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CONTENTS

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

NEW LIGHT ON THE EARLY DAYS OF SAGALASSOS AND ITS SURROUNDINGS

John Lund

THE NATIONAL MUSEUM OF DENMARK

It was a paper presented by Jeroen Poblome at the colloquium on *Hellenistische und kaiserzeitliche Keramik des östlichen Mittelmeergebietes* in Frankfurt am Main in April 1995 that first made me aware of the Sagalassos Project. Incidentally, the two of us had several heated discussions during this gathering, mainly – as I recall – about how to interpret the 3rd century AD decline in the production and circulation of ceramic fine wares in the Eastern Mediterranean, a subject that we (luckily) still do not agree completely on. Indeed, some members of the audience were disturbed by the acrimonious tone of our arguments. Still, we soon enough realized that we were both driven by the same passion for exploring new approaches to the study of Hellenistic and Roman ceramics as a means to understand ancient societies. Our encounter with the like-minded Italian scholar Daniele Malfitana at a colloquium in Lyon in 2000 led to several fruitful collaborative initiatives – including the launching of FACTA and HEROM. But that is another story.

The Sagalassos Project was the brain child of Marc Waelkens, who had participated in the British *Pisidia Survey Project* that surveyed the site of Sagalassos from 1985 onwards. Four years later, Waelkens initiated excavations in the Potters' Quarter of this city, and he returned to the site each year since 1990 together with his team from the University of Leuven in order to explore the settlement and its hinterland, using a rich array of interdisciplinary methods. The Sagalassos Project is almost unrivalled among the archaeological projects of the Eastern Mediterranean in this respect. So much so that David P.S. Peacock in a correspondence with me characterized the results thus generated as being “at a world-class level.” When Waelkens retired in 2013, Jeroen Poblome took over direction of the project, under the auspices of the Turkish Ministry of Culture and Tourism.

It is not easy to establish objective criteria for evaluating the scientific impact of any archaeological project, but one possible (if rather crude) method is to count the number of scholarly publications generated by it. A search for “Sagalassos” in *Projekt Dyabola, Realkatalog des Deutschen Archäologischen Instituts, Rom* (dyabola.de) reveals that one publication dealing with this site appeared in print on average each year from 1974 to 1989, i.e. before the start of the Sagalassos Project. The annual average number grew to four between 1990 and 2004 and increased to twelve from 2005 to 2016. We are dealing with publications of widely different scopes, ranging from monographs, dissertations and chapters in edited volumes, to articles in peer-reviewed journals *etc.* The sheer number and variety of these publications, which include important Ph.D.’s and Postdoctoral publications written by scholars associated with the project, is testimony (if such be needed) to the quality and depth of research it has generated.

The Roman Imperial period has until now been the main chronological focus of the Sagalassos Project, and for very good reasons: the impressive architectural remains and the associated (at times spectacular) finds caused this period to take a natural priority. That is, however, not to say that the earlier history of the site and its surroundings has been neglected. A case in point is the investigation of the so-called Alexander’s Hill outside the city, where it was hoped that evidence might be preserved of the battle between Alexander the Great and the Sagalassians in 333 BC. But this volume presents for the first time a handful of contributions focusing on the archaeological documentation of Sagalassos and its hinterland in Persian and Hellenistic times.

The article by Dries Daems, Dennis Braekmans and Jeroen Poblome on *Late Achaemenid and early Hellenistic Pisidian material culture from Düzen Tepe (SW Anatolia)* sets the scene by presenting the ceramic evidence from Düzen Tepe, a Pisidian settlement located about two kilometers from Sagalassos itself. Judging by these finds, Düzen Tepe was mainly active in the 4th and the 3rd centuries BC, and the authors interestingly conclude that *no repertoire of drinking cups was conclusively attested* except for Achaemenid bowls. They stress the relative simplicity and traditional character of the pottery from the site, and also the fact that there is no evidence that it was marketed beyond Düzen Tepe itself.

In *The pottery of late Achaemenid Sagalassos: an overview* Dries Daems and Jeroen Poblome apply the results of the previous paper to the small body of pottery linked to the earliest phase of occupation and community organization at the archaeological site of Sagalassos. Daems and Poblome conclude

that the ceramic assemblage was largely locally produced and mainly had a utilitarian character. They caution the reader, however, that the material is in general too limited to allow for grand conclusions, for instance concerning the scarcity of fine table wares.

Having decked the table – so to speak – with pottery, the next contribution, *A Taste of Time. Foodways and Cultural Practices in late Achaemenid-early Hellenistic Düzen Tepe (SW Anatolia)*, deals with the actual food and beverages consumed by the Pisidians during the said periods. It is a joint effort by Sam Cleymans, Dries Daems, Bea De Cupere, Elena Marinova and Jeroen Poblome, who apply an interdisciplinary perspective to their analysis of the food practices and wine consumption at Düzen Tepe, using a variety of methods. They are (rightly in my view) sceptical of using the findings as a basis from which to construct cultural identities, preferring to focus on practices, and they conclude among other things that the foodways of Düzen Tepe and related material culture indicate that most of their food choices were locally and regionally embedded.

The fourth paper is co-authored by Patrick Monsieur, Dries Daems and Jeroen Poblome. It deals with *Hellenistic and Italic amphorae from Sagalassos* and extends the chronological range to include the early Roman imperial period (from 25 BC to AD 100). The number of such finds is small, and they were rarely if ever found *in situ*. At Düzen Tepe, transport amphorae were, indeed, all but absent. The authors identify fragments of Rhodian, Knidian(?), Koan (or imitations) and Chian amphorae (as well as a Chian lagynos), in addition to Italic Republican amphorae from the Tyrrhenian coast (Greco-Italic, Dressel 1 or Dressel 2-4). By contrast, Pamphylian amphorae seem to be absent. Patrick Monsieur and his fellow authors relate this material to corresponding finds from other centres in Southern Anatolia: Pessinous, Perge, Kinet Höyük and Xanthos. They conclude that the amphorae imported to Sagalassos may be viewed as markers of a transitional phase, when the inhabitants moved from a domestic economy to one that interacted more freely with the outside world.

Sagalassos has been called the *City of Dreams*, and the contributions to this volume demonstrate that archaeologists' dreams have the potential of becoming gateways to the past. They allow the scholarly world for the first time to assess Pisidian material culture in the Achaemenid and Hellenistic periods, thereby opening a whole new chapter in our understanding of ancient Sagalassos and its people, from a material culture – and thus HEROM – point of view.

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

Dries Daems⁽¹⁾, Dennis Braekmans⁽²⁾, Jeroen Poblome⁽¹⁾

(1) UNIVERSITY OF LEUVEN, (2) CRANFIELD UNIVERSITY

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.¹ 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.²

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.³ Our preliminary macroscopic fabric classification is backed up and refined following a programme of chemical and mineralogical fingerprinting, as well as raw materials provenancing.⁴ 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.⁵ 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).⁶ 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).⁷

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.⁸ 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 territory⁹ 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.¹⁰

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 times¹¹, as well as part of the common ware production at both Sagalassos and Düzen Tepe¹². 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.¹³ 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.¹⁴ 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.¹⁵ 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.¹⁶ 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.¹⁷ 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.

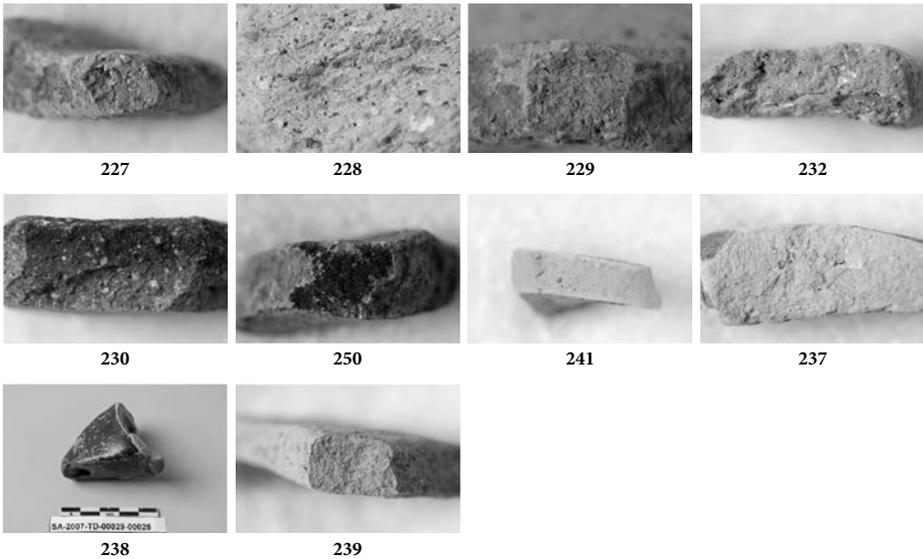


FIG 1. Pottery fabrics at Düzen Tepe.

the fabrics within this group can therefore not be excluded. The LT1 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 LT2 fabric (228) is slightly less oxidized compared to LT1 and can be most clearly distinguished by its overall lighter brown colour. Additionally, it differs from LT1 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 functionalities¹⁸, 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 minerals¹⁹, 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.²⁰ 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.²¹ 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.²² 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 sherds²³ assigned to each type, can be found in TABLE 2.

TABLE 2: Number of diagnostic rim sherds per type (Total amount 610²⁴).

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.²⁵ 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.²⁶ It would go on to become a highly popular shape spread from the Persian heartland from sites such as Persepolis²⁷ and Pasargadae²⁸, throughout large

26. Dusinberre 2003, p. 177.

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

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

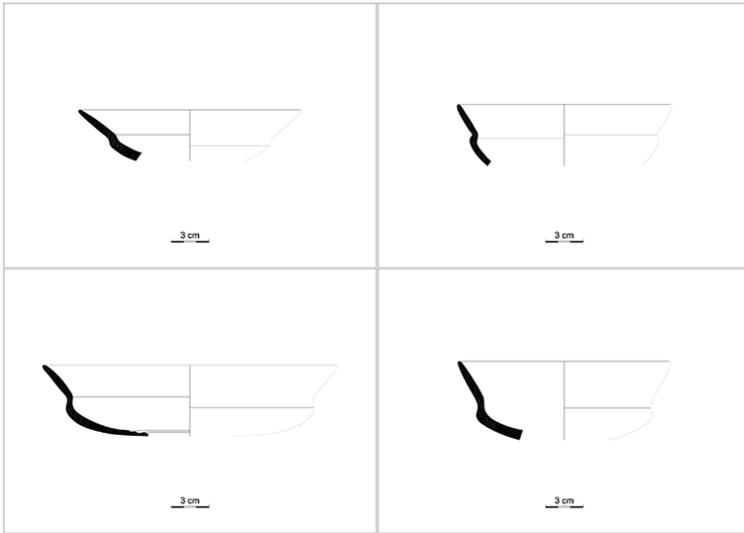


FIG 2. Cups.

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, Daskyleion²⁹, Karaçalı and Perge³⁰ 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 Gordion³¹, however they are commonly attested at the nearby settlement of Hacımusalı Höyük³². Other inland locations include Sardis³³, Kale Tepe³⁴, and Seyitömer Höyük³⁵. At Kelainai³⁶, 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 2011.³⁷ 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-Kepçe 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.³⁸

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 Kelainai³⁹, 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's⁴⁰ 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.⁴¹ 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.

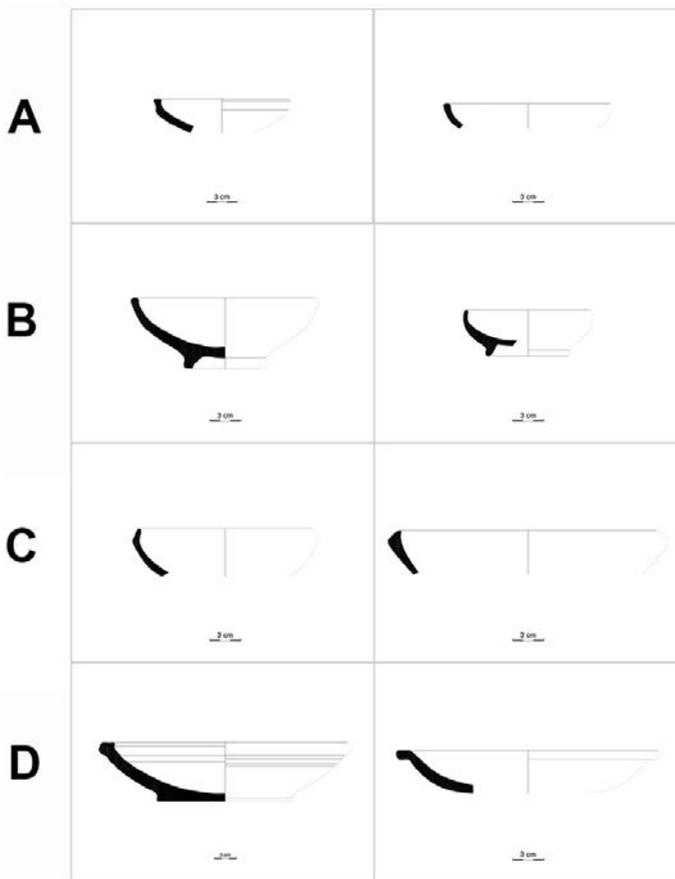


FIG 3. Bowls.

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 Gordion⁴², where they occurred from the 3rd century BCE onwards. Parallels are also known in the Hellenistic slipped wares of Xanthos found in the West Area⁴³ and the sanctuary of Leto⁴⁴. At Pasargadae⁴⁵, 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.⁴⁶ 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.⁴⁷ Similarities can be especially noted with material from Sardis⁴⁸, Ephesos⁴⁹, Pergamon⁵⁰, Troy⁵¹, Gordion⁵², Patara⁵³, Xanthos⁵⁴, as well as on Paphos⁵⁵, Palaepaphos⁵⁶, and Salamine⁵⁷ on Cyprus, Jebel Khalid in North Syria⁵⁸, and Pasargadae⁵⁹ 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.

