ware (originally fabric 4, now 250). As the original fabric number suggests, this fabric was not part of Braekmans' classification, but was already identified earlier when a diachronic provenance study of cookware and storage/transport vessels from late Achaemenid to Middle Byzantine times identified this distinctive black fabric as a precursor of the later, Roman imperial fabric 4 by proving these were part of the same production context.<sup>20</sup> Although small differences between different time periods could possibly be accounted for by small shifts in exploited clay bodies, in general this production seems to have derived from clays in and around the central part of the Ağlasun valley. This fabric is characterized by a black/grey or dark brown colour in the break with the outer margins either black or oxidized towards a light brown hue (5 YR 7/10). The surface is generally quite rough but can occasionally be smoothed extensively. Texture can be very dense and range from a quite fine-grained to rough matrix. Break is rough to hackly and very rough. An abundant amount of inclusions can be observed, sometimes up to 2 mm and mostly poorly to very poorly sorted. These include quartz (++), calcite (++), grog (+), volcanic inclusions (+), mica (-) clay pellets (-), and pyroxenes and amphibole (-) minerals.

#### TABLEWARE

The most typical form of tableware encountered in large amounts at Düzen Tepe is a fully oxidized buff tableware (237), named after its systematic buff colouring (7.5YR 6/6). This fine fabric is systematically very powdery with generally a few small calcite and feldspar inclusions less than 1 mm in size present, although occasionally, larger ones are present as well. Other, less frequently attested inclusions are small quartz and grog particles. Typically, the fabric has many small, rounded micropores, with occasionally larger pores present as well. Traces of a dull reddish to brown mottled slip can be found on many but not all fragments, although the powdery nature of the fabric would have intensified weathering of this slip. Based on the cleaning of detailed 'windows' on the sherds in the Sagalassos conservation laboratory, we presume that most fragments originally had the mottled slip characteristic for this period.

The widespread occurrence of a fully black slipped ware is a common feature in Hellenistic pottery, especially in the Aegean parts of the Greek world, and is commonly considered to have originated in Athens during the Classical

20. Neyt *et al.* 2012.

period.<sup>21</sup> It has, however, been suggested that several production centres in Anatolia started to develop their own tableware repertoire, notably including a local production of black-glazed pottery, somewhere during the 3rd century BCE.<sup>22</sup> Likewise, at Düzen Tepe we find, albeit in very limited quantities, some evidence of a black-glazed pottery fabric (238), determined to have been locally produced through geochemical analysis. This fabric was characterized by a soft feel and smooth texture and break. These sherds are fully oxidized and beige/buff coloured, making them difficult to differentiate from the more common buff wares save for the characteristically distinct dark brown to black semi-lustrous slip (7.5YR 3/0). Apart from this slip, the main difference with the buff tableware is the slightly more reddish colour (7.5YR 6/6 reddish yellow) and the higher amount of micropores in the break. The only inclusions visible are sparse feldspar inclusions of less than 1 mm. As this type of fabric, like the buff tableware, is highly susceptible to weathering, it is hard to quantify the amount of black-slipped pottery at Düzen Tepe. Still, it can be suspected that these vessels constituted the very upper-end of ceramic tableware at Düzen Tepe and would probably have occurred only in limited amounts.

A third typically soft, smooth and highly powdery tableware fabric with a highly homogeneous texture found at Düzen Tepe is the orange-red tableware (239). All sherds belonging to this fabric are fully oxidized, showing a distinctly bright orange colour. Few inclusions are visible, mainly some quartz, calcite and feldspar. The fabric is not uncommon at Düzen Tepe but because of its high susceptibility to weathering, few diagnostic pieces have been identified.

Finally, a fine type of tableware constituting the main component of the Hellenistic tableware assemblage identified at Sagalassos, was also identified sporadically at Düzen Tepe. This Hellenistic tableware (241) can be seen as the predecessor of the production of SRSW in Roman imperial times, using the same Çanaklı-based clays discussed earlier. Fragments in this fabric are predominantly oxidized, ranging from reddish yellow to brown (7.5YR 5/4 brown; 5YR 6/6 reddish yellow), although some reduced grey-coloured fragments occur as well. This well-levigated fabric is typically very fine and highly microporous with a very smooth feel and texture. Overall, very few inclusions can be observed, mainly small calcite particles, as well as occasionally some mica and volcanic inclusions. Several kinds of dull mottled slip were applied, fitting within the category of so-called 'colour-coated' slips, ranging from reddish and grey-brown to orange.

21. Rotroff 1997.

22. For example, in Ephesos: see Mitsopoulos-Leon 1991, pp. 32-3.

## Typology

With the most common fabrics described, the typology of the ceramics of Düzen Tepe can be introduced. To recapitulate, all types receive a distinct type number, starting with a letter denoting the typological group (A for cups, B for bowls, C for dishes, F for containers, G for *pithoi*, Q for cooking vessels). An overview of the different type-codes, as well as the number of diagnostic sherds<sup>23</sup> assigned to each type, can be found in TABLE 2.

TABLE 2: Number of diagnostic rim sherds per type (Total amount 610<sup>24</sup>).

A120																			
97																			
B140		B150		B170		B230													
31		16		78		4													
C120		C121		C170		C171		C172		C280		C290							
48		5		7		11		9		1		9							
F120		F150		F151															
3		12		1															
G100		G110		G120															
12		13		8															
H100		H101		H110		H102/122		H111		H130		H140		H160		H170		H250	
22		15		26		4		38		9		8		5		1		1	
Q200		Q210		Q220															
71		40		5															

One of the most characteristic properties of the ceramic assemblage at Düzen Tepe is the limited degree of fabric specialisation. It is remarkable how different fabrics cover large parts of the full typological assemblage, with only a few exceptions of specialized production, such as storage and cookware fabrics (TABLE 3). In this table, a comparison between type groups and fabric groups is presented.<sup>25</sup> For every fabric group we counted whether a given type group occurs or not. The higher the numbers, the more extensively a given fabric is used throughout the full typological assemblage, and, *vice versa*, the more a given type group occurs throughout the full fabric range. If

23. Mostly diagnostic rim sherds, except for the A120 where the characteristic S-carination in the wall allows clear identification as well.
24. Diagnostics selected from excavated contexts interpreted as occupational and post-occupational layers of a multi-room housing unit (Courtyard Building), a suspected potter's workshop (Kiln Area) and a bakery; see Vanhaverbeke *et al.* 2010.
25. Summarized, for full table see APPENDIX 1.

we look at the jar/jug group for example, we see that jars/jugs occur in all of the 6 fine tableware fabrics, and 5 out of 6 common wares, whereas they were identified in only 1 of 3 cookware fabrics. Reading the table the other way around, we see that the common wares cover the full typological spectrum of pottery, whereas the highly idiosyncratic large storage fabric only occurs – what’s in a name? – in large storage vessels.

TABLE 3: Comparison of typological groups and fabric groups.

Düzen Tepe						
		fine wares (/6)	common wares (/6)	cookware (/3)	storage (/1)	import (/2)
tableware	cups	4	1	0	0	1
	bowls	4	5	1	0	1
	dishes	6	5	1	0	0
servicing	jars/jugs	6	5	2	0	1
	containers	3	4	0	0	1
storage	pithoi	0	5	0	1	0
kitchen wares	cooking	0	1	3	0	0

As far as the description of the individual types of this typology is concerned, as with the fabrics, we focus on the typical components constituting the most important elements of the pottery assemblage. At the end, we provide a short description of a few more peculiar, yet noteworthy, elements of the assemblage.