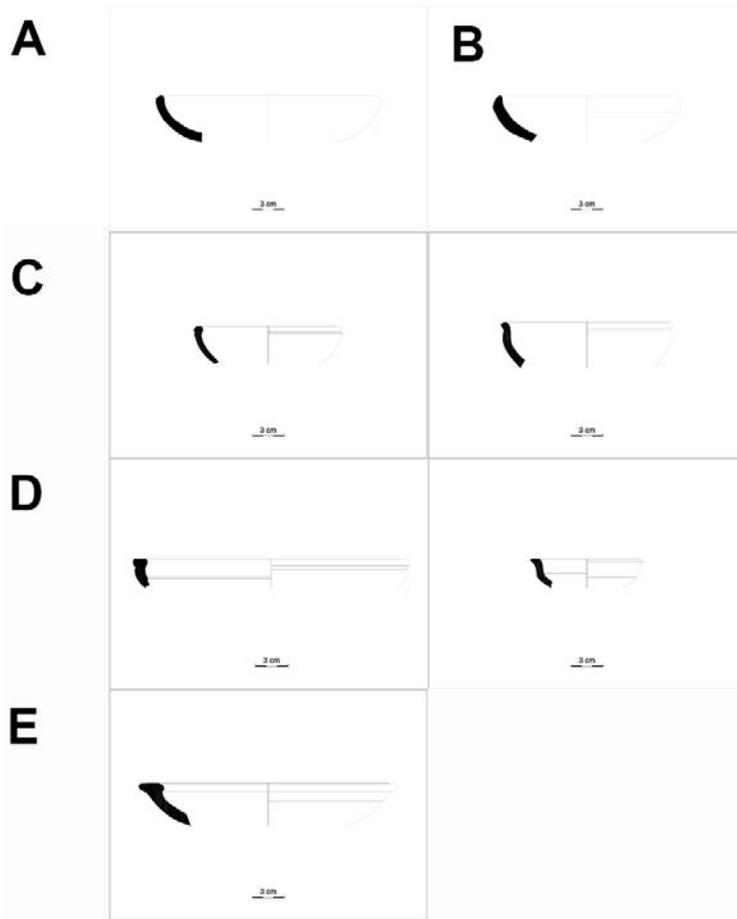


FIG 4. Dishes.

neath the rounded rim. Comparable shapes have been found at Xanthos.⁶⁰ At Alexandria⁶¹, 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 times⁶², becoming more widespread towards the end of the 2nd century BCE. The shape is also encountered in Cypriot Sigillata, form P22a at Paphos.⁶³ However, this shape would only appear in Sagalassos in the material found underneath the Roman Odeion, dated to the first century BCE.⁶⁴ 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 Valley⁶⁵, as well as during the Achaemenid period at Altuntepe and Cimin Tepe II⁶⁶. 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.⁶⁷ 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 Xanthos⁶⁸, but also in Troy⁶⁹, Gordion⁷⁰, and in the Upper Tigris Valley⁷¹ and Pasargadae⁷². 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.⁷³ 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.⁷⁴ 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 Tepe⁷⁵, 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.⁷⁶

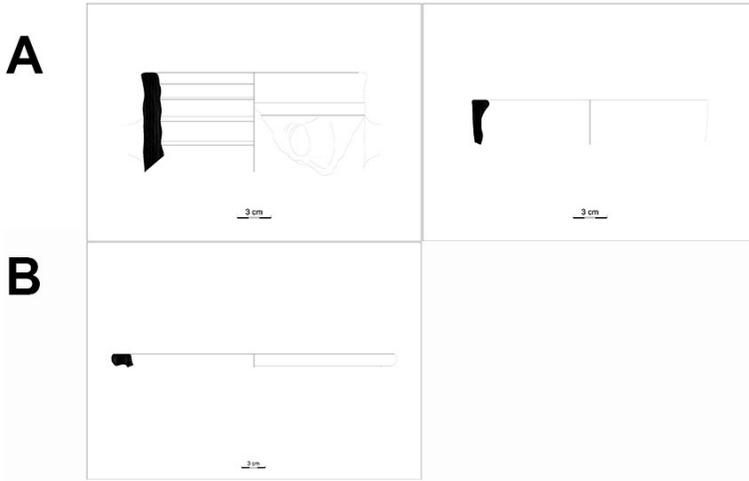


FIG 5: Containers.

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.⁷⁷

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.

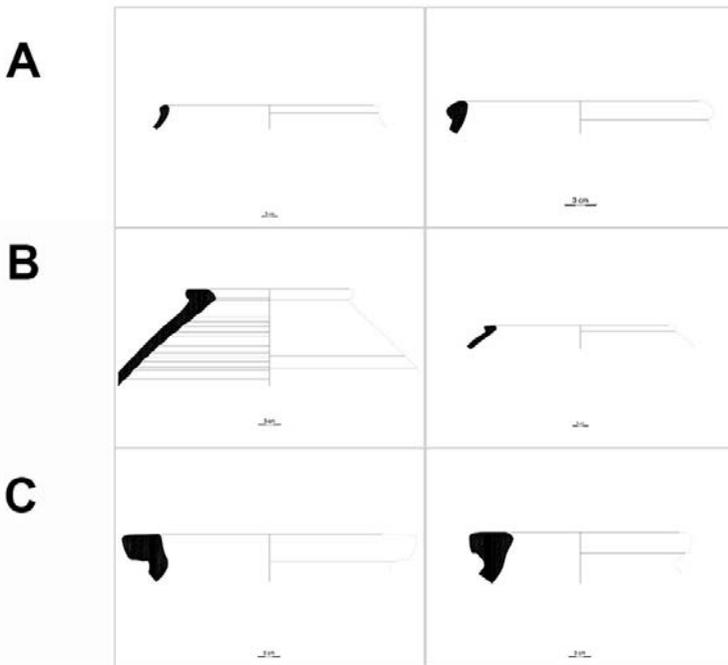
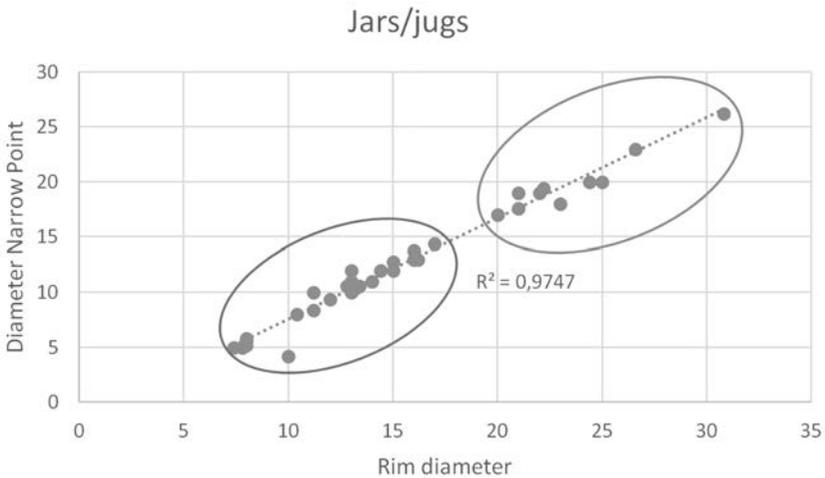


FIG 6. Pithoi.

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.⁷⁸ 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 Tepe⁷⁹ 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.

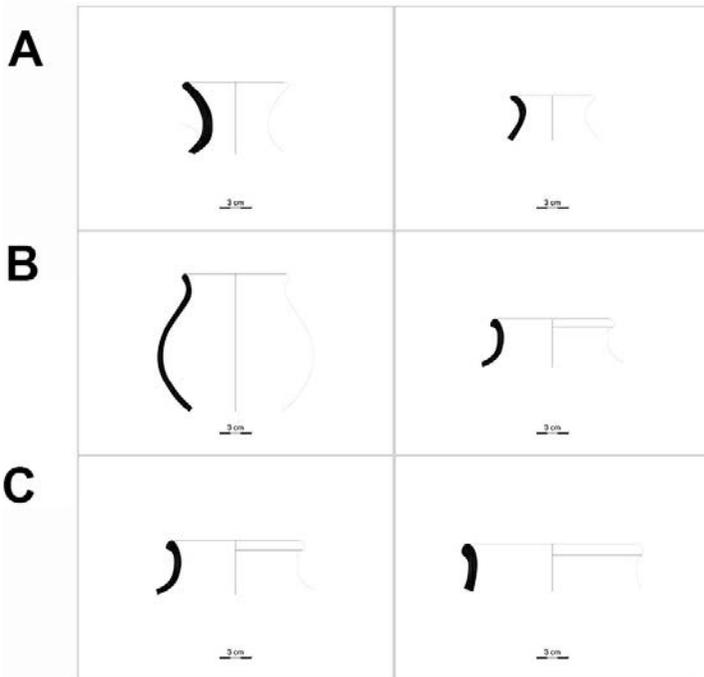


FIG 7. Jars/Jugs.

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 Pasargadae⁸⁰, or stone as in Persepolis⁸¹. Examples in pottery have been found at Tarsos⁸², Gordion⁸³, and Ephesos⁸⁴. 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.

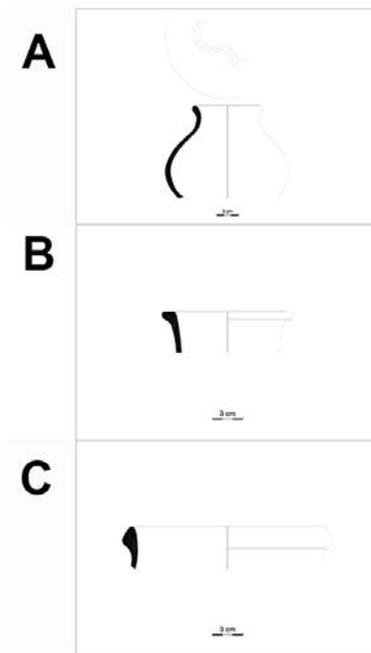


FIG 8: Jars/Jugs.

- 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.⁸⁵

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.⁸⁶ This resulted in only minor variations in details such as handles, base or rim, with little changes to overall shape or dimensions.⁸⁷ This makes it more difficult to trace similar morphological traditions. The cooking pots of Gordion⁸⁸ 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 Salamine⁸⁹, 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.

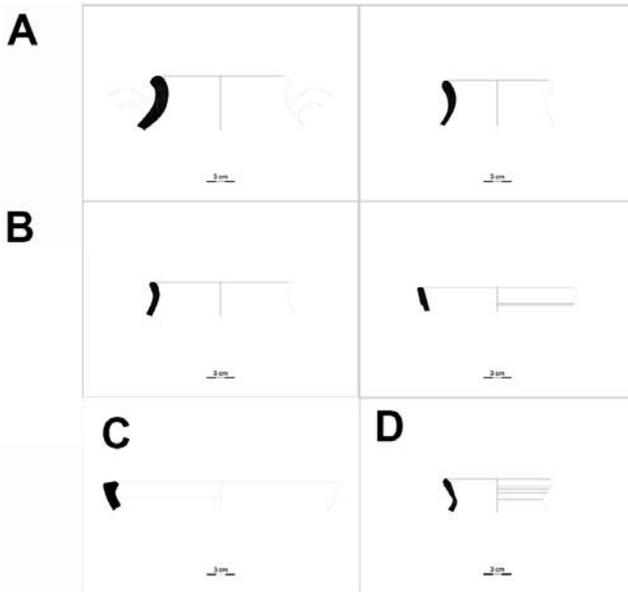


FIG 9. Cooking vessels.

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 Gordion⁹⁰. 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 Salamine⁹¹

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

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

on Cyprus and in Knidos⁹², 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).

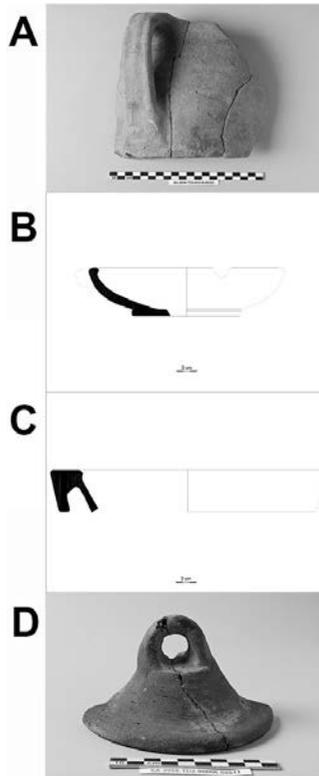


FIG 10. Other pottery.

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 Sardis⁹³ and in Gordion during middle Hellenistic times⁹⁴. Raised bases also appear in a sounding at Xanthos⁹⁵ dated to the early 5th century BCE, in the Hellenistic material of Salamine on Cyprus⁹⁶, as well as in a 4th century context in Troy⁹⁷, 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 Levant⁹⁸ 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.

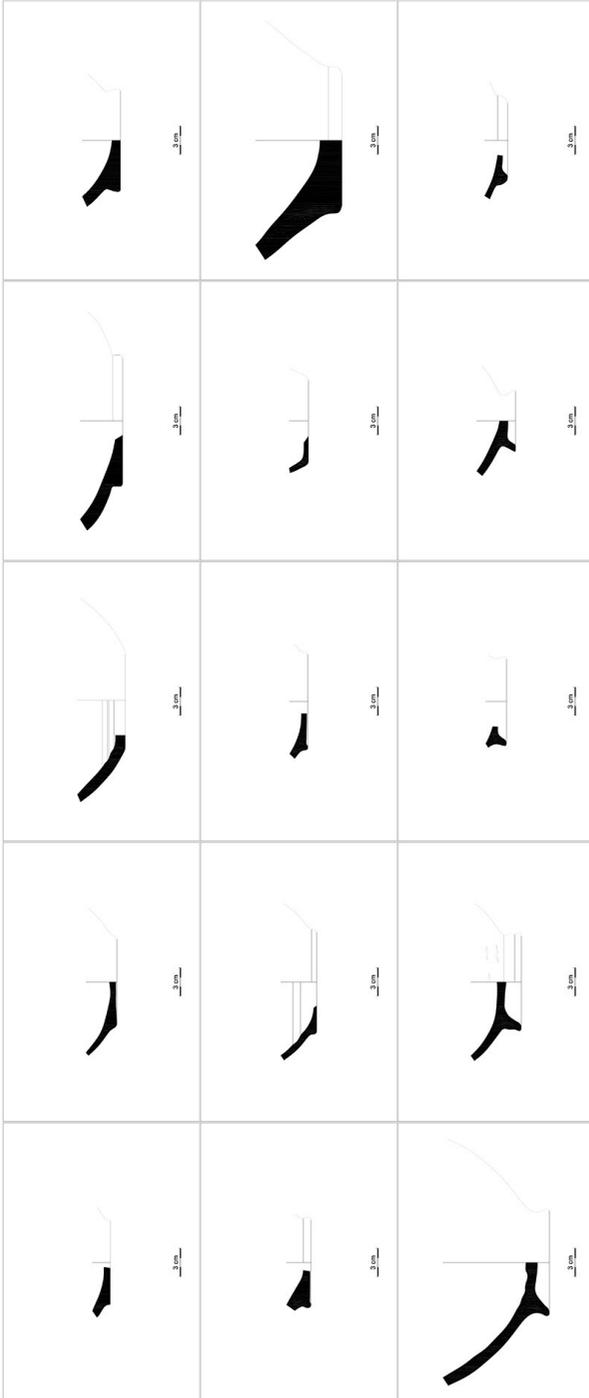


FIG 12. Bases.



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.⁹⁹ 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.¹⁰⁰ 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 Tepe¹⁰¹, suggesting the settlement did not participate in this type of long-distance exchange network.¹⁰² 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.¹⁰³

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.¹⁰⁴ No indications have been found that the pottery of Düzen Tepe was directed towards a wider market¹⁰⁵, 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.¹⁰⁶ 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.¹⁰⁷ In this respect it is interesting to note that the distribution of Achaemenid bowls in eastern Anatolia appears far more uneven and sparse.¹⁰⁸

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.

References

- Berlin 2002 = A.M. Berlin, *Ilion before Alexander: a Ritual Deposit of the Fourth Century BC*, “*Studia Troica*”, 12, pp. 131–165.
- Braekmans 2010 = D. Braekmans, *The Archaic, Classical and Hellenistic Ceramics in the Later Territory of Sagalassos and Düzen Tepe*, Unpublished Ph.D. Dissertation, University of Leuven, 2010.
- Braekmans et al. 2017 = D. Braekmans, P. Degryse, B. Neyt, M. Waelkens, J. Poblome, *Reconstructing Regional Trajectories: the Provenance and Distribution of Archaic to Hellenistic Ceramics in Central Pisidia (South-west Turkey)*, “*Archaeometry*”, 59-3, pp. 472-492, <https://doi.org/10.1111/arcm.12259>.
- Çokay-Kepçe and Recke 2007 = S. Çokay-Kepçe, M. Recke, *Achaemenid bowls in Pamphylia*, in İ. Delemen, O. Casabonne (eds.), *The Achaemenid impact on local populations and cultures in Anatolia*, Ankara, 2007, pp. 83-96.
- Coşkun 2011 = G. Coşkun, *Achaemenid Bowls From Seyitömer Höyük, “Olba”*, 19, pp. 57-79.
- Daems and Poblome 2016 = D. Daems and J. Poblome, *Adaptive Cycles in Communities and Landscapes: The Case of Sagalassos and Düzen Tepe During the Classical/Hellenistic Period*, “*Archaeological Review from Cambridge*”, 31/2, pp. 91-107.
- Daems et al. in preparation = D. Daems, M. van der Enden and J. Poblome, *The Hellenistic Pottery Repertoire made at Sagalassos*. IARPotHP 2nd Conference Lyon 2015, in preparation.
- Degeest 2000 = R. Degeest, *The common wares of Sagalassos (Studies in Eastern Mediterranean Archaeology 3)*, Turnhout, 2000.
- Diederichs 1980 = C. Diederichs, *Céramiques hellénistiques, romaines et byzantines (Salamine de Chypre IX)*, Paris, 1980.
- Dusinberre 1999 = E.R.M. Dusinberre, *Satrapal Sardis: Achaemenid bowls in an Achaemenid capital*, “*American journal of archaeology*”, 103/1, pp. 73-102, <https://doi.org/10.2307/506578>.
- Dusinberre 2003 = E.R.M. Dusinberre, *Aspects of empire in Achaemenid Sardis*, Cambridge, 2003.
- Edwards 1975 = G.R. Edwards, *Corinthian Hellenistic pottery, (Corinth: Results of Excavations Conducted by the American School of Classical Studies at Athens 7/3)*, Princeton, 1975, pp. iii-254, <https://doi.org/10.2307/4390663>.
- Élaigne 2012 = S. Élaigne, *La vaisselle fine de l'habitat alexandrine. Contribution à la connaissance de la mobilité des techniques et des produits céramiques en Méditerranée du II^e siècle av. J.-C. à l'époque claudienne*, (Études alexandrines 21), Cairo, 2012.
- Goldman 1950 = H. Goldman (ed.), *Excavations at Gözülü Kule, Tarsus: I The Hellenistic and Roman period*, New Jersey, 1950.
- Hayes 1991 = J.W. Hayes, *Paphos III: The Hellenistic and Roman Pottery*, Nicosia, 1991.
- Hürmüzlü et al. 2009 = B. Hürmüzlü, A. De Giorgi, P. Iversen, *New Research in Northwestern Pisidia: Ancient Konane (Conana) and its Territory*, “*Colloquium Anatolicum*”, 7, pp. 235-256.

- Işin 2007 = G. Işin, General outlook to the Hellenistic Pottery of Patara with Selected Examples, in S. Lemaître (ed.), *Céramiques antiques en Lycie: VIIe s. a.C-VIIe s. p.C.: les produits et les marchés* (Ausonius Etudes 16), Bordeaux, 2007, pp. 137-150.
- Jackson and Tidmarsh 2011 = H. Jackson and J. Tidmarsh, *Jebel Khalid on the Euphrates. Vol. 3: The pottery*, Sidney, 2011.
- Kögler 2010 = P. Kögler, *Feinkeramik aus Knidos vom mittleren Hellenismus bis in die mittlere Kaiserzeit (ca. 200 v. Chr. bis 150 n. Chr.)*, Wiesbaden, 2010.
- Lemaître 2007 = S. Lemaître, *Contribution à l'étude du mobilier céramique des époques archaïque et classique du Létôon de Xanthos*, in S. Lemaître (ed.), *Céramiques antiques en Lycie: VIIe s. a.C-VIIe s. p.C.: les produits et les marchés* (Ausonius Etudes 16), Bordeaux, 2007, pp. 115-136.
- Lungu 2016 = V. Lungu, *The "Achaemenid Bowls" from Celenae*, in A. Ivantchick, L. Summerer and A. von Kienlin (eds.), *Kelaeina – Apameia Kibotos. Une metropole achéménide, hellénistique et romaine*, Bordeaux, 2016, pp. 453-472.
- Maier 1967 = F. Maier, *Excavations at Kouklia (Palaepaphos)*, Nicosia, 1967.
- Maier and Wartburg 1998 = H. Maier and M. Wartburg, *Ausgrabungen in Alt-Paphos. 17. Vorläufiger Bericht. Grabungskampagne 1991-1995, "Archäologischer Anzeiger"*, pp. 105-132.
- Matney 2010 = T. Matney, *Material culture and identity: Assyrians, Arameans, and the Indigenous Peoples of Iron Age Southeastern Anatolia*, in S. Steadman and J. Ross (eds.), *Agency and Identity in the Ancient Near East: New Paths Forward*, Sheffield, 2010.
- Mitsopoulos-Leon 1991 = V. Mitsopoulos-Leon, *Die Basilika am Staatsmarkt in Ephesos. Kleinfunde. 1. Teil: Keramik hellenistischer und römischer Zeit*, Wien, 1991.
- Neyt et al. 2012 = B. Neyt, D. Braekmans, J. Poblome, J. Elsen, M. Waelkens, and P. Degryse, *Long-Term Clay Raw Material Selection and Use in the Region of Classical/Hellenistic to Early Byzantine Sagalassos (SW Turkey)*, "Journal of Archaeological Science", 39/5, pp.1296-1305, <https://doi.org/10.1016/j.jas.2012.01.005>.
- Nevett and Jackson 2007 = L. Nevett and M. Jackson, *Hellenistic ceramics and lamps*, in N. Postgate and D. Thomas (eds.), *Excavations at Kilise Tepe, 1994-98. From Bronze Age to Byzantine in western Cilicia*, Cambridge, 2007, pp. 379-386.
- Peacock 1977 = D. Peacock (ed.) *Pottery and Early Commerce: Characterization and Trade in Roman and Later Ceramics*, London, 1977.
- Poblome 1999 = J. Poblome, *Sagalassos red slip ware. Typology and chronology (Studies in Eastern Mediterranean Archaeology 2)*, Turnhout, 1999.
- Poblome et al. 2002 = J. Poblome, P. Degryse, W. Viaene, R. Ottenburgs, M. Waelkens, R. Degeest and J. Naud, *The Concept of a Pottery Production Centre. An Archaeometrical Contribution from Ancient Sagalassos*, "Journal of Archaeological Science", 29, pp. 873-882, <https://doi.org/10.1006/jasc.2001.0756>.
- Poblome et al. 2013 = J. Poblome, D. Braekmans, B. Mušič, M. van der Enden, B. Neyt, B. De Graeve and P. Degryse, *A pottery kiln underneath the Odeon of ancient Sagalassos. The excavation results, the table wares and their archaeometrical analysis*, in N. Fenn, C. Römer-Strehl (eds.), *Networks in the Hellenistic World (BAR International Series 2539)*, Oxford, 2013, pp. 175-185.

- Poblome 2016 = J. Poblome, *The Potters of Ancient Sagalassos revisited*, in A. Wilson and M. Flohr (eds.), *Urban craftsmen and traders in the Roman world*, Oxford, 2016, pp. 377-404.
- Rice 1987 = P. Rice, *Pottery analysis*, Chicago, 1987.
- Rotroff 1997 = S.I. Rotroff, *Hellenistic pottery: Athenian and imported wheel made table ware and related material (The Athenian Agora 29)*, Princeton NJ, 1997.
- Rotroff 2006 = S.I. Rotroff, *Hellenistic Pottery: The Plain Wares (The Athenian Agora 33)*, Princeton NJ, 2006.
- Rotroff and Oliver 2003 = S. Rotroff, A. Oliver, *The Hellenistic Pottery from Sardis: The Finds through 1994 (Archaeological exploration of Sardis, Monographs 12)*, Cambridge, 2003.
- Schäfer 1968 = J. Schäfer, *Hellenistische Keramik aus Pergamon (Pergamenische Forschungen 2)*, Berlin, 1968.
- Schmidt 1957 = E.F. Schmidt, *Persepolis*, Chicago IL, 1957.
- Stewart 2010 = S.M. Stewart, *Gordion After the Knot: Hellenistic Pottery and Culture*, Ph.D. Dissertation, University of Cincinnati, 2010.
- Stronach 1978 = D. Stronach, *Pasargadae: a report on the excavations conducted by the British Institute of Persian Studies from 1961 to 1963*, Oxford, 1978.
- Summerer et al. 2011 = L. Summerer, A. Ivantchik, A. Kienlin, *Kelainai-Apameia Kibotos: Développement urbain dans le contexte anatolie*, Bordeaux, 2011.
- Summers 1993 = G. Summers, *Archaeological Evidence for the Achaemenid Period in Eastern Turkey*, "Anatolian Studies" 43, pp. 85-108, <https://doi.org/10.2307/3642966>.
- Talloe and Poblome 2016 = P. Talloe and J. Poblome, *The 2014 and 2015 Control Excavations on and around the Upper Agora of Sagalassos*, "Anatolica", 42, 111-150.
- Toteva 2007 = G. Toteva, *Local Cultures of Late Achaemenid Anatolia*, Ph.D. Dissertation, University of Minnesota, 2007.
- van der Enden et al. 2014 = M. van der Enden, J. Poblome and P. Bes, *From Hellenistic to Roman Imperial in Pisidian tableware: The genesis of Sagalassos Red Slip Ware*, in H. Meyza and K. Domžalski (eds.), *Late Hellenistic to Mediaeval Fine wares of the Aegean Coast of Anatolia: Their production, imitation and use*, Warschau, 2014, pp. 81-93.
- Vanhaverbeke et al. 2010 = H. Vanhaverbeke, M. Waelkens, K. Vyncke, V. De Laet, S. Aydal, B. Mušič, B. De Cupere, J. Poblome, D. Braekmans, P. Degryse, E. Marinova, G. Verstraeten, W. Van Neer, B. Šlapšak, I. Medarič, H.A. Ekinci and M.O. Erbay, 'Pisidian' culture? *The Classical-Hellenistic site at Düzen Tepe near Sagalassos (southwest Turkey)*, "Anatolian Studies", 60, pp. 105-128, <https://doi.org/10.1017/S0066154600001046>
- Vermoere et al. 2001 = M. Vermoere, L. Vanhecke, M. Waelkens and E. Smets, *Modern pollen studies in the territory of Sagalassos (Southwest Turkey) and their use in the interpretation of a Late Holocene pollen diagram*, "Review of palaeobotany and palynology", 114/1, pp. 29-56.
- Yener-Marksteiner 2007 = B. Yener-Marksteiner, *Fundkeramik aus Sondage West 3 an der Ringmauer im Westbereich von Xanthos*, in S. Lemaître (ed.), *Céramiques antiques en Lycie: VIIIe s. a.C-VIIe s. p.C.: les produits et les marchés (Ausonius Etudes 16)*, Bordeaux, 2007, pp. 77-113.