### CUPS (A)

So far, the only form of drinking cup found at Düzen Tepe is the so-called ‘Achaemenid bowl’ (A120), FIG. 2. This handle-less bowl/cup has a convex-concave wall profile, forming a characteristic S-shape. The lower part of the body is sharply carinated. The upper part of the wall is flaring and culminates in an out-turned rim with simple lip. Two different forms can be discerned, one with a straight flaring rim, the other with a curved rim. The form is the result of skeuomorphism of metal prototypes and descends from a long line of drinking cups reaching all the way back to the early first millennium BCE.<sup>26</sup> It would go on to become a highly popular shape spread from the Persian heartland from sites such as Persepolis<sup>27</sup> and Pasargadae<sup>28</sup>, throughout large

26. Dussinberre 2003, p. 177.

27. Schmidt 1957, Plate 72, no. 1.

28. Stronach 1978, pp. 242-243 no. 13.

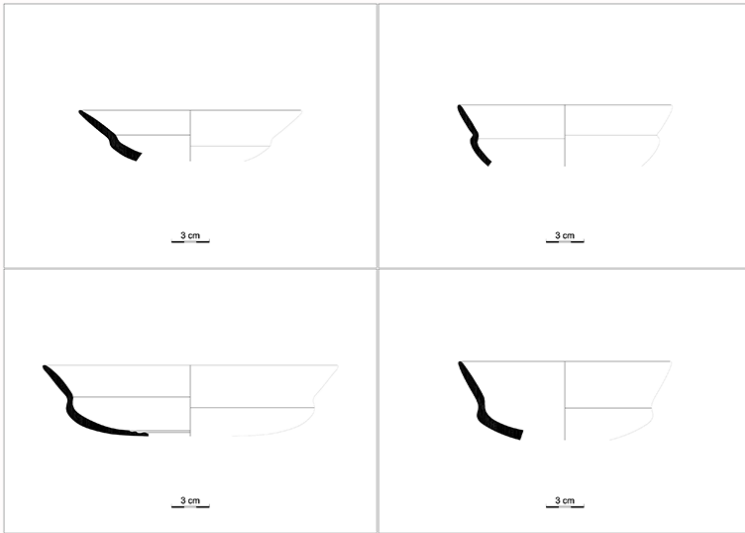


FIG 2. Cups.

parts of the Persian/Achaemenid empire, including Anatolia in the period following the Persian conquest. Achaemenid bowls have been found at the satrapal capital of Phrygia, Daskyleion<sup>29</sup>, Karaçalı and Perge<sup>30</sup> from southern Pamphylia, although at Perge they occurred most frequently in Hellenistic contexts from the *bothros* at the acropolis. More inland, only a handful examples are known from Gordion<sup>31</sup>, however they are commonly attested at the nearby settlement of Hacımusalı Höyük<sup>32</sup>. Other inland locations include Sardis<sup>33</sup>, Kale Tepe<sup>34</sup>, and Seyitömer Höyük<sup>35</sup>. At Kelainai<sup>36</sup>, the Achaemenid capital of Greater Phrygia and royal residence during the Persian period, the Achaemenid bowl constitutes the predominant class of drinking vessels, with several hundreds of sherds identified in surveys conducted from 2008 to 2011.<sup>37</sup> Two major types have been observed: a ‘*phiale*-shaped’ shallow bowl with horizontally fluted wall and a deep, conical bowl tapering towards

29. Dusinger 2003, p. 194.

30. Çokay-Kepece and Recke 2007, pp. 94-95.

31. Stewart 2010, Fig. 26A.

32. Toteva 2007, pp. 115, 120, pl. 17.

33. Dusinger 1999, pp. 78-79 and 82 no. 10.

34. Hürmüzlü *et al.* 2009, Fig. 10.

35. Coşkun 2011, Fig. I-III.

36. Summerer *et al.* 2011, Pl. 3, no. 26a-b.

37. Lungu 2016, p. 455.



the base. Achaemenid bowls are also known from late Classical contexts (4th century BCE) at Palaepaphos on Cyprus.<sup>38</sup>

Recent material studies of pottery from Düzen Tepe identified 97 possible fragments of Achaemenid bowls out of a total of 610 diagnostic sherds, roughly 16% of the total study assemblage, which could be linked to a minimum number of 35 distinct bowls. In most cases, Achaemenid bowls at Düzen Tepe are recognized by the S-shaped carination which forms a relatively robust part of the vessel and is therefore often still preserved. For this reason, the number of identified Achaemenid bowls might be somewhat skewed. Most examples encountered at Düzen Tepe appear to match the more shallow-bodied type of Achaemenid bowls from Kelainai<sup>39</sup>, however, smaller and deeper specimens have been registered as well. For the few examples of which sufficient part of the rim was preserved, reconstructed full rim diameters ranged between 12 and 24 cm, with an average of 18 cm. If we were to follow Dusinberre's<sup>40</sup> suggestion that earlier, Achaemenid examples often have a shallow body and wider diameter (average of 14 cm) compared to their later, Hellenistic counterparts (average of 11 cm), then we could ascribe the examples found at Düzen Tepe to this first group. However, it must be noted we do not possess a clear enough stratigraphical sequence allowing seriation of deposits and material to substantiate any such claim.

The majority of the attested fragments consisted of locally produced tableware fabrics, mainly buff wares (237), as well as occasionally the Hellenistic tableware fabric (241) and a handful of fragments in the orange-red tableware (239). Interestingly, one fragment was produced in one of the lime-tempered common wares (227). Finally, a few small fragments were found in a fine fabric, imported from a more distant, hitherto unknown source.

## BOWLS (B)

Aside from the Achaemenid bowls, the tableware assemblage at Düzen Tepe consists of a fairly limited number of rather simple forms of bowls and dishes. Bowls are typically defined as vessels with a height varying from one-third of the maximum diameter of the vessel up to the maximum diameter, whereas dishes are defined as having a height of more than one-fifth, but less than one-third of its maximum diameter.<sup>41</sup> It must be noted that a strict

38. Maier and Wartburg 1998

39. Lungu 2016, p. 464, Fig. 14.

40. Dusinberre 2003, pp. 185-6.

41. Rice 1987, p. 216.

delineation between both groups is difficult because of the high degree of fragmentation of the material, making it hazardous to accurately reconstruct vessel dimensions, as well as due to high intra-type variation in sizes and dimensions. For example, types B170 and C170, despite being generally classifiable as bowl and dish respectively, can still show considerable overlap in sizes and dimensions. At this point it must be taken into account that different types within our classification represent fixed points within a varied and fluctuating spectrum of shapes.