THE POTTERY OF LATE ACHAEMENID SAGALASSOS: AN OVERVIEW

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Introduction

A long history of archaeological research by the Sagalassos Archaeological Research Project has resulted in significant understanding of the Roman imperial to early Byzantine phases of urban development at Sagalassos¹. Unfortunately, due to stratigraphical superposition and oftentimes large-scale and invasive building operations during the main phases of urban development, original and/or earlier structures, layers and archaeological material have remained largely beyond reach in the extant archaeological record. As a result, the early phases of the development of the original settlement at Sagalassos can never be explored systematically. In recent years, the project has executed a concerted research programme, combining targeted archaeological excavations with intensive material studies of the excavated pottery, in an explicit attempt to improve our understanding of the origin and initial development of Sagalassos, based on what little the archaeology of the site has on offer².

In this paper, some of the results of the recent material studies will be discussed. Most of the time it is quite difficult to differentiate between late Achaemenid and early Hellenistic (5th to 3rd centuries BCE) material. As a result both periods are generally grouped together during material studies.³ The aim of this paper is to present a small body of material that can be considered the oldest pottery sherds known from the archaeological site

1. e.g. Jacobs and Waelkens 2013.
2. e.g. Talloen and Poblome 2016.
3. A total of 722 of such sherds has been identified from both surveys and excavations.

of Sagalassos proper, unequivocally ascribed to the late Achaemenid period (late 5th – 4th centuries BCE) based on properties of fabric and typology. This material was found associated with excavated contexts from the later, Roman town, as well as forming part of surface materials found during intensive city survey (CS) campaigns, mainly from the southwestern parts of town (FIG. 1)⁴. The wider historical and archaeological implications of the presence of this material will not be considered here.

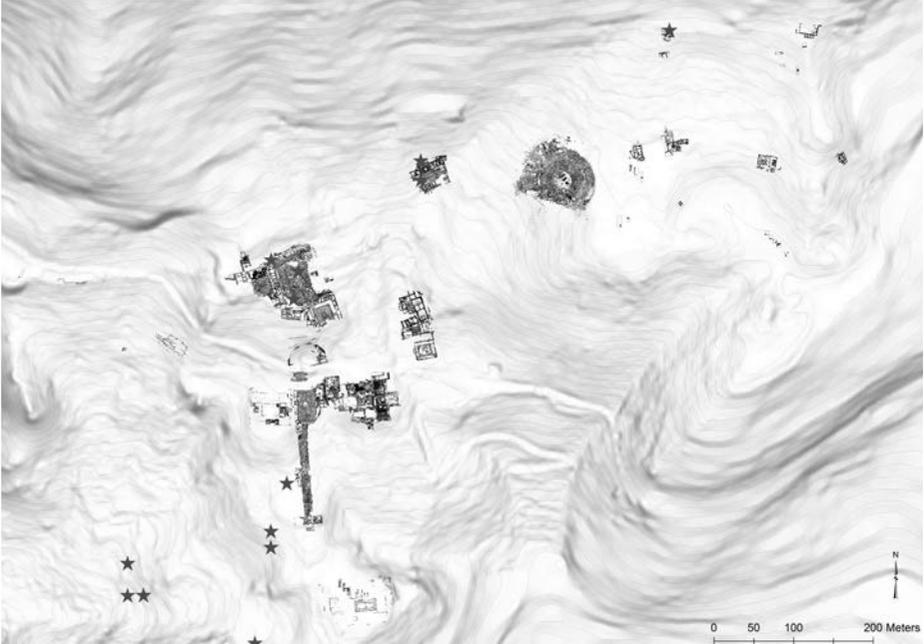


FIG. 1. Find locations of relevant contexts within the urban area of ancient Sagalassos.

Presenting pottery

An overview of the material under scrutiny (FIG. 2) can be found in Table 1. Insofar as it is possible we used type codes from the late Achaemenid-early Hellenistic pottery typology, recently constructed for the nearby settlement of Düzen Tepe.⁵

4. From 1990 to 2013, the fieldwork activities and research programme were directed by Marc Waelkens, and from 2014 onwards by Jeroen Poblome. For the intensive urban survey, see Martens 2005.
5. For the full typology, see Daems *et al.*, this issue.

TABLE 1. Overview of Achaemenid pottery sherds at Sagalassos.

	Locus	Context	Periodization context	Fabric	Type
1	SA-2002-CS-00078-1	Sector 26	Achaemenid + Roman	248	G110
2	SA-2004-CS-00051	Sector 27	Achaemenid + Hellenistic + Roman	247	Q250
3	SA-2004-CS-00090	Sector 40	Achaemenid + Hellenistic + Roman + Mid Byz.	248	Flat base jar
4	SA-2004-CS-00111	Sector 45	Achaemenid + Hellenistic + Roman + Post Byz.	248	Handle jar
5	SA-2004-CS-00111	Sector 45	Achaemenid + Hellenistic + Roman + Post Byz.	Common ware	H170
6	SA-2005-CS-00094-1	Sector 32	Achaemenid + Roman	Common ware	Flat wall/slab fragment with rounded knob
7	SA-2005-CS-00086	Sector 28	Achaemenid + Hellenistic + Roman + Mid Byz.	247	Jar with thickened rim flattened at outside and slight groove
8	SA-2005-CS-00086	Sector 28	Achaemenid + Hellenistic + Roman + Mid Byz.	247	Handle jar
9	SA-2005-CS-00086	Sector 28	Achaemenid + Hellenistic + Roman + Mid Byz.	247	Handle jar
10	SA-2005-CS-00086	Sector 28	Achaemenid + Hellenistic + Roman + Mid Byz.	247	Handle jar
11	SA-2005-CS-00102	Sector 30	Achaemenid + Roman	250	Handle jar
12	SA-1992-UA-00070	Upper Agora: topsoil sector IX	Topsoil	Fine fabric	Handle cooking pot
13	SA-2014-UA-00056-00052	Upper Agora: fill of water channel works	1st century CE + residual Achaemenid	Cookware	High standing ring
14	SA-2014-UA-00056-00052	Upper Agora: fill of water channel works	1st century CE + residual Achaemenid	249	Handle jar
15	SA-2014-UA-00056-00052	Upper Agora: fill of water channel works	1st century CE + residual Achaemenid	247	Base jar
16	SA-2014-UA-00070-00071	Upper Agora: construction trench honorific monument	2nd century BCE + residual Achaemenid	247	C170?
17	SA-2010-UAN-00045-00041	Upper Agora North: cultural fill in street substrate	1st century CE + residual Hellenistic and Achaemenid	248	Handle jar
18	SA-2011-F-00056-00067	Site F: foundation trench terrace wall	Achaemenid + early Hellenistic	Cookware	Q200
19	SA-2011-F-00056-00067	Site F: foundation trench terrace wall	Achaemenid + early Hellenistic	237	A120
20	SA-2011-F-00056-00067	Site F: foundation trench terrace wall	Achaemenid + early Hellenistic	250	Q200
21	SA-2011-F-00081-00098	Site F: foundation trench terrace wall	Hellenistic + residual Achaemenid	Common ware	Handle jar
22	SA 1996-N-54.2	Site N: underneath steps south of Library	Roman + residual Achaemenid	247	H111
23	SA-1994-L-00167	Site L: back wall Library sector LVII-LIX	(late) Hellenistic + residual Achaemenid	Common ware	H111



FIG. 2. Overview of some of the discussed material.

It must be noted that the full typological spectrum as reconstructed for the pottery studied at Düzen Tepe is not present in this assemblage. Clearly, jars (sherds 1-3-4-5-7-8-9-10-14-17-21-22-23) and cooking vessels (sherds 2-11-13-18-20) feature most prominently. Tableware is only exceptionally present (sherds 12 and 19). Two reasons can be suggested. First, tableware from this period is not easily distinguishable from comparable material from slightly later, due to similar diachronic practices of raw material usage from local sources. This is of course most relevant for material collected at the surface during survey campaigns, where an effective multi-chronic palimpsest emerges at the surface and no stratigraphic arguments can be applied. Secondly, for the excavated material, the very nature of the contexts wherein this material was found, might *a priori* be less likely to include tableware. We will return to this point.

A characteristic element of the pottery found at Sagalassos throughout its long-term history is the prominence of pottery production at the site itself.⁶ Likewise, most of the fabrics (FIG. 3) used for the material presented here

6. Neyt *et al.* 2012; Braekmans *et al.* 2016.

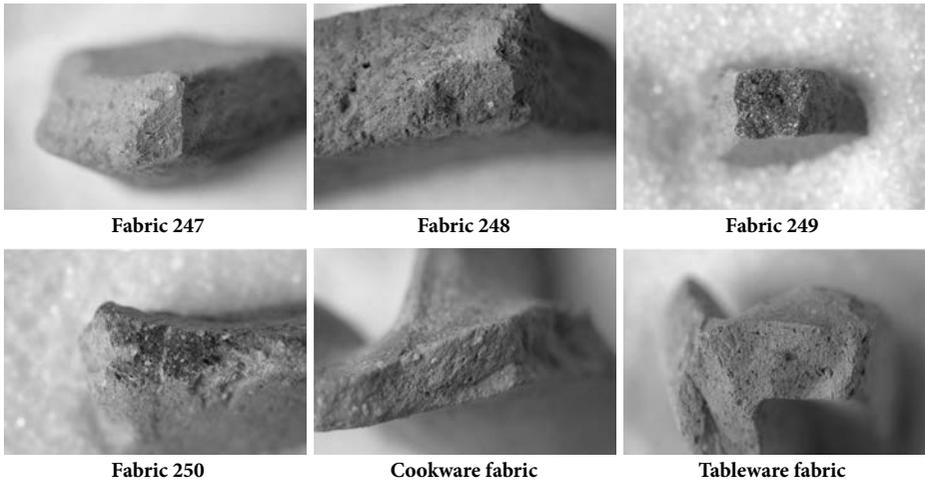


FIG. 3. Achaemenid pottery fabrics at Sagalassos.

were produced with locally procured materials.⁷ First off, are a range of fabrics that can generally be considered variations within the same range of common wares, produced with locally procured clay raw materials. These fabrics are denoted with fabric numbers 247-248-249. The overall difference mainly pertains to the general colour of sherds, both at the surface and core. Fabric 247 especially, is comparably easily identified due to its bright orange colour and overall more fine-grained texture. Sharp distinctions between fabrics 248 and 249 are somewhat more difficult to make, with the former showing a lighter shade of brown, whereas the latter entails a darker brown/greyish, sometimes up to shades of black colour. Fabric 249 also generally has more frequent inclusions. All three fabrics are quite soft and can be scratched by a fingernail, although harder ones do occur occasionally. The feel is rough to harsh, with an irregular and rough texture of the break. A moderate to abundant amount of medium to very coarse inclusions is present, generally poorly sorted. The most common inclusions are calcite (++), grog (++), quartz (+), feldspar (+), mica (+), lime (-), oxidized iron particles (-) and volcanic particles (-). Few indications of surface treatment can be observed, although occasionally traces of smoothening and/or dull finish can be observed.

7. For a more extensive discussion of the local productive landscape during late Achaemenid and early Hellenistic times, see Daems and Poblome 2016 and Daems *et al.*, this issue.

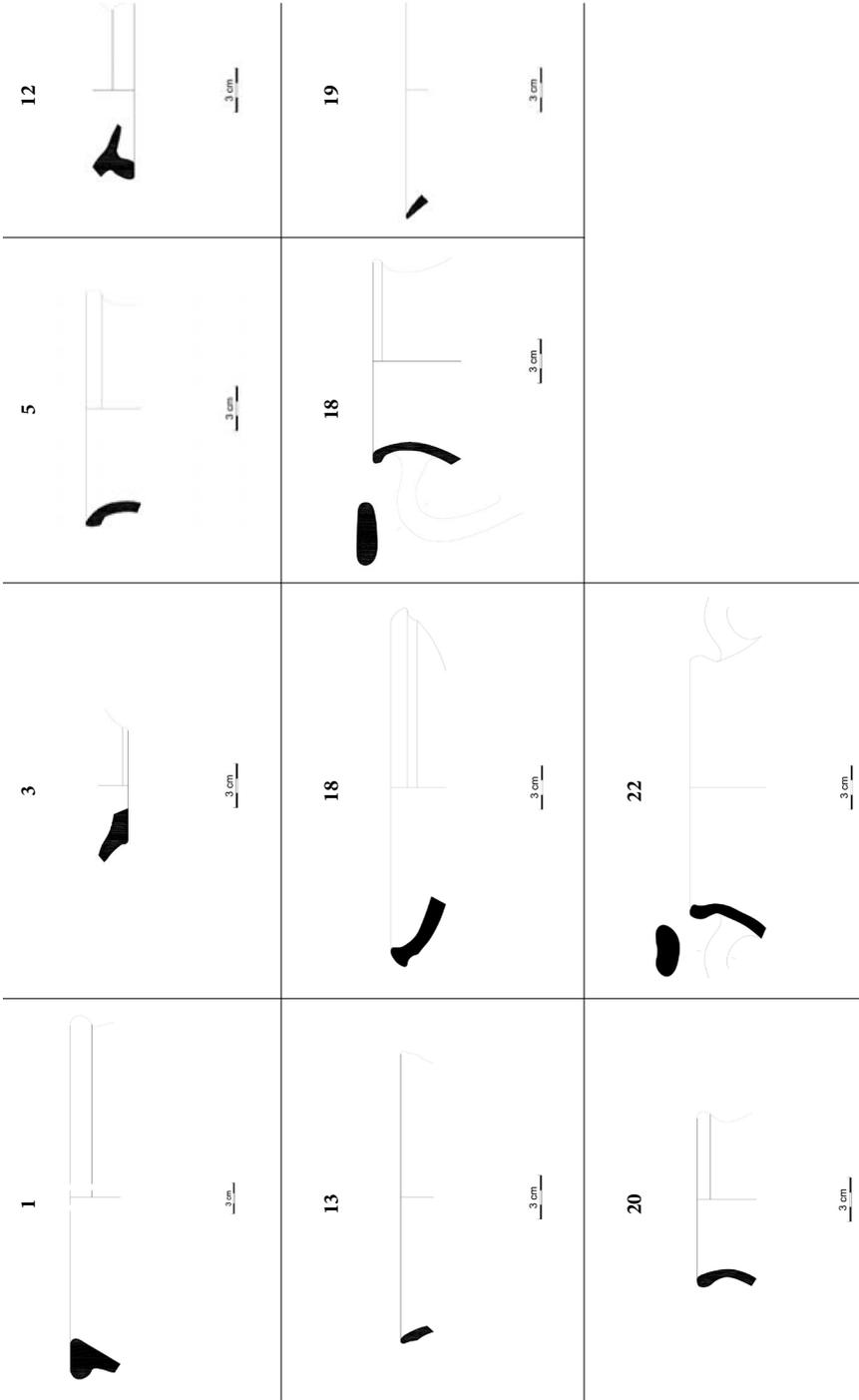


FIG. 4. Profile drawings of diagnostic material.