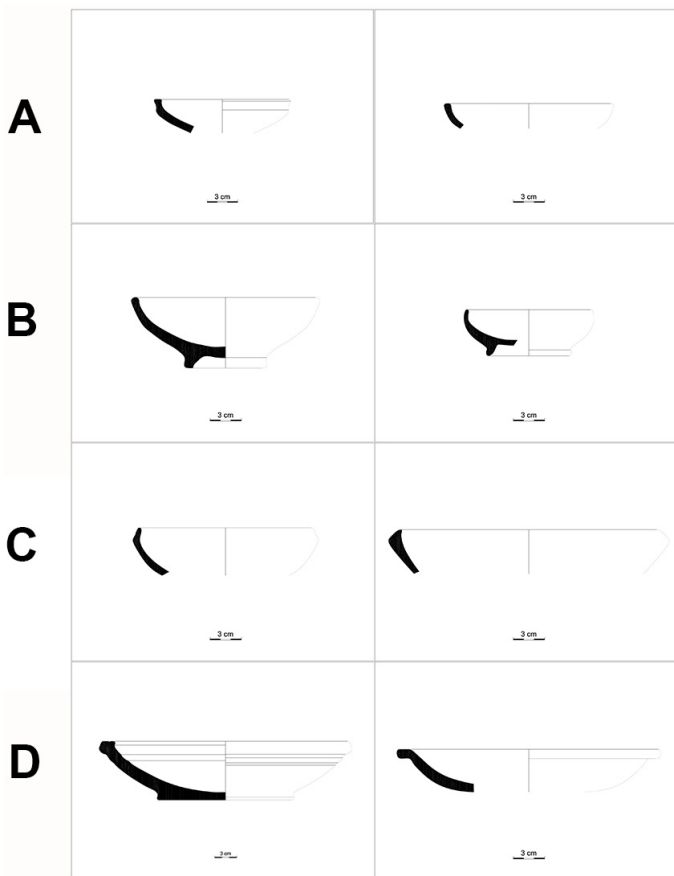


FIG 3. Bowls.

First, a type of plain upturned rim bowl can be identified with a characteristic flattened top (B140, FIG. 3A). Sometimes the flattened top is slightly outward facing, resulting in a soft S-curve (resembling variant C171). A fre-

quently recurring (but not omnipresent) element is the carination occurring in the upper half of the vessel wall, leading these to be described as 'ledge rim bowls or dishes' such as at Gordion<sup>42</sup>, where they occurred from the 3rd century BCE onwards. Parallels are also known in the Hellenistic slipped wares of Xanthos found in the West Area<sup>43</sup> and the sanctuary of Leto<sup>44</sup>. At Pasargadae<sup>45</sup>, comparable vessels were found in contexts dated to the 4th and 3rd centuries BCE. At Düzen Tepe, type B140 is produced both in finer tableware fabrics (237 and 244), as well as a range of common wares (227-228-229-230-236). Additionally, a handful of sherds were found made from a fine grey fabric that can be linked to the general Burdur area (245).

Next, a type of plain upturned rim bowls (B150, FIG. 3B) has a distinctly rounded rim, rather than the flattened top of the B140. Moreover, these vessels never show the carination found in some of the B140 examples. These generally shallow bowls with simple rims can be considered a basic type of bowl within most pottery assemblages and, as a result, occur on many different sites, throughout different periods. Listing parallels is therefore superfluous in this case, although we note the similarities with the 'simple upright bowls' identified at Gordion.<sup>46</sup> At Düzen Tepe, these bowls were produced both in finer tableware fabrics (237, 239 and 244) and common wares (228-236).

One of the most frequently represented types found at Düzen Tepe (about 13% of the total amount of diagnostic material) is the so-called *echinus* bowl (B170, FIG. 3C): a generally small and rather shallow, simple type of bowl on a ring foot base, with the maximum diameter commonly near the upper quarter of the wall and in principle characterised by a highly distinct incurving rim. Still, it must be noted that for Düzen Tepe a clear distinction between types B150 and B170 cannot always be made, as a certain range can be observed on the angle of the rim, from straight up to strongly incurving. Sometimes the curved rim becomes thickened and more pronounced, resulting in a fat 'comma-shaped' lip. The most frequent fabrics used in Düzen Tepe for production of this type are the full set of lime-tempered wares (227-228-229-232), the buff tableware (237), Hellenistic tableware (241), as well as a number of imported bowls from the general Burdur area (245). Incurving rim bowls became widely popular in Anatolia by the end of the 4th and 3rd

42. Stewart 2010, Fig. 197, no. 27-30.

43. Yener-Marksteiner 2007, Abb. 10: no. 5-7, p. 95.

44. Lemaître 2007, Fig. 7: no. 2-4, p. 123.

45. Stronach 1978, Fig. 107, no. 1-2 + Fig. 112, no. 4.

46. Stewart 2010, Fig. 26C & D.

centuries BCE.<sup>47</sup> Similarities can be especially noted with material from Sardis<sup>48</sup>, Ephesos<sup>49</sup>, Pergamon<sup>50</sup>, Troy<sup>51</sup>, Gordion<sup>52</sup>, Patara<sup>53</sup>, Xanthos<sup>54</sup>, as well as on Paphos<sup>55</sup>, Palaepaphos<sup>56</sup>, and Salamine<sup>57</sup> on Cyprus, Jebel Khalid in North Syria<sup>58</sup>, and Pasargadae<sup>59</sup> in Iran.

A distinct, but relatively rare type is the bowl/dish with an outward protruding rim that is flattened at the top (B230, FIG. 3D). The flattened protruding part is also distinctly thickened, resulting in a heavy, 'squared' appearance. Examples produced in both common ware (229) and fine ware (237) have been found at Düzen Tepe.

### DISHES (C)

The first type of dish found at Düzen Tepe is a form of shallow dish with a plain upturned rim (C120, FIG. 4A). Due to a high degree of fragmentation of the material it is not always easy to distinguish between plain rim bowls or dishes (type B150 or C120) and a high degree of overlap between both types is presupposed. The fabric range of both types appears largely similar, except that type C120 is encountered in all variants of the LT fabric range, whereas B150 is in only one. A few examples were identified as a variant (C121, FIG. 4B), with the upturned rim flattened at the outside and sloping towards the top of the lip.

The C170 bowls/dishes (FIG. 4C) are characterised by a convex in-turning wall profile and a thickened rim rounded at the exterior. Sometimes the wall is slightly narrowed right underneath the top of the rim. This is the result of a conscious act during the shaping of the vessel when the potter grasped the upper lip between his/her fingers and stretched the clay upward to form the rounded rim. Some fragments additionally have a small groove right under-

47. Rotroff 1997, p. 161; Dusinberre 1999, p. 95; Çokay-Kepçe and Recke 2007, p. 93.

48. Rotroff and Oliver 2003, Plate 7-8: no. 32-47; 2.

49. Mitsopoulos-Leon 1991, Tafel 1: A1-5 + Tafel A4-A8.

50. Schäfer 1968, Tafel 4, no. C13-19.

51. Berlin 2002, Plate 13, no. 70-76.

52. Stewart 2010, Fig. 93A + fig. 97B-C.

53. Işin 2007, Fig. 5-6.

54. Lemaître 2007, Fig. 8.7.

55. Hayes 1991, Figure XIV.

56. Maier and Wartburg 1998

57. Diederichs 1980, Pl. 7, no. 65-74.

58. Jackson and Tidmarsh 2011, pp. 12-14.

59. Stronach 1978, pp. 248-249 no. 5-16.

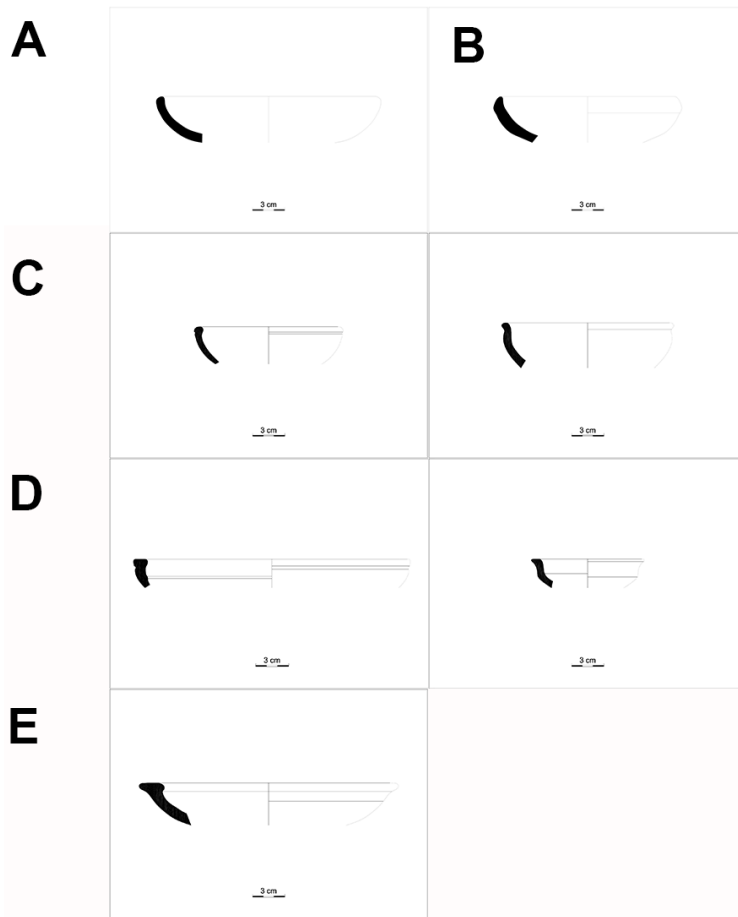


FIG 4. Dishes.

neath the rounded rim. Comparable shapes have been found at Xanthos.<sup>60</sup> At Alexandria<sup>61</sup>, examples were identified within the Rhodian tradition of colour-coated wares, termed as “*skyphos* with accoladed handles”. Although no indications have been found of such handles at Düzen Tepe, the overall idea of these vessels is quite similar. This production fitted within a wider south Anatolian form of *skyphos* production where the rim rounded at the outside was also folded inwards, thus restricting the vessel mouth. An earlier paral-

60. Yener-Marksteiner 2007, Abb. 10: 8-9.

61. Élaigne 2012, Fig. 46, no. 6039/2 and 4479/5.

lel from Palaepaphos on Cyprus was dated to late Classical times<sup>62</sup>, becoming more widespread towards the end of the 2nd century BCE. The shape is also encountered in Cypriot Sigillata, form P22a at Paphos.<sup>63</sup> However, this shape would only appear in Sagalassos in the material found underneath the Roman Odeion, dated to the first century BCE.<sup>64</sup> At Düzen Tepe, the rounded rim is not folded inwards, thus leaving the maximum diameter of the vessel at the top. This tradition appears to be 'eastern', as comparable vessels can be found already from the late Iron Age in eastern Anatolia in the Upper Tigris Valley<sup>65</sup>, as well as during the Achaemenid period at Altuntepe and Cimin Tepe II<sup>66</sup>. At Jebel Khalid in North Syria the shape occurs during the 3rd century BCE and is thought to represent an eastern ceramic tradition as well.<sup>67</sup> Interestingly, type C170 is so far only encountered in the finer tableware range (237-238-239-242) and not in one of the common wares.

A similar shaping technique can be observed with variant C171 (FIG. 4D) where instead of a rounded rim, the top of the lip is flattened, resulting in a slightly outward facing flat rim. Parallels are again found at Xanthos<sup>68</sup>, but also in Troy<sup>69</sup>, Gordion<sup>70</sup>, and in the Upper Tigris Valley<sup>71</sup> and Pasargadae<sup>72</sup>. A second variant on this shape (C172, FIG. 4E) can be found in a small number of sherds where the flattened lip of C171 is not only extended outward, but inward as well. Parallels can again be found at Troy.<sup>73</sup> Interestingly, as at Düzen Tepe we find the shape of the C172 rim both in fine concave bowls, as well in some larger vessels possibly basins.<sup>74</sup> As with C170, both C171 and C172 have so far only been encountered in finer tableware fabrics (11-237-239).

## CONTAINERS (F)

A small number of open containers were identified at Düzen Tepe. Two basic simple types can be distinguished: one with a straight wall and flattened rim slightly projecting at the inside (F120) and one with the wall profile vary-

62. Maier 1967, Fig. 5a-b: form IV.
63. Hayes 1991, Figs. XIX, LXI, pp. 21-2.
64. van der Enden 2014.
65. Matney 2010, Fig. 3.
66. Summers 1993, Fig. 9, no. 4.
67. Jackson & Tidmarsh 2011, pp. 19-20.
68. Yener-Marksteiner 2007, Abb. 10: 10-11.
69. Berlin 2002, Plate 11: no. 56.
70. Stewart 2010, Fig. 93E.
71. Matney 2010, Fig. 3.
72. Stronach 1978, Fig. 107, 4.
73. Berlin 2002, Plate 14, no. 84.
74. Berlin 2002, no. 128.

ing from straight to slightly convex, with a prominent projecting rim (F150). The few fragments identified as F120 (FIG. 5A) were all produced in lime-tempered common wares (228-229). F150 (FIG. 5B), on the other hand, was not only produced in the common ware group as well (227-228-229) but was additionally identified in a couple of finer tableware fabrics (237-239-244). One fragment could potentially be linked to clays derived from the Burdur area (245). A comparable object to type F150 was found during survey campaigns at Kale Tepe<sup>75</sup>, a nearby settlement in northern Pisidia, thought to have been highly comparable to Düzen Tepe and inhabited during the Early Iron Age and Achaemenid period.<sup>76</sup>

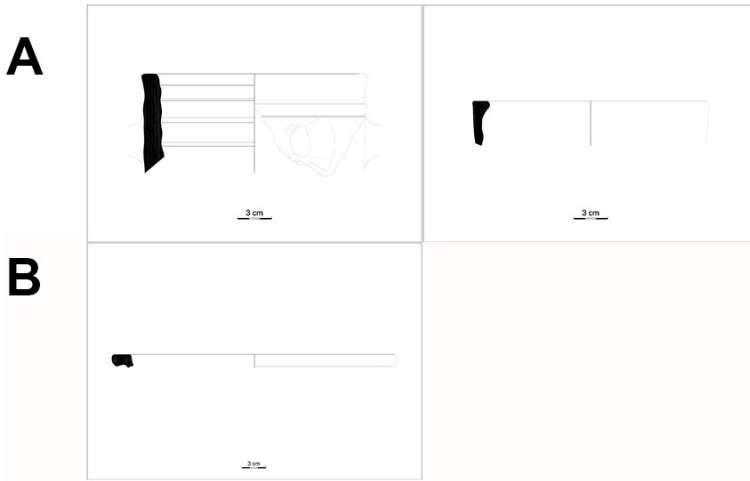


FIG 5: Containers.