This range of common ware fabrics was encountered in sherds 1-4, 7-10, 14-17 and 22. Additionally, the fabric of sherd 23 looks very similar to some of the identified common wares (especially fabric 247) but seems altogether more rough and brittle with more and larger inclusions, as well as more elongated cracks and voids both on the surface and in the break. Perhaps this fragment can be seen as a slightly less well produced example of the same common ware range. As far as we can tell, functionally this fabric range covers mainly simple large jars with thickened everted rims (H111) and cooking vessels (Q200) with similarly thickened rims and large strap handles (FIG. 4). Two exceptions are sherd 1, which is a closed storage vessel or *pithos* with a flattened outward protruding rim (G110), and sherd 16, which is an open bowl with an out-turned, rounded and flattened rim (C171). Strikingly, in the latter case the forming technique is similar to its typological successors in Hellenistic times, when the upper part of the wall is stretched and flattened by the potter, resulting in a slightly thinned wall right underneath the rim. However, this example is considerably larger and thicker than most of its Hellenistic counterparts, resembling a heavier kind of dish encountered commonly in the region during the Archaic period.

A gritty black core ware (fabric 250) was identified during a diachronic provenance study of cookware and storage/transport vessels from Achaemenid to Middle Byzantine times. This distinctive fabric can be considered as a precursor to the later, Roman imperial fabric 4, as it was proven that these were part of the same production context, with clays derived from the central part of the Ağlasun valley.⁸ 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 more light brown hue (5 YR 7/10). The surface is generally quite rough but can occasionally be smoothed extensively. Its texture can be very dense and range from a quite fine-grained to rough matrix. The 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. In the sherds presented here it can be found in a rough horizontal attachment handle, possibly linked to some kind of storage vessel or cooking vessel (sherd 11) and in a rim fragment of a cooking pot found at Site F (sherd 20).

8. Neyt *et al.* 2012.



FIG. 5. Achaemenid bowl fragment.

One fragment (sherd 19) of an Achaemenid bowl was found (FIG. 5) made from the so-called buff tableware (fabric 237). This was a fully oxidized tableware, named after its systematic buff colouring (7.5YR 6/6). At Sagalassos, this fabric also appears in a paler shade of grey to buff colour. This fine fabric is somewhat powdery with mainly a few small calcite and feldspar inclusions less than 1 mm in size. Other, less frequently attested inclusions are small quartz and grog particles. Typically, the fabric has many small, rounded micro-pores, with occasionally larger pores present as well.

Finally, four sherds are included the fabric of which could not be conclusively identified. Possibly, these were imported from an external, hitherto unknown source, however this cannot be conclusively proven at this point.

A final word regarding fabrics is reserved for perhaps one of the most crucial aspects of most of the pottery under scrutiny here, the slip. John Hayes⁹ was a pioneer in describing the so-called colour-coated wares, a Hellenistic tradition of pottery characterised by a typical dull, semi-lustrous and mottled slip of variable colours, ranging from light brown to orange and reddish brown hues. For Sagalassos these kind of slips have been observed in a body of material related to the initial phase of urbanization dated to around 200 BCE¹⁰, as well as in a number of contexts with Hellenistic material dating to the 2nd and 1st centuries BCE¹¹. Interestingly, most of the sherds under scrutiny with traces of surface slips (sherds 1-10 and 17-21) do not adhere to this Hellenistic practice, but are instead situated within an earlier, pre-Hellenistic tradition of fat, sticky brown to reddish brown slips. Similar slips have for

9. Hayes 1991, pp. 23-31.

10. Talloen and Poblome 2016; Daems *et al.*, in preparation.

11. Poblome *et al.* 2013, pp. 128-30.

example also been found at the nearby late Achaemenid-early Hellenistic settlement of Düzen Tepe (FIG. 6).



FIG. 6. Pre-Hellenistic slip tradition at Sagalassos and Düzen Tepe.

The material presented here can therefore be described as (late) Achaemenid pottery. This is not to say we suppose that a distinct Persian/Achaemenid identity should be deduced from this material. On the contrary, it has been argued that the locally produced material culture at this time should rather be seen as distinctly and consciously geared towards an Anatolian template of material culture production and consumption.¹² A similar reasoning can be applied to this material. We therefore merely refer here to a chronological framework, to be situated, possibly, from the late 5th century BCE onwards, but mainly from the early fourth century.

Framing pottery

Two main groups of archaeological contexts can be discerned – resulting from survey and excavation activities. The individual intensive survey grids where relevant material was collected will not be considered in too much

12. See other contributions in this issue.

detail here as these generally determine palimpsest or collated chronological conditions on the material. Therefore, in the fourth column of Table 1 we listed the general periodization of the survey material found in that specific grid, rather than providing a specific chronological bracket as with the excavation material.

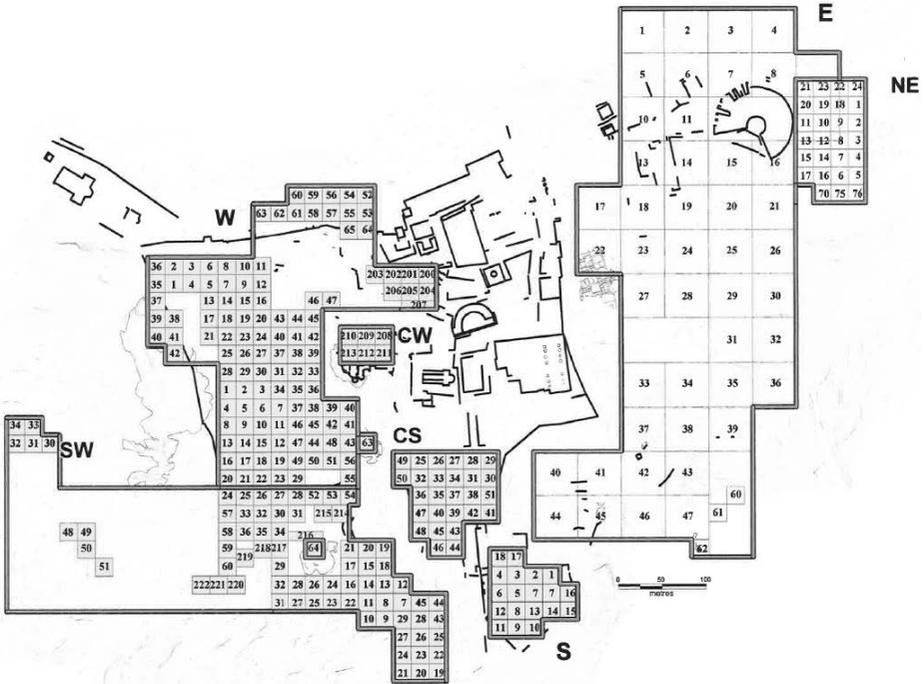


FIG. 7. City survey grids between 1999 and 2005 (image provided by Femke Martens).

The general location of the relevant survey sectors requires some comment, however. The city survey programme of Sagalassos, coordinated by Femke Martens, was conducted between 1999 and 2005 with the general aim of trying to understand the overall urban development of Sagalassos, complementary to the specific localized image provided by the different excavations across the archaeological site.¹³ After some initial methodological try-outs, a system of 20x20 m grids with walker distance of 2 m was applied across the entire occupied area of the Roman/Byzantine town alongside the monumental city centre (FIG. 7). The oldest material found during the city survey appeared fairly clustered towards the southwestern area of the later,

13. Martens 2005; Martens *et al.* 2012.

Roman imperial settlement. Several reasons can be suggested to explain this observation. For example, the degree of intensity of later habitation could have been lower in this general area, resulting in less disruptive processes perturbing older material remains. Another possibility is that this strongly sloping area was subject to more erosion processes, especially upon the collapse of the original terraces, removing the younger layer and revealing older deposits of material.¹⁴ While the effects of such processes cannot be entirely disregarded, we should still wonder why this significant effect is only observable in this southwestern area, and not in other, equally strong sloping areas of the former settlement. Most likely, the answer lies, as it so often does, somewhere in the middle, with less intensive post-deposition disturbances and certain erosive processes in a less monumentalized part of the site, resulting in a higher probability of older material remains to be found at the surface. Still, such probabilities can only manifest themselves if the material was there in the first place. So, although later occupation phases have destroyed virtually all architectural remains of the earliest phases of settlement, it can be suggested on the basis of the intensive urban survey results, that (one of) the oldest core(s) of habitation might have been situated in this general area of Sagalassos.

However, this is not the full picture. Although the survey material seems clearly clustered within the southwestern area, the excavation material tells a somewhat different story. As we generally have no *in situ* pottery from the late Achaemenid period, most sherds were encountered as residual material in younger deposits. Interestingly, these contexts were found widely distributed throughout the general area covered by the later phases of the town. This includes finds on and around the (later) Upper Agora in the city centre, to the south and north of the later Neon Library in the eastern parts of town, as well as at Site F in what would become the Eastern necropolis.

The contexts from the Upper Agora and Site F are particularly interesting. Control excavations were laid at the Upper Agora, *inter alia* to uncover the nature of a large anomaly identified during previous geophysical research by a team from the University of Ljubljana coordinated by Branko Mušič.¹⁵ The anomaly in fact turned out to result from a large clay quarry. Pottery associated with the fill of the quarry in order to accommodate the construction of the original public square at this location was dated to around 200 BCE. The sherds datable to the Achaemenid period discussed here were found as residual material in this fill. Clay quarrying during this early period was

14. Martens *et al.* 2008, pp. 130-133; personal communication with Femke Martens.

15. Talloen and Poblome 2016.

also attested at the later Eastern Suburbium of Sagalassos.¹⁶ Core drills at the central depression of the Eastern Suburbium indicated the presence of a palaeosol layer which had developed on top of a quarrying phase, that could be dated to 370-200 BCE¹⁷, providing a *terminus ante quem* for the quarrying activities. The development of the palaeosol was linked to soil accumulation due to deforestation of the higher slopes. Clearing the area of its cover vegetation might be related to preparation of these lands for agricultural production. This suggestion is supported by the evidence from a series of terrace walls excavated in 2011 at Site F.¹⁸ In the fill of the trench supporting one of these terrace walls, some of the oldest *in situ* stratigraphical contexts at the site were found, associated with sherds 18-21 of the material presented here. This wall was probably constructed to allow the area to be cultivated in order to supply the early community.¹⁹ We can conclude that both agriculture and clay quarrying were important activities for the original community at Sagalassos during late Achaemenid times. The very nature of these contexts related to agriculture and clay quarrying could possibly have had implications for the nature of the material culture associated with these, in which the representation of fine tableware is perhaps somewhat less likely.

Conclusions

In this paper, we presented a small body of pottery, which can be unequivocally linked to the earliest phase of occupation and community organisation at the archaeological site of Sagalassos. Based on arguments related to typological and fabric features, this material can be securely placed in a pre-Hellenistic tradition and is to be situated during late Achaemenid times (late 5th - 4th centuries BCE), mainly based on comparable material at the nearby site of Düzen Tepe. The interpretation of the pottery assemblage presented here is one of a largely utilitarian, generic functional nature. We mainly encounter storage vessels, *i.e.* jars and a *pithos*, and cooking pots, with only few attestations of tablewares. We have noted however that the very nature of the contexts in which the material was found, might *a priori* bias our sample against the wide representation of such tableware vessels. The limited amounts of available material do not allow any grand conclusions to be drawn from these observations. Still, it is interesting to note that for whatever reason, be it habitation, agriculture, or resource exploita-

16. Degryse *et al.* 2003.

17. Vermoere *et al.* 2003.

18. Claeys 2016.

19. Claeys 2016, pp. 76-7.

tion, a relatively large area was already connected and frequented, even at this early stage of site and/or community development, ranging from the outer southwestern point of the later settlement up to the eastern outskirts of town in the later Eastern Suburbium. We assume that this area was not nearly as densely occupied and intensively used when compared to later, Hellenistic and especially Roman imperial times. However, it is clear that even in the later Achaemenid period the local community made effective use of the space (and natural water sources?) that was available to them in order to sustain a range of activities and community dynamics.