### PITHOI (G)

Large storage vessels with closed orifices, commonly termed *pithoi*, are frequently identified at Düzen Tepe. Here, three types are differentiated (FIG. 6 A-C): vessels with basic everted rims that can sometimes be thickened and rounded (G100), vessels with outward-turned and flattened rim, and vessels with outward-turned and flattened rim that is thickened, sometimes into a triangular shape (G120). These *pithoi* conform to generic, widespread shapes. Unfortunately, little effort is made to adequately publish these storage vessels. Close parallels for both types G110 and G120 can be found at Gordion.<sup>77</sup>

75. Hürmüzlü *et al.* 2009, Fig. 10.

76. Personal communication between Bilge Hürmüzlü and Jeroen Poblome.

77. Stewart 2010, for G110: Fig. 153, no. 189, 192, and 193 + for G120: Fig. 153, no.191.

For these large storage vessels at Düzen Tepe, a dual production line can be observed. On the one hand, a certain amount of vessels is made in a rough version of the lime-tempered common wares (most prominently 232, but also 227, 228, 229) enriched with mica particles. On the other hand, a different production line can be observed, characterised by a reduced amount of lime inclusions and increased amounts of grog, oxidized iron particles, volcanic inclusions and chert. So far, this fabric could not yet be conclusively linked to one of the provenance groups described earlier, although a link with the mixed flysch–limestone group derived from the central Ağlasun valley might be tentatively suggested, based on the composition of inclusions. Additional analyses are needed to confirm this suggestion and for this reason this fabric has not yet been attributed a fabric code. For now, this fabric is merely denoted as ‘large storage fabric’. Many fragments have traces of black pitch on the surface, possibly added to waterproof these vessels to allow carrying (semi-)liquid contents.

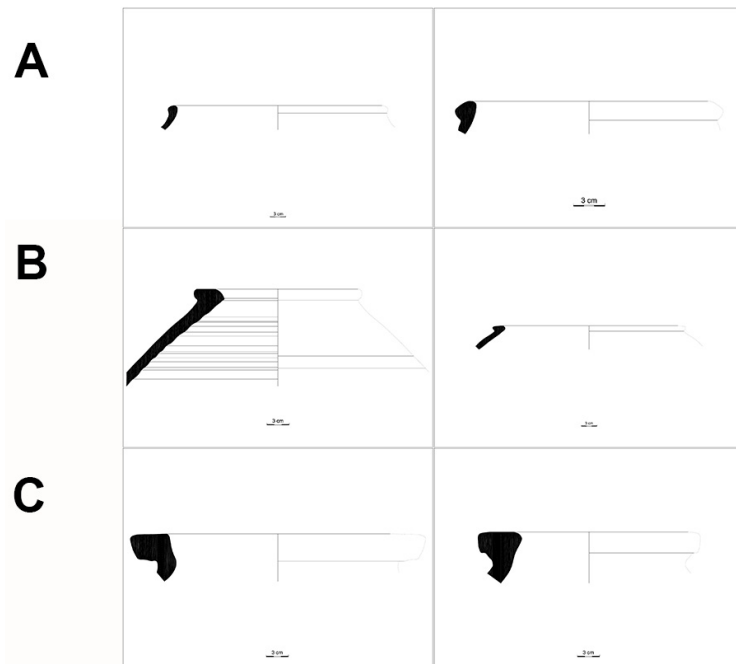
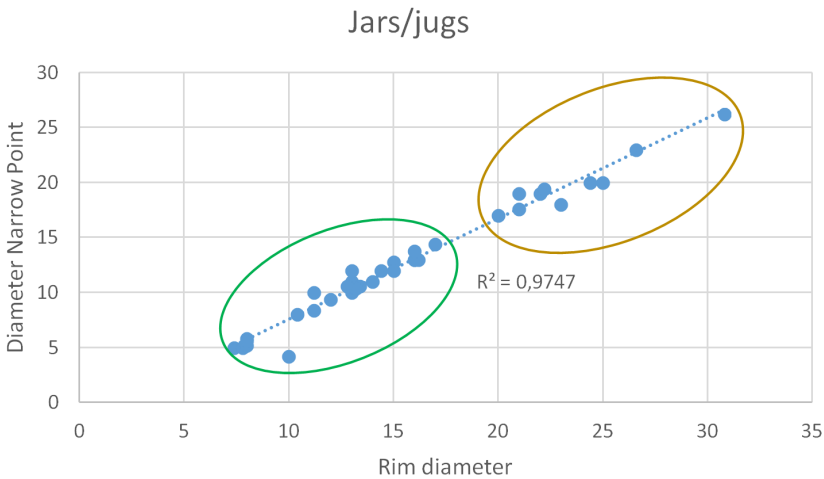


FIG 6. Pithoi.



## JARS/JUGS (H)

As jars and jugs can have distinct functionalities associated with storage or serving beverages, these normally receive a different letter code – in the SRSW classification this is I for jugs and H for jars.<sup>78</sup> The most obvious diagnostic feature is the presence of a spout. Unfortunately, due to high fragility, spouts are only very rarely encountered in the pottery of Düzen Tepe. The only indications being a handful of cloverleaf-shaped jug spouts, from so-called trefoil jugs, which are generally preserved without any further indication for rim diameter, or vessel shape and size. As we have no conclusive evidence for the existence of jugs, save for this handful of trefoils, it was therefore decided not to allocate a distinct letter code to jugs, not even the trefoils, but rather to subsume them all under the same category (H) and use the description jars/jugs. Suspected functional difference are expressed through a different type number. When plotting measurements of the rim diameter at the orifice of the vessel against the diameter of the neck at its narrowest point, two distinct groups were observed (GRAPH 1).



GRAPH 1: Comparison between rim diameters and diameter of most narrow point for jars/jugs.

Unsurprisingly, both parameters are highly correlated. A first group could be distinguished with a maximum diameter of 15 cm at the narrowest point of the neck. While we have no way of confirming the actual use of these

78. Degeest 2000.

vessels, we would like to suggest that the restriction of the diameter of the neck could indicate the storage or serving of relatively valuable contents, for example wine, compared to the more unrestricted second group with neck diameters over 15 and up to 25 cm, possibly containing less precious contents such as water for serving or grain and pulses for (short-term) storage. In both groups, two general types could be discerned, resulting in four basic types (FIG. 7A-D). Small jars/jugs with straight neck/wall profile could be divided in a group with plain out-turned rims (H100), and in some cases with considerably thickened out-turned rim (H101). Likewise, the large diameter group was divided in plain (H101) and thickened (H111) out-turned rim jars/jugs. Combined, these four types occur throughout virtually the entire fabric spectrum, including all lime-tempered wares (227, 228, 229, 232), other common wares (236), tableware (11, 237, 238, 239, 242) and even a couple of sherds in cookware fabrics (230, 246). At Kilisi Tepe<sup>79</sup> comparable material has been found as residual Hellenistic material in later deposits. For these vessels, rim diameters ranged up to 12 cm, allowing the comparison with the smaller H100/110 group.