Acknowledgements

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References

- Braekmans *et al.* 2017 = D. Braekmans, P. Degryse, B. Neyt, M. Waelkens, J. Poblome, *Reconstructing Regional Trajectories: the Provenance and Distribution of Archaic to Hellenistic Ceramics in Central Pisidia (South-west Turkey)*, “*Archaeometry*”, pp. 59/3, pp. 472-492, <https://doi.org/10.1111/arc.12259>.
- Claeys 2016 = J. Claeys, *The Eastern Suburbs of Sagalassos. A Chronological, Functional and Socio-Economical Study of an almost Unknown Antique Urban Phenomenon*. Unpublished Ph.D. Dissertation, University of Leuven.
- Daems and Poblome 2016 = D. Daems, J. Poblome, *Adaptive Cycles in Communities and Landscapes: The Case of Sagalassos and Düzen Tepe During the Classical/Hellenistic Period*, “*Archaeological Review from Cambridge*”, 31-2, pp. 91-107.
- Daems *et al.*, in preparation = D. Daems, M. van der Enden, J. Poblome, *The Hellenistic Pottery Repertoire made at Sagalassos. IARPotHP 2nd Conference Lyon 2015 (Conference Proceedings)*, in preparation.
- Degryse *et al.* 2003 = P. Degryse, J. Poblome, K. Donners, J. Deckers, M. Waelkens, *Geoarchaeological Investigations of the “potters’ Quarter” at Sagalassos, Southwest Turkey*, “*Geoarchaeology*”, 18/2, pp. 255-81, <https://doi.org/10.1002/gea.10060>.
- Hayes 1991 = J.W. Hayes, *Paphos III: The Hellenistic and Roman Pottery*, Nicosia, 1991.
- Jacobs and Waelkens 2013 = I. Jacobs, M. Waelkens, *Five centuries of glory. The Colonnaded Street of Sagalassos in the first and the sixth century AD*, “*Istanbuler Mitteilungen*”, 63, pp. 219-266.
- Martens 2005 = F. Martens, *The Archaeological Urban Survey of Sagalassos (South-West Turkey): The Possibilities and Limitations of Surveying a “Non-Typical” Classical*

- Site, "Oxford Journal of Archaeology" 24/3, pp. 229-54, <https://doi.org/10.1111/j.1468-0092.2005.00234.x>.
- Martens *et al.* 2008 = F. Martens, H. Vanhaverbeke, M. Waelkens, *Town and suburbium at Sagalassos. An interaction investigated through survey*, in H. Vanhaverbeke, J. Poblome, F. Vermeulen, M. Waelkens and R. Brulet (eds.), *Thinking about Space. The potential of surface survey and contextual analysis in the definition of space in Roman times (Studies in Eastern Mediterranean Archaeology 8)*, Turnhout, 2008, pp. 127-149.
- Martens *et al.* 2012 = F. Martens, B. Mušič, J. Poblome, M. Waelkens, *The Integrated Urban Survey at Sagalassos*, in F. Vermeulen, G.-J. Burgers, S. Keay and C. Corsi (eds.), *Urban Landscape Survey in Italy and the Mediterranean*, Oxford, 2012, pp. 84-93.
- Neyt *et al.* 2012 = B. Neyt, D. Braekmans, J. Poblome, J. Elsen, M. Waelkens, P. Degryse, *Long-Term Clay Raw Material Selection and Use in the Region of Classical/Hellenistic to Early Byzantine Sagalassos (SW Turkey)*, "Journal of Archaeological Science", 39/5, pp. 1296-1305, <https://doi.org/10.1016/j.jas.2012.01.005>.
- Poblome *et al.* 2013 = J. Poblome, D. Braekmans, B. Mušič, M. Van Der Eenden, B. Neyt, B. De Graeve, P. Degryse, *A pottery kiln underneath the Odeon of ancient Sagalassos, SW Turkey. The excavation results, the table wares and their archaeometrical analysis*, in N. Fenn and C. Römer-Strehl (eds.), *Networks in the Hellenistic World according to the pottery in the Eastern Mediterranean and Beyond (BAR International Series 2539)*, Oxford, 2013, pp. 193-204.
- Talloon and Poblome 2016 = P. Talloon, J. Poblome, *The 2014 and 2015 Control Excavations on and around the Upper Agora of Sagalassos*, "Anatolica", 42, pp. 111-150.
- Vermoere *et al.* 2003 = M. Vermoere, S. Six, J. Poblome, P. Degryse, E. Paulissen, M. Waelkens, E. Smets, *Pollen Sequences from the City of Sagalassos (Pisidia, Southwest Turkey)*, "Anatolian Studies", 53, pp. 161-73, <https://doi.org/10.2307/3643093>.

A TASTE OF TIME

FOODWAYS AND CULTURAL PRACTICES IN LATE ACHAEMENID-EARLY HELLENISTIC DÜZEN TEPE (SW ANATOLIA)

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Introduction

Food studies traditionally play an important role in archaeology, especially in discussing the production and subsistence value of foods. During the last two decades, mostly postmodernist discussions of food consumption and its social and cultural dimensions were *en vogue* in archaeology¹, history² and social sciences³ alike.

In this paper, we contribute to this body of research by examining the food practices and foodways at the late Achaemenid-early Hellenistic site of Düzen Tepe (SW Anatolia). Düzen Tepe is located 1.8 km to the South-West of the archaeological site of Sagalassos, and both sites formed part of the ancient region of Pisidia, in the Western Taurus mountains. The settlement of Düzen Tepe is situated on two promontories of a combined *c.* 50 ha, situated at an altitude of 1400 and 1450 above sea-level⁴ (FIG. 1). Based on the ceramic evidence, corroborated by numismatics and radiocarbon dating, the period of occupation of Düzen Tepe was dated between the later 5th and 2nd

1. Parker Pearson 2003, pp. 2-3.
2. Scholliers 2012, pp. 17-41
3. Albala 2014, pp. xv-xvi
4. Vanhaverbeke *et al.* 2010, pp. 105-106; Vyncke *et al.* 2011, p. 2275.

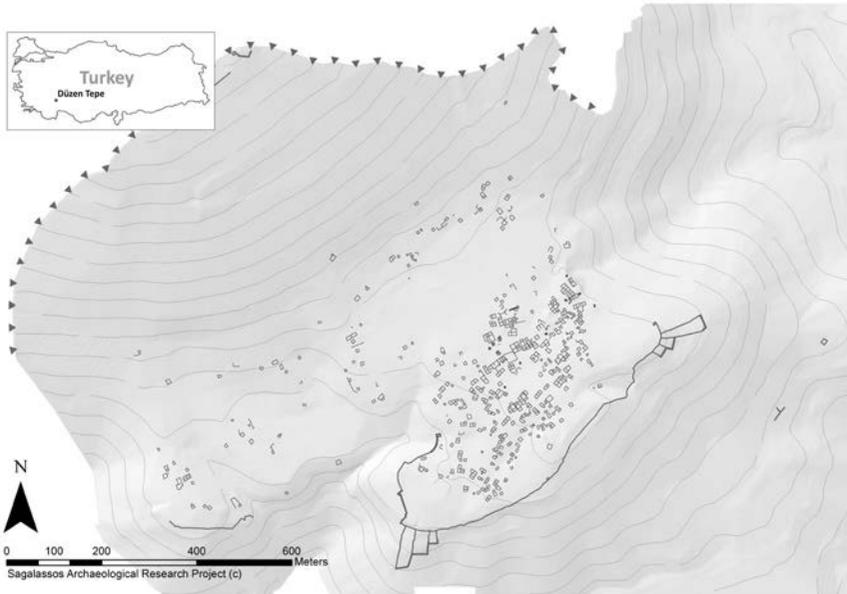


FIG. 1. Map of Düzen Tepe in Pisidia (SW Anatolia), based on different survey techniques. Mapping by S. Aydal and H. Vanhaverbeke.

centuries BC.⁵ Following a political framework of periodization relevant for an Anatolian context, the site was inhabited during the Achaemenid (546-333 BC) and Hellenistic (333-25 BC) periods.⁶ Its location in relative proximity to the Pamphylian coastal zone showing many Greek influences, and to the Achaemenid centres in Anatolia makes Düzen Tepe an excellent case study to examine cultural influences in its foodways.

Düzen Tepe was discovered by the Sagalassos Archaeological Research Project, then directed by Marc Waelkens and multi-disciplinary surveying campaigns coordinated by Hannelore Vanhaverbeke in 2005 and 2006, followed by excavations between 2006 and 2011, coordinated by Hannelore Vanhaverbeke and Kim Vyncke.⁷ Apart from approaching the settlement as such, this programme focused on a large housing unit, dubbed the ‘courtyard building’, the local defence system, a bakery, a potter’s workshop and one presumed public building – the so-called ‘big building’.⁸ The excavations, mate-

5. Vanhaverbeke *et al.* 2010, pp. 118-119; Waelkens *et al.* 2011, 30-31; Poblome *et al.* 2013b, 531; Daems *et al.*, this issue.
6. Following the chronology in Marek 2010, pp. 865-869.
7. Vanhaverbeke *et al.* 2010, pp. 106-110.
8. Vyncke 2013.

rial and interdisciplinary studies provided extensive datasets which make it possible to make a detailed reconstruction of the diet and food practices, as will be done in this paper.

In order to approach cultural practices through the study of ancient diets, three premises need to be considered: 1) that food consumption has a symbolic meaning next to its utilitarian function, 2) that eating practices are varied enough to recognize differences in meaning and 3) that foodways show themselves in material culture and can be linked with specific traditions. As Barry W. Higman argues in his study on *'How Food Made History'*⁹, not all edible food products which are present in our environs are necessarily consumed, setting the first premise. Elizabeth Reitz and Elizabeth Wing¹⁰ make a similar distinction between 'menus', defined as all the foods present for a specific population and which are safe to eat, and 'diet', which are these foods effectively eaten by the community. All different plant and animal species go through a process of cultural, social and political negotiation, in which specific choices are made. Food consumption, therefore, serves as a mirror of society, dependent on many different aspects such as gender, age, social status and cultural identity, resulting in gendered cuisines, class-consumption and national kitchens among other things.¹¹ Food, as a consumer good, can therefore reflect the cultural practices in a society or community.¹² The second premise is partly detailed by Claude Fischler,¹³ who introduced the term 'the omnivores paradox'. As *Homo sapiens* are omnivores, they have the freedom to choose what to eat, but are constrained in this freedom by the fact that we cannot survive on a single source of food, as specialized eaters do. For studies in cultural practices, this concept implies that our species is compelled on a daily basis to make choices related to their food intake. Additionally, humans are not only forced to consume different foods, but also to prepare them in a variety of ways. As pointed out by Richard Wrangham in his book *'Catching Fire. How Cooking Made us Human'*,¹⁴ *Homo sapiens* need so much energy for their brain, that the digestion of raw foods would compete with the energy supply of the brain. Humans thus preferably need to cook most of their food-stuffs, before consuming them.¹⁵ Therefore, these biological factors, forcing us to eat a broad variety of foods and the need of preparing these, raise the amount of choices that need to be made in human food practices. Moreover,

9. Higman 2011, p. 3.

10. Reitz and Wing 1999, p. 239.

11. E.g. Ashley *et al.* 2004; Counihan 1999.

12. Bourdieu 1984; Miller 1987; Warde 1997.

13. Fischler 1988, pp. 275-291.

14. Wrangham 2009; see also Aiello and Wheeler 1995, pp. 199-221; Aiello 2007, pp. 17-29.

15. Wrangham 2009, pp. 55-77.

food practices are often materialized in a broad range of objects, ranging from cooking pots to drinking cups, and from furnaces to milling stones.¹⁶ This material culture is not only linked in more or less direct ways to which foods were consumed,¹⁷ but is often considered to form part of specific traditions and practices (i.e. cuisine) too.¹⁸ One way or the other food practices are embedded within social and cultural frameworks, which can be made visible through material culture.

Building on the above-mentioned premises, this paper aims at reconstructing food practices at the late Achaemenid-early Hellenistic site of Düzen Tepe. Meals, however, cannot be studied directly – as is the case with a fibula, an urn or a building – because these are eaten, digested and excreted.¹⁹ Instead, archaeologists are forced to study meals through their waste products and/or the tools used in producing, preparing, serving and consuming these. This paper will focus on two specific consumption practices, the wining and the dining at Düzen Tepe, using an interdisciplinary approach. First, practices of drinking will be looked in to, with a specific focus on wine consumption. In a paper on the archaeology and anthropology of alcohol consumption, Michael Dietler²⁰ wrote that “the consumption of alcohol is usually enveloped by a set of cultural rules and beliefs that is even more emotionally charged than with other foods and drinks,” which makes the study of wine drinking interesting for approaching cultural practices. For the purpose of this paper, ceramological, archaeobotanical and palynological evidence will be considered for documenting wining practices. As for dining, an evaluation is made of the faunal and botanical consumption waste and of the material culture related to the preparation and consumption of foods, to reconstruct the general food consumption and foodways of the inhabitants of Düzen Tepe. By reconstructing the everyday fare, a better understanding of the local community and some of its cultural practices can be obtained.

Wining

In his well-known book ‘*Ancient wine. The Search for the Origins of Viniculture*’, Patrick McGovern, traced wine culture back to Neolithic times and studied

16. Bergier 1998, p. 3; in case of ceramics: Sinopoli 1991, p. 122; also see Rice 1987, pp. 208-210; Mills 1999, p. 100; Orton 2005, p. 217.

17. Urem-Kotsou and Kotsakis 2007, p. 226.

18. *Ibidem*; Dusinberre 2013, p. 125.

19. Caple 2006, pp. 16-17.

20. Dietler 2006, p. 232.

the further spread throughout the ancient world.²¹ In the Persian and Greek worlds too, wine consumption was a common practice and by far the most popular alcoholic beverage in most Mediterranean cultures in antiquity. Is this also true for a small-scale Pisidian community such as Düzen Tepe?