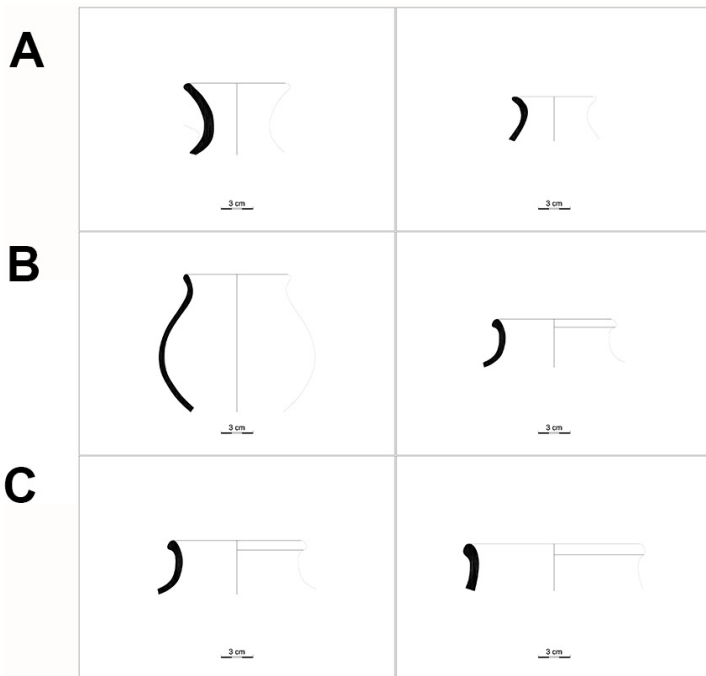


FIG 7. Jars/Jugs.

79. Nevett and Jackson 2007, Fig. 412, no. 997-998-1001.

As mentioned earlier, only a handful of trefoil spouts could be identified at Düzen Tepe. As with the basic jug/jar shapes we left room for identification of small and large trefoils by allocating two variant codes (respectively H102 and H112). However, so far only one specimen was found with its full profile preserved to allow attribution specifically to the H112 group (FIG. 8A). The limited amount of examples, however, forces us to consider both variants together as H102/112. As with type A120, this shape resulted from skeuomorphism of metal prototypes, such as those found at Pasargadae<sup>80</sup>, or stone as in Persepolis<sup>81</sup>. Examples in pottery have been found at Tarsos<sup>82</sup>, Gordion<sup>83</sup>, and Ephesos<sup>84</sup>. At Düzen Tepe, these jugs were made from both lime-tempered common wares (227-229) and buff tableware (237), as well as one peculiar fragment in a dense and fine grey fabric with traces of a thin black finish or slip both at the in and outside. This sherd was initially attributed to the Burdur group, but could possibly be imported from elsewhere.

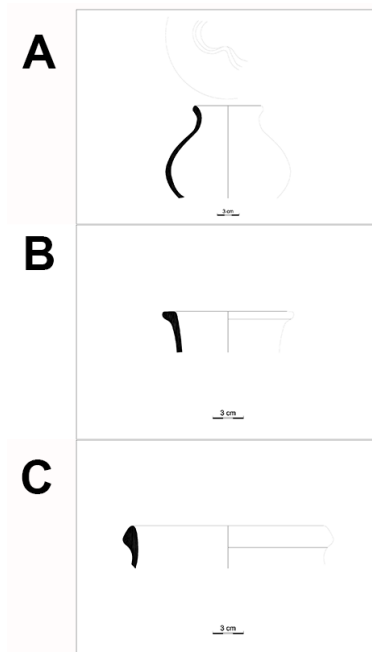


FIG 8: Jars/Jugs.

- 80. Stronach 1978, Fig. 113, no. 9.
- 81. Schmidt 1957, Pl. 71, no. 6-7.
- 82. Goldman 1950, Fig. 123, 92.
- 83. Stewart 2010, Fig. 13, D + Fig. 25, C.
- 84. Mitsopoulos-Leon 1991, Tafel 54, B 114-115.

Next to the more common basic types of jars/jugs, a few rarely occurring types have been identified as well. Out of these, two will be described here. First, a type of jar characterised by a simple outward folding of the upper part of the vessel wall, resulting in the forming of a flattened projecting rim jar/jug (H130, FIG. 8B). This type was produced in the full spectrum of lime-tempered fabrics (227-228-229-232) as well as the buff tableware (237). Second, a few examples of jars/jugs with almond shaped rims (H140, FIG. 8C) were attested as well, albeit rarely. In comparison, at Sagalassos this shape would become one of the most prominent features of the late Hellenistic pottery assemblage, recurring in common ware, cookware, and tableware fabrics.<sup>85</sup>

### COOKING POTS (Q)

Cooking pots are quite common at Düzen Tepe and represent about 19% of the total studied diagnostic assemblage. A typical cooking pot in Düzen Tepe has an ellipsoid-shaped body, with larger specimens tending towards a globular shape and the smaller ones often showing an S-curved profile. The collar is generally slightly out-turned, but is often absent or very short. A distinction is made between simple out-turned rims, sometimes thickened (Q200, FIG. 9A) and rims that were smoothed and flattened, thus creating a defined band at the outside (Q210, FIG. 9B). Next to the highly distinct volcanic-biotite based cookware (230), and gritty black core fabric (250), a third fabric (246) can be systematically related to our two main types of cooking shapes (but especially Q210). However, this gritty orange-red fabric was most likely not suited to deal with the thermic shock of heating and can probably be linked to some sort of short-term storage functionality.

The concept of a cooking pot is specifically functionally oriented and rather conservative by nature as it reflects basic food preparation and consumption practices and habits.<sup>86</sup> This resulted in only minor variations in details such as handles, base or rim, with little changes to overall shape or dimensions.<sup>87</sup> This makes it more difficult to trace similar morphological traditions. The cooking pots of Gordion<sup>88</sup> from middle Hellenistic times (before 200 BCE) do however show similarities with the cooking pots found at Düzen Tepe. A morphological parallel of type Q200 can be found at Salamine<sup>89</sup>, dated to 150-50 BCE.

85. Daems *et al.*, in preparation.

86. Cleymans *et al.*, this issue.

87. Stewart 2010, p. 167.

88. Stewart 2010, Fig. 92 F, 96 A, 101 C, 115 A, 189-191 and 215-217.

89. Diederichs 1980, Pl. 5: 55-58.

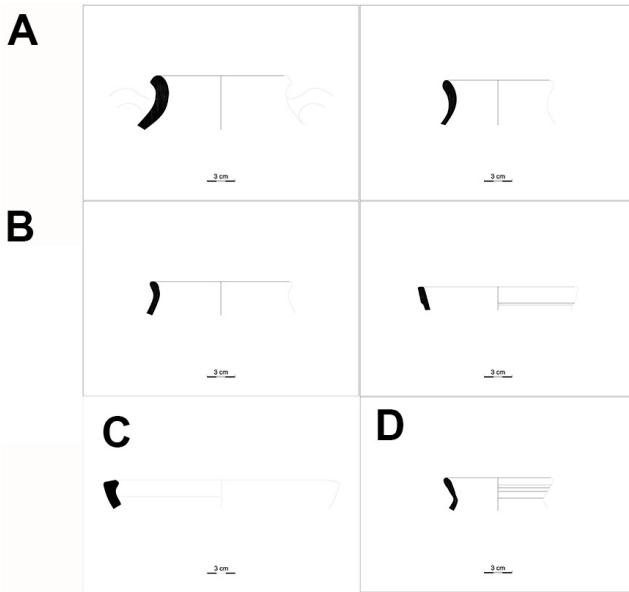


FIG 9. Cooking vessels.

Most cookware sherds belong to closed vessels of type Q200 or Q210. Some rare but notable exceptions occur. First, a handful of clearly open vessels have been identified (Q220, FIG. 9C). These large dishes characteristically have a heavy incurved rim as well as a carination right underneath the curve. It has been suggested that such a wall shape allowed large lids to be placed on the vessels. However, it remains unclear whether this type was at any point part of cooking practices and should therefore be considered a casserole or not. It should be noted that no clear fire clouding or burn marks were noted on the outside of the vessel. Perhaps it can be suggested that these dishes were used to help prepare foodstuffs in the kitchen. Comparable material has again been found at Gordion<sup>90</sup>. Finally, a few fragments have been found of cooking pots with fairly restricted openings and a strong carination of the rim, forming a convex shoulder profile and flaring ledged rim (Q250, FIG. 9D). This flaring rim could either be everted slightly upwards or more strongly flaring outwards, creating an everted S-profile. This type of cooking vessel would become more prominent in the ceramic assemblage of Sagalassos from 200 BCE onwards. Comparable material has been found at Salamine<sup>91</sup>

90. Stewart 2010, Fig. 173, nr. 201

91. Diederichs 1980, Pl. 5, nr. 59

on Cyprus and in Knidos<sup>92</sup>, where it was dated to the period between the late 3rd century and third quarter of the 2nd century BCE.

OTHER (FIG. 10)

**Brazier (U100)**

A few fragments have been found that can be considered a brazier or portable hearth. These half-open, horseshoe-shaped objects could be moved by one or two handles, either a vertical one in the middle or horizontal ones on each of the sides, to be placed outside or inside houses to provide heat or be used for cooking. Cooking pots were placed on top of the brazier, leaving space on the half-open side to replenish fuel. Interestingly, these objects were not produced in a cookware fabric that was specifically aimed at dealing with absorbing thermic shock, but rather in one of the lime-tempered common wares (232).

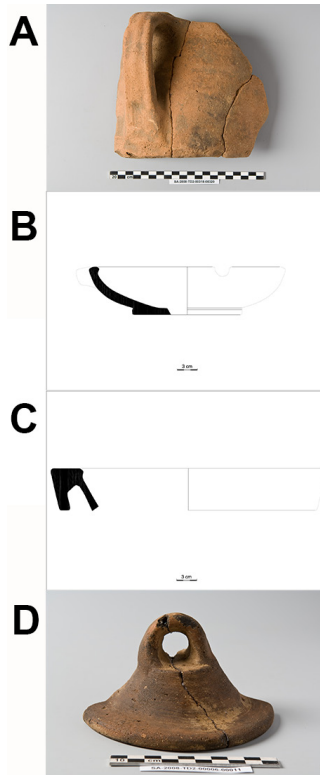


FIG 10. Other pottery.

92. Köglér 2010, Abb. 13, nr. D.84 + Abb. 23, nr. E.168-169

***Mortar (E200)***

A kind of large, heavy open dish with a spout at the rim is identified as a mortar, used as a utilitarian vessel in the kitchen to prepare food, such as mixing ingredients or mashing grains to pulp that could be poured into another receptacle through the spout. This example was made in the cookware fabric of Düzen Tepe (230) but clearly smoothed at the surface.

***Krater/basin***

A few examples have been found of large open receptacles with a wide flat rim and heavy, downturned handles. These vessels can be identified as some kind of basin. Examples have been found both in one of the lime-tempered common wares (227) as well as one in a very fine fabric produced with Çanaklı clays, highly similar to the clays used for the later production of SRSW at Sagalassos. Especially for the latter specimen, function as a krater to be used as tableware, perhaps for mixing or serving wine can be tentatively suggested.

***Lid (J200/210)***

A number of small lids has been identified, generally divisible in two types: flat lids with a rounded and thickened outside border (J200) and domed lids ending in a knob handle (J210). Examples have been found both in buff tableware (237) and cookware (230) fabrics.

**HANDLES & BASES**

Due to high fragmentation of the material it is difficult to conclusively link certain types of handles or bases with certain types of vessels. Some indications can be found in the few vessels with better preserved profiles and rims with attached handles and bases.

Our only conclusively attested type of cup, the A120 Achaemenid bowls, are generally considered to be handle-less vessels. Achaemenid bowls characteristically have either a flat or a so-called *omphalos* base. Only one such example of the latter has been identified (FIG. 11).



FIG 11. Omphalos base from Achaemenid bowl.

Regarding tableware, handles and bases can be most firmly linked to the bowl/dish component of the assemblage. Bowl/dish bases range from small ring bases with rounded underside to larger standing foot bases with flattened underside. In the common wares, a similar range can be observed, supplemented with both flat bases and so-called 'raised flat bases' or disc bases (FIG. 12). Both categories also occur in the cooking vessels, although raised bases clearly occur more frequently. Flat bases are found elsewhere in Achaemenid Sardis<sup>93</sup> and in Gordion during middle Hellenistic times<sup>94</sup>. Raised bases also appear in a sounding at Xanthos<sup>95</sup> dated to the early 5<sup>th</sup> century BCE, in the Hellenistic material of Salamine on Cyprus<sup>96</sup>, as well as in a 4th century context in Troy<sup>97</sup>, where these are called 'jug foot bases' attested in a local production line of jars. Düzen Tepe therefore appears to be firmly embedded in a broader Anatolian tradition. By way of contrast, the Greek mainland and the Levant<sup>98</sup> preponderantly used round base cooking pots.

Handles for tableware fabrics are generally rather small and rounded. Both circular horizontal and ellipsoidal vertical handles are commonly attested. Occasionally, a larger flat strap handle has been identified as well. A similar range of handle shapes can be observed in the common wares as well,

93. Dusinberre 1999, pp. 94-95.

94. Stewart 2010, Fig. 92 F, 96 A, 101 C, 115 A, 189-191 and 215-217.

95. Yener-Marksteiner 2007, pp. 97-98 and Abb. 11, 12.

96. Diederichs 1980, Pl. 5, no. 55-58.

97. Berlin 2002, Plate 19, no. 117-123.

98. Rotroff 2006, Fig. 71-81; Edwards 1975, plate 27-28; Hayes 1991, Fig. XXVIII-XXXVI; Jackson and Tidmarsh 2011, Fig. 81-83.