THE ARCHAEOBOTANICAL REMAINS

During the Düzen Tepe excavations, 515 identifiable charred plant remains were found in 36 samples with a total volume of 876 litres of floated sediment. After cereal grains (55% of the assemblage) and pulses (16%), remains of *Vitis vinera* were the most abundant (n=42, 8%; FIG. 2). The grape remains consisted of pips, fragments of charred pulp with attached skin and few stalks. No specific concentrations of grape were found, but here it should be mentioned that due to the specific deposition conditions of the site and poor preservation, no accidentally charred layers with concentrations of plant remains were preserved and the average concentration of plant remains, c. 1-1.5 identifiable items per litre, is very low. The remains were found distributed in all excavated areas of the site and this frequent occurrence is indicative for the relative importance of the grape for the economy of the site. This fact should be considered also in the light of the rather poor preservation of charred plant remains at the site and the strong fragmentation of the plant material. Therefore, such relatively large quantities of *Vitis vinera* provide evidence

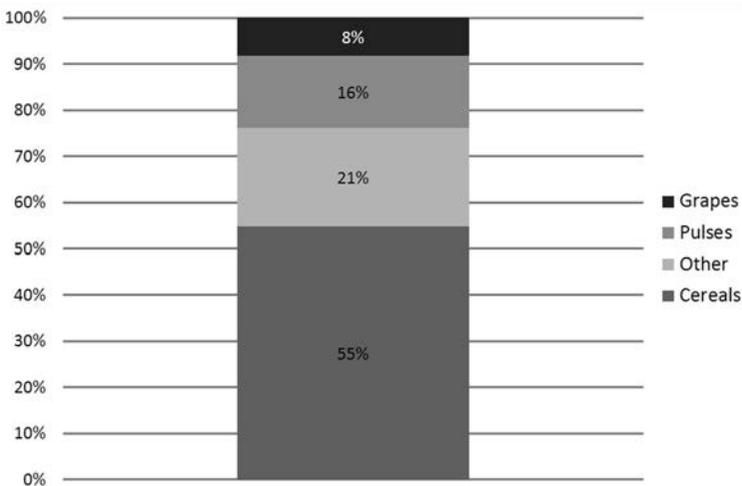


FIG. 2. Graph of the identified archaeobotanical remains from Düzen Tepe.

21. McGovern 2003.

for the cultivation and processing of grapevines in late Achaemenid-early Hellenistic times in (the neighbourhood of) Düzen Tepe. The cultivation of vine has also been attested in the palynological evidence. The pollen core G99 from Gravgaz, a marshy area located c. 25 km southwest of Düzen Tepe, dated the appearance of viticulture between 390-365 calBC and 89 calBC-5 calAD (subzone G-2a).²² The pollen of *Vitis vinera* represented only 0.3% of the total sample, but since grapevine is a self-pollinating plant, this was considered a large percentage.²³ In the pollen core taken in the later, Eastern Suburbium of Sagalassos (PQo1), the Hellenistic zone (zone 1) contained up to 2% of *Vitis vinera* pollen.²⁴ Marleen Vermoere argued that the pollen core from the Eastern Suburbium was only representative for a radius of 500 meters.²⁵ Therefore, neither these results nor those of the Gravgaz core can be extrapolated to Düzen Tepe. Nevertheless, the presence of viticulture in the environs of this archaeological site, as well as the regular and frequent occurrence of grape remains in the excavation contexts indicate that vine products were consumed and processed on site.

The presence of grapes and derivatives having been attested at Düzen Tepe and its environs, their use needs discussing. In general, grapes can be used for the production of wine or they can be consumed in fresh or dried – raisins – state.²⁶ The leaves are edible too and today continue to be an ingredient in Turkish dishes such as *dolma*. Kim Vyncke, in her doctoral dissertation on Düzen Tepe, interpreted the relatively large quantities of grape remains as the result of local wine production.²⁷ Yet, when the state of the remains is compared with the experimental paper of Evi Margaritis and Martin Jones²⁸ this interpretation seems incorrect. Indeed, the majority of grape remains consisted of grape stones (30 out of 42) and were found distributed over the different excavations, which is consistent with interpretation C of Margaritis and Jones, stating that: “If small quantities of grape pips are found loose, they probably represent the by-products of eating whole grapes or raisins.”²⁹ Nevertheless, the presence of 12 pulp parts of the grapes as well as some grape peduncles suggests the use of waste products of the process of wine

22. Bakker *et al.* 2012, pp. 253-259; Vermoere *et al.* 2002, pp. 578-579; Vermoere 2004, p. 133, pp. 136-139; Vermoere *et al.* 2000, pp. 580-589; Vermoere *et al.* 2001, 37, pp. 54-55.
23. Vermoere 2004, p. 138.
24. *Ibidem*, pp. 180-187.
25. *Ibidem*, pp. 171-173.
26. Wilkins and Hill 2006, pp. 166-184; Margaritis and Jones 2006, p. 784; Curtis 2001, pp. 294-295; Brothwell and Brothwell 1969, pp. 146-147.
27. Vyncke 2013, p. 226.
28. Margaritis and Jones 2006, pp. 784-805.
29. *Ibidem*, p. 800.

making or wine must as fuel or fertilizer.³⁰ Given the bad preservation of plant remains at Düzen Tepe and the taphonomic processes at the site, larger quantities of these pulp parts must have entered the archaeological record than are represented in the excavated assemblage. Therefore, these finds suggest that grapes were important for the economy of the site and it cannot be excluded that it was utilized for wine production.

THE CERAMICS

One of the characteristic pottery types related to wine consumption during the discussed time frame was the so-called Achaemenid bowl (A120; FIG. 3).³¹ Elspeth R.M. Dusinberre, in her study of these drinking vessels at ancient Sardis, defined the Achaemenid bowl as having “a shallow body and a small base, sometimes flat and sometimes with an omphalos (...) An everted rim rises from a carination that may be more or less well defined.”³² A similar definition was given by Sedef Çokay-Kepçe and Matthias Recke studying the Hellenistic ceramic material in a 2nd century BC *bothros* at Perge in the neighbouring region of Pamphylia: “The Achaemenid bowl itself

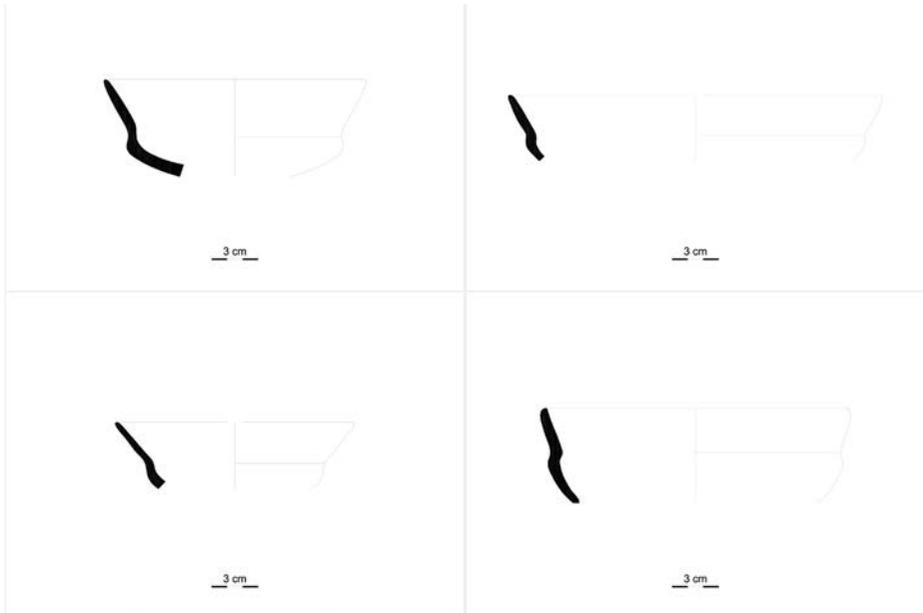


FIG. 3. Collection of some Achaemenid bowls from Düzen Tepe.

30. *Ibidem*, pp. 799-800.

31. For a detailed description of the ceramic typology, see Daems *et al.*, this issue.

32. Dusinberre 1999, p. 76; 2003, p. 176.

has a narrow body and an everted rim, which makes a groove on the junction with the emphasized shoulder.”³³ Both descriptions are consistent with some of the bowls found at Düzen Tepe. So far, 11% of the ceramic material was identified as fragmented Achaemenid bowls.³⁴ The fabrics used for these vessels belonged mainly to a range of finer wares.³⁵ The majority of the attested fragments consisted of locally produced fabrics, mainly buff wares (Fabric 237) and occasionally orange-red fabrics (Fabric 239). One fragment was made from a coarser common ware (Fabric 227). Additionally, a small number of fragments were found produced with specifically selected clays collected from the North-Western parts of the nearby Çanaklı valley (Fabric 11), at around 5 km from Düzen Tepe. Finally, a few fragments were found imported from a more distant, hitherto unknown source.

Ceramic Achaemenid bowls are published from sites such as Perge,³⁶ Sardis,³⁷ Kelainai,³⁸ Gordion,³⁹ Kale Tepe,⁴⁰ Seyitömer Höyük,⁴¹ Persepolis,⁴² and Pasargadae.⁴³ The majority of Achaemenid bowls in the Düzen Tepe assemblage are characterized by straight flaring collars, with only a few exceptions having a curved collar. Furthermore, most of the Düzen Tepe examples range between 12 and 23cm in diameter, and can be characterized as shallow, while some bowls with a smaller diameter are deeper. The difference in shape can possibly be explained in chronological terms – in parallel with those from Sardis⁴⁴ – rather than by cultural choice. As the broad range of published Achaemenid bowls indicates, this vessel was quite common throughout Achaemenid Anatolia. The Achaemenid bowl continued to be used in later Hellenistic Sagalassos⁴⁵ in its own Hellenistic tableware (Fabric 11).⁴⁶ These clays would come to be used systematically in Hellenistic and Roman imperial Sagalassos for the production of tablewares.⁴⁷ In Roman imperial times,

33. Çokay-Kepçe and Recke 2007, p. 84.

34. Material studies of pottery from Düzen Tepe identified 97 possible fragments of Achaemenid bowls on a total of 835 diagnostic sherds, roughly 11% of the total study assemblage, that could be linked to a minimum number of 35 distinct bowls.

35. Daems *et al.*, this issue.

36. Çokay-Kepçe and Recke 2007.

37. Dusinger 1999; 2003, pp. 172-195.

38. Summerer *et al.* 2011, Pl. 3, nr. 26 a-b; Lungu 2016.

39. Stewart 2010, Fig. 26A.

40. Hürmüzlü *et al.* 2009, Fig. 10.

41. Coşkun 2011, Fig. I-II-III.

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

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

44. Dusinger 1999, pp. 91-92.

45. Poblome *et al.* 2013a, p. 199.

46. Daems and Poblome, this issue.

47. Neyt *et al.* 2012.

when Sagalassos Red Slip Ware (SRSW) was launched, this bowl is still represented as type 1A120,⁴⁸ as one of the latest examples of Achaemenid bowls remaining in production, until the 2nd century AD.

In general, Achaemenid bowls are thought to have been wine drinking cups,⁴⁹ although other beverages such as water, milk or beer could have been drunk out of these as well.⁵⁰ According to Xenophon (*Cyr.* 1.3.8) Achaemenid bowls were filled with wine and rested on three fingers, a practice which is iconographically attested in Achaemenid Anatolia.⁵¹ The Persian tradition of wine consumption is different from the Greek *symposion*, where wine was drunk from a *kalyx* or *skyphos*, cups with a handle and a flat or ring base, which allowed the cup to be placed back on the table. Another difference between Greek and Persian wine consumption was that Persian palm or grape wine was not diluted with water, as was the Greek custom.⁵² This was mentioned by Aristophanes (*Acharneis* 72-73): “And those pitiless Persian hosts! They compelled us to drink sweet wine, wine without water, from gold and glass cups.” Aristophanes mentioned glass and gold cups, as did other classical authors.⁵³ In fact, ceramic bowls, such as the ones found at Düzen Tepe, are a skeuomorphic emulation of precious metal prototypes, which were mainly found in the political centres of Persian rule.⁵⁴ Dusinberre concluded, based on the morphological standardization of the Achaemenid bowls at Sardis and the similarities in iconographic representations of wine drinking in Achaemenid Anatolia, that, within this part of the Persian empire, the traditions in wine consumption were very congruent.⁵⁵

The Greek and Lydian tradition of mixing wine with water resulted in the frequent occurrence of mixing vessels, such as *kraters*, in the material record throughout the Greek world. For Düzen Tepe two possible fragments of large basins/*kraters* were identified, one made from a fine Çanaklı fabric (Fabric 11), and one tentatively identified in a common ware fabric (Fabric 232; FIG. 4). The presence of one or two possible *kraters* should not necessarily imply the consumption of diluted wine: these mixing bowls could also have served to temper the wine with spices and herbs. The pres-

48. Poblome 1999, p. 304.

49. Dusinberre 2003, p. 132; Çokay-Kepçe and Recke 2007, pp. 86-87.

50. Dusinberre 1999, p. 96.

51. Miller 2011, pp. 97-120.

52. Laudan 2013, pp. 63 and 69.

53. Herodotos, *Hist.* VII .190 and IX.80; Xenophon, *Cyr.* V.2.7; *Anab.* IV.2.27 and IV.4.21.

54. Simpson 2005, pp. 104-108; Dusinberre 2013, pp. 128-136.

55. Dusinberre 2013, pp. 139-140; see also Miller 2011, pp. 97-120 for the iconography of wine drinking.



FIG. 4. Handle of one of the *kraters*/basins.

ence of just two fragments at any rate indicates that mixing practices of any kind were in general not very common. Moreover, these basins could have served completely different purposes.