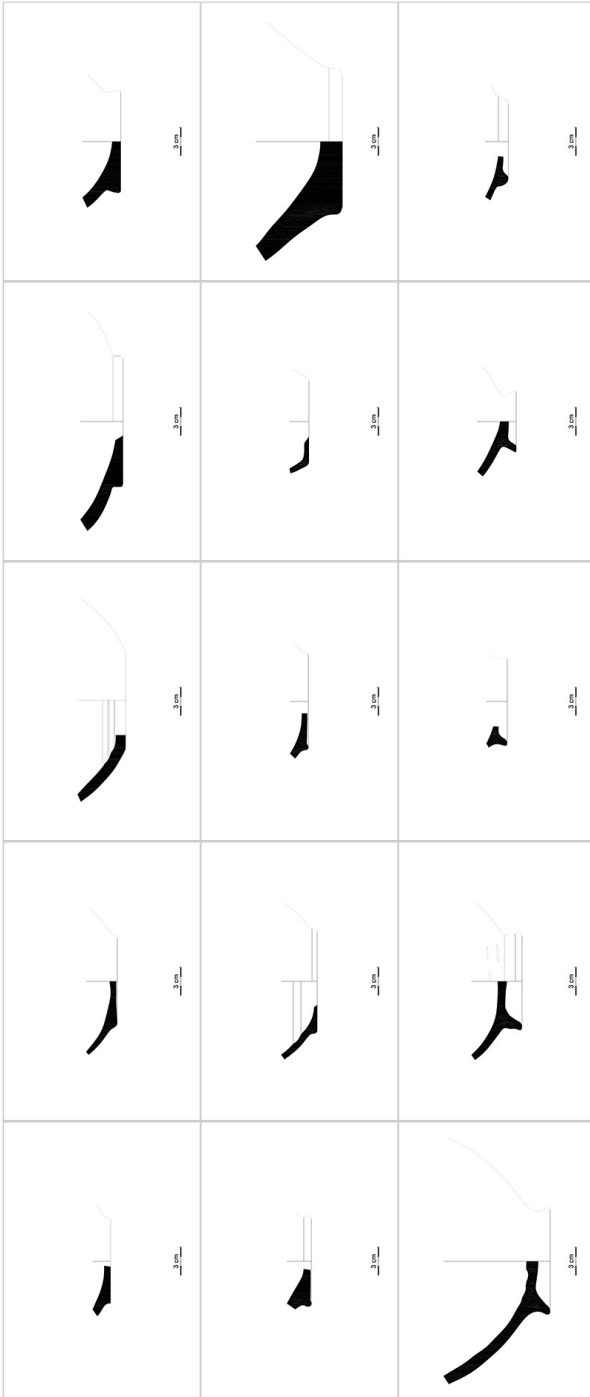


FIG 12. Bases.



FIG 13. Handles.

although here the strap handles appear more frequently (FIG. 13). These can probably be linked to a storage functionality associated with the larger jar component of the assemblage. In cookware as well, handles consist mostly of strap handles, sometimes ribbed, placed on the shoulder and connected to the collar. Rounded handles only appear sporadically on some of the smaller cooking vessels. Both one-handed and two-handed cooking pots are attested.

## Discussion: framing pottery

The main aim of this paper is to present an overview of the major components of the pottery assemblage found at Düzen Tepe. Can we now conclude the descriptive work with providing some context for the nature of this material culture against a wider perspective?

A first observation is that save for Achaemenid bowls, no repertoire of drinking cups was conclusively attested. There is no evidence for any *kantharoi*, *skyphoi*, *mastoids*, or two-handed cups that are all frequently attested in the Aegean world.<sup>99</sup> The bowls and dishes found at Düzen Tepe are mostly of simple forms, with shallow bodies and simple, functionally inspired rims. No

99. Rotroff 1997.

indications were found for so-called ‘saltcellars’, identified frequently at Troy for example.<sup>100</sup> Compared to other Anatolian sites such as Troy, Ephesos, Sardis and Kilise Tepe, a markedly different tradition of cookware is attested, with little evidence for thin-walled vessels with everted rims typical for such types as *chytra* and *lopas* pots. Instead, we must turn to the area of central and southern Anatolia, with sites such as Gordion, Xanthos, as well as Salamine on Cyprus, to find comparable material.

Not a single amphora fragment was identified at Düzen Tepe<sup>101</sup>, suggesting the settlement did not participate in this type of long-distance exchange network.<sup>102</sup> Other notable absentees of Greek-style pottery are *choes* and *olpe*, with only one or two tentatively identified kraters found as well. One body sherd could possibly be attributed to a *lagynos*, but here as well identification remains highly tentative. As far as decoration is concerned we find, if any, only highly rudimentary decorative elements such as a few dots and stripes. No attestations of, for instance, the characteristic West Slope decoration were found on any of the sherds studied at Düzen Tepe. Many sherds were heavily affected by post-depositional weathering conditions, leaving only limited traces of slips or other surface treatments. Where traces have remained, the pottery of Düzen Tepe appears to be furnished with dull, mottled slips characteristic of the tradition of so-called colour-coated vessels.<sup>103</sup>

All in all, the impression of the pottery assemblage at Düzen Tepe is one of relatively simplicity and tradition. All steps of the production process, ranging from raw material selection, over forming practices to the firing of the vessels, were conducted by a knowledgeable artisan, but primarily aimed at fulfilling its functional purposes as was suitable for the village community proper.<sup>104</sup> No indications have been found that the pottery of Düzen Tepe was directed towards a wider market<sup>105</sup>, suggesting this local production was first and foremost aimed at supplying its own community. This need not imply that production took place in an isolated vacuum, independent of outside developments. Clearly, this pottery was embedded in larger trends of production preferences and styles. It is particularly noticeable, however, that this framework was not geared towards the Greek world, as little similarities could be found with the material from the Greek mainland, the Cyclades or the

100. Berlin 2002.

101. Monsieur *et al.*, this issue.

102. This point is elaborated upon in Monsieur *et al.*, this issue.

103. Hayes 1991.

104. Braekmans 2010, pp. 286-299.

105. Braekmans *et al.* 2017, p. 18.

Anatolian West Coast. Instead, production was grafted upon an Anatolian template, with particular coherence found in material culture of central and southern Anatolia. Where certain 'Atticizing' elements do occur, for example the typical black-glazed tableware production, aside from a limited number of imports, the community instead turned towards a local interpretation of the features as they started to produce their own black-glazed ware.<sup>106</sup> This development as well was part of a wider Anatolian phenomenon, as was also noted at Ephesos, Sardis and Tarsos. Even where more 'eastern' influences are sometimes supposed as with the introduction of the Achaemenid bowls in Anatolia, for instance, it has been argued this development should be viewed within a central and southern Anatolian context of local/regional interpretations of more general Persian fashions.<sup>107</sup> In this respect it is interesting to note that the distribution of Achaemenid bowls in eastern Anatolia appears far more uneven and sparse.<sup>108</sup>

Most comparative material indicates that the production of the material presented here can be traced back to the end of the 4th, and especially 3rd centuries BCE. This neatly fits the preliminary identified chronological window of 5th to 2nd centuries BCE. While a restricted part of the assemblage might place the outer ends of the period of habitation of the settlement towards either end of this range, the majority of the pottery assemblage at Düzen Tepe can be most convincingly related to habitation during the 4th and 3rd centuries BCE.

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106. Braekmans 2010, p. 290.

107. Lungu 2016.

108. Summers 1993, p. 88.

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## APPENDIX 1: Presence/absence types per fabric

	250	230	246	227	228	229	232	234	236	241	237	238	239	242	244	245	Import	Storage
A120	0	0	0	1	0	0	0	0	0	1	1	0	1	0	1	0	1	0
B140	0	1	0	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0
B150	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0
B170	0	0	0	1	1	1	1	0	1	1	1	0	1	0	1	1	0	0
B230	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
C120	1	0	0	1	1	1	1	0	1	0	1	0	1	0	1	0	0	0
C121	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
C170	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
C171	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
C172	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
F120	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
F150	0	0	0	1	1	1	0	0	0	0	1	0	1	0	1	1	0	0
G100	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1
G110	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1
G120	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1
H100	0	0	0	1	1	1	1	0	0	1	1	1	1	0	1	0	0	0
H101	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0
H110	0	1	1	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0
H111	0	0	0	1	1	1	1	0	1	1	1	0	1	0	0	1	0	0
H102/112	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
H130	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0
H140	0	1	0	1	1	1	1	0	0	1	0	0	0	0	0	1	0	0
Q200	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Q210	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Q220	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q250	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q251	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0