When it comes to serving wares, such as jugs, the majority of the material is characterized by simple rims, slightly thickened and everted to facilitate the pouring of liquids. A clear distinction can be made between vessels with a narrow opening (H100/110; *c.* 8% of the ceramic material), probably intended for serving more precious liquids such as wine, and those with broader necks (H101/111; *c.* 8.5%) likely used for serving water. In addition to the variety of jugs with fairly simple rims, some more distinct types can be recognized. One of those is the jug with trefoil-shaped rim (H102/122), of which only 5 examples were recorded at Düzen Tepe (FIG. 5). This type is characterized by an S-curved profile and cloverleaf-shaped mouth. The ceramic versions are believed to have resulted from skeuomorphism of metal prototypes. Both in the Persian east and the Greek west, trefoil jugs appeared around the 5th century BC and continued to exist in Athens into the late 2nd to early 1st century BC.⁵⁶

Equally interesting as the pottery types present at Düzen Tepe are those that remained absent. First, there is a lack of Greek world drinking cups – *kantharoi*, *skyphoi* and *mastoi* – at Düzen Tepe. The only possible ref-

56. Sparkes and Talcott 1970, p. 204; Rotroff 2006, p. 71.



FIG. 5. The most completely preserved trefoil jug.

erence to such cups is one body sherd which could have belonged to a *kantharos*.⁵⁷ The lack of *mastoi* seems to be specific to Düzen Tepe, since this cup is documented in Hellenistic Sagalassos as observed in the control excavations on the Upper Agora.⁵⁸ Other wine-related pottery from a Greek sphere of influence – such as the table amphora, *lagynos*, *chous* and *olpe* – are also missing, as well as West Slope Ware which was frequently attested throughout the contemporary eastern Mediterranean coastlands.⁵⁹ One body sherd might be attributable to a *lagynos*, but this is uncertain as well.⁶⁰ Other typical Persian drinking vessels such as the *rython* and round-bottom bowls, often found together in Achaemenid Anatolia,⁶¹ were not recorded at Düzen Tepe either. Transport vessels for wine, such as amphorae, are completely absent from Düzen Tepe. The lack of amphorae can be interpreted in three ways: first, these containers might all have been dumped in a specifically designated location which is not yet identified. A second option is that wine was imported in perishable containers, such as wooden barrels or leather bags. Finally, it is possible that long distance transportation of wine did not occur at Düzen Tepe but that the inhabitants relied on a local or regional viticulture.

57. Poblome *et al.* 2013b, p. 531.

58. On these excavations: Talloen and Poblome 2016.

59. Rotroff 2002.

60. *Ibidem*, pp. 117–118.

61. Dusinberre 2013, pp. 129–130; Lungu 2016, p. 456.

WINE CONSUMPTION AT DÜZEN TEPE

As the ceramic and archaeobotanical material shows, the evidence for wine consumption is rather scarce and mostly circumstantial. Although Achaemenid bowls clearly served as wine drinking vessels in the Persian heartland and the elite-culture in Achaemenid Anatolia, for the inhabitants at Düzen Tepe this connotation was all but absent. The same is true for the small openings of some jug types. These can point to a function in wine serving, but other beverages or condiments can be poured from these as well. The few pulp parts and grape peduncles are the only proxies for wine production in or near Düzen Tepe and alternative hypotheses can be formulated too (e.g. the eating of grapes and raisins or the making of grape juice). Nevertheless, when combining the available evidence some degree of wine consumption at Düzen Tepe can be postulated. If alcoholic beverages were consumed in this settlement, wine is the most likely candidate as it was the only one which could be preserved beyond several days in antiquity.⁶² The lack of amphorae furthermore suggests that wine was not imported from longer distances, even though the wine trade flourished at that time in the Eastern Mediterranean.⁶³ Possibly the remoteness and scale of settlement are at play here as well. Therefore, the wine which was drunk at Düzen Tepe was most probably brought in from places nearby the settlement or was even processed on site, as the palynological data and the presence of relatively large amounts of archaeobotanical grape remains corroborates. The waste products then could have been used at Düzen Tepe as fuel, which is sustained by the fact that the remains were charred. The nearby Ağlasun and Başköy valleys, both having very fertile soils, as well as the southwards oriented slopes in the area are the best candidates for viniculture.

The popular use of Achaemenid bowls for the consumption of wine, as well as the lack of *symposium* wares such as *kantharoi* and *skyphoi*, which were popular in the Greek world, seemingly points to a tradition *à la Perse*. A comparison between the Persian court banqueting, as described by classical authors⁶⁴, and the wine consumption in the small Pisidian settlement of Düzen Tepe is irrelevant, however. The study of Margaret C. Miller on the Achaemenid *symposion* in Anatolia also exclusively focuses on the elite

62. Dietler 2006, p. 238.

63. Foley *et al.* 2012, p. 397.

64. Herodotos I.133; Polyaeus IV.3.32; Heracleides of Cumae, *Persica* (FGrH 689 F2); Athenaeus XIII, 607f-608a, 781a-782f, 784a-b. See Kuhrt 2010, pp. 604-615 for an overview.

culture, as her main sources are iconographic representations.⁶⁵ Her characterization of Achaemenid Anatolian wining culture as ‘diacritical drinking’, meant to “naturalize and reify concepts of ranked differences in the status of social orders or classes”⁶⁶ does not hold true for Düzen Tepe, where no indications for elite culture have been observed so far. In contrast, Vasilica Lungu, studying the Achaemenid bowls from Kelainai, interpreted these drinking cups not as an *imitatio regis*, but as being an Anatolian product which became fashionable under Persian rule.⁶⁷ Indeed, wining at Düzen Tepe is best characterized in an Anatolian sphere under Achaemenid influence. Here, specific material culture, such as the Achaemenid bowl, and maybe even certain traditions, like the holding of the bowl on three fingers, were adopted yet adapted to local practices.

Dining

In his paper on food and identity, anthropologist Claude Fischler wrote “in *Homo sapiens* food not only nourishes, but also signifies.”⁶⁸ With this thought, we will attempt the reconstruction of the food practices at Düzen Tepe by focusing on the variety of foods consumed and the related dining practices, based on the faunal and floral data, supplemented by the ceramic material. The order in which the material is discussed follows the production process of the foods at Düzen Tepe, starting from the basic ingredients, after which they got processed, cooked, served and finally consumed.

THE FAUNAL AND ARCHAEOBOTANICAL EVIDENCE

The archaeozoological study of the faunal remains collected at Düzen Tepe concluded that the majority of the bones can be interpreted as consumption refuse and belonged to domesticates. Among these, sheep/goat were best represented (72%), followed by cattle (19%) and pig (9%) (FIG. 6).⁶⁹ Sheep and goat were equally important, although goats were better adapted to the climate and vegetation around Düzen Tepe. Other domesticates were represented by much smaller quantities, and included chicken, dog, and equids. The absence of cut marks on the canine and equid remains indicated that these animals were most likely not consumed. The share of wild mammals and wild fowl was very low

65. Miller 2011.

66. Dietler 2001, p. 85.

67. Lungu 2016, p. 467.

68. Fischler 1988, p. 276.

69. De Cupere *et al.* forthcoming; De Cupere unpublished data.

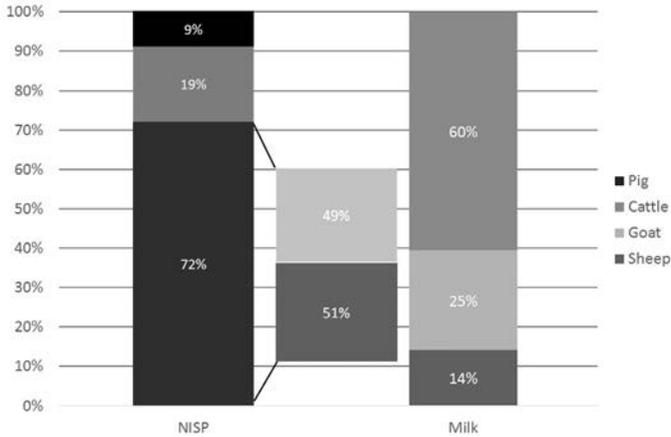


FIG. 6. Graph showing the percentages of identified cattle, sheep/goat and pig remains and their milk yield.

(<1%). Hunting played a minor role in the local food economy. According to their slaughtering pattern (a combination of age and sex ratios), sheep and goat were mainly raised for their milk and wool, and ultimately, their meat.⁷⁰ Equally, cattle were most likely kept for both their milk and meat, while pigs were reared for their meat only. Considering the possible meat yield of these domesticates⁷¹, it is clear that cattle were the main meat provider. Indeed, cattle produces more meat than pig, which in its turn will provide more meat than sheep and goat. Also, the relative amount of milk produced by cattle must have been much higher (60%) than for sheep (14%) and goat (25%).⁷²

Stable isotope analysis ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) was carried out on four human bone samples of skeletal remains excavated at Düzen Tepe,⁷³ showing a mean $\delta^{13}\text{C}$ -value of $-19.4\text{‰} \pm 0.4\text{‰}$ and a mean $\delta^{15}\text{N}$ -value of $-9.7\text{‰} \pm 0.7\text{‰}$. The $\delta^{15}\text{N}$ -value serves as a proxy for the intake of animal proteins. The raised ratio means that, although scholarly tradition has it that meat was only rarely consumed in antiquity,⁷⁴ animal products seem to have been consumed on a regular basis at Düzen Tepe.⁷⁵

70. De Cupere *et al.* forthcoming.

71. See for example Vigne 1991.

72. Calculated based on the numbers published by John Robb 2007, p. 138; 350 kg/year of milk for cattle, 45 kg/year for sheep and 77kg/year for goat.

73. Fuller *et al.* 2012.

74. Moreno 2007, pp. 18-19; Garnsey 1999, pp. 16-17; Von Reden 2007, pp. 394-396; Ekroth 2007, pp. 249-272.

75. Fuller *et al.* 2012, pp. 160-165.

Of the collected identifiable plant remains, 55% belonged to cereal grains. After removing the inedible plant portion from the archaeobotanical dataset, the percentage of grain found at Düzen Tepe increases to *c.* 66%. As expected for antiquity,⁷⁶ grains were the most consumed plant species at Düzen Tepe. The most important cereal crop is free threshing wheat (*Triticum aestivum* - 43%), followed by barley (*Hordeum vulgare* - 27%). The remaining 23% was non-determinable cereal grains reflecting the bad preservation at the site. Pulses stood for 16% of the archaeobotanical finds, of which over 62% were cultivated pulses that were not further determinable. The following species were identified: bitter vetch (*Vicia ervilia*, 30%), peas (*Pisum sativum*, 5%), lentils (*Lens culinaris*, 2%) and chick peas (*Cicer arrietinum*, 1%). Because pulses are easily storable for long periods and because they are complementary to grains in their nutritional values,⁷⁷ these plant foods were very popular in antiquity.⁷⁸ As an important source of proteins, they can serve as a meat substitute.⁷⁹ The abundance of bitter vetch (*Vicia ervila*) can be explained by the fact that it is a very drought resistant crop, useable on poor quality fields,⁸⁰ such as the Düzen Tepe promontories. The disadvantage, however, is that vetch requires a lot of processing, because left unprocessed it is poisonous.⁸¹ Various fruits were present as well: as mentioned, grapes were the most abundant (8% of all identified at the site plant remains), but also single finds of olive (*Olea europaea*) and fig (*Ficus carica*) occurred. Two fragmented stone pits of the genus *Prunus* to which cherry, plum, almond or apricot could belong, were identified. Most of these fruits could have been collected from the wild. Their cultivated forms were introduced and grown on a larger scale in Asia Minor under Roman rule.⁸² One seed of the genus *Rubus* was found. To this genus belong many berries such as raspberries and blackberries. Three seeds of the *Lallemantia iberica* were recorded as well. This plant was already used in the Bronze Age for the extraction of oil.⁸³ The remaining 13% of plant remains were identified as weeds, ruderal plants and such growing in meadows.

The cereal crops, quite common at Düzen Tepe, can be used in a variety of ways. Bread, porridges and groats added to stews and soups are among the possibilities. Additional information on the use of grain is given by the

76. Garnsey 1999, pp. 17-19.

77. Robb 2007, p. 132; McGee 2013, pp. 482-484; Zohary *et al.* 2012, pp. 75-76.

78. Wilkins and Hill 2006, pp. 114-115; Garnsey 1998, pp. 214-225; Garnsey 1999, p. 15.

79. Zohary *et al.* 2012, p. 75.

80. Valamoti *et al.* 2011, p. 389; Zohari *et al.* 2012, p. 92.

81. Papathanasiou *et al.* 2013, p. 25; Megaloudi 2006, p. 55.

82. Zohary *et al.* 2012.

83. Jones and Valamoti 2005, pp. 571-575; Megaloudi 2006, p. 57.



FIG. 7. The most complete preserved hopper mill from Düzen Tepe.

presence of two types of mill stone. A total of five hopper rubbers (FIG. 7), mostly fragmented, were found in the Düzen Tepe excavations.⁸⁴ These Olynthian mills probably originated in the 7th century BC in the Levant,⁸⁵ spread throughout the Mediterranean world and remained popular into the 1st century BC.⁸⁶ At Sagalassos they were still in use in late antiquity. These millstones could process large quantities of grain, but needed an architectural set-up.⁸⁷ The Düzen Tepe examples were cut from a non-local volcanic stone. Another type of mill stone at Düzen Tepe is the saddle quern. This smaller type – convex on top and flat on the bottom, which makes it suitable for rubbing it manually over a flat stone – was found in the so-called courtyard building.⁸⁸ Saddle querns were already present in Egypt in the second millennium BC, but the type which the one from Düzen Tepe shows the most resemblance to, originated around the 6th century BC.⁸⁹ Hopper rubbers are more expensive and less transportable than the saddle querns; the latter were, therefore, more likely being used in households, while the former were meant for more professional or communal purposes.⁹⁰

The flour from the hopper rubber is ideal to make bread. The dominant cereal crop on site, *Triticum aestivum/durum*, has the best qualities to produce bread products. The archaeobotanical record from the site also shows

84. Vyncke 2013, pp. 208-211.

85. Frankel 2003, pp. 7-11.

86. Curtis 2001, pp. 286-287.

87. Frankel 2003.

88. Vyncke 2013, p. 209.

89. *Ibidem*, pp. 280-281; Moritz 1958, pp. 18-21 and pp. 29-41.

90. Curtis 2001, p. 284.

charred crusts consisting of porous matter, inside of which fragments of cereal grains are visible (FIG. 8.A). Those crusts possibly represent remains of food preparation as the cereal grain traces point to remains of charred porridge (for example bulgur) or even the remains of bread baking. The rather porous consistency of the matter most probably corresponds to a certain kind of fermentation (for example leavening of dough). Further analyses of the crusts under high magnification showed that these contained numerous small (grinded) fragments of wheat pericarps and other tissues of cereal grains (FIG. 8.B). The overall evidence gives strong arguments to interpret the find as remains of bread baking.⁹¹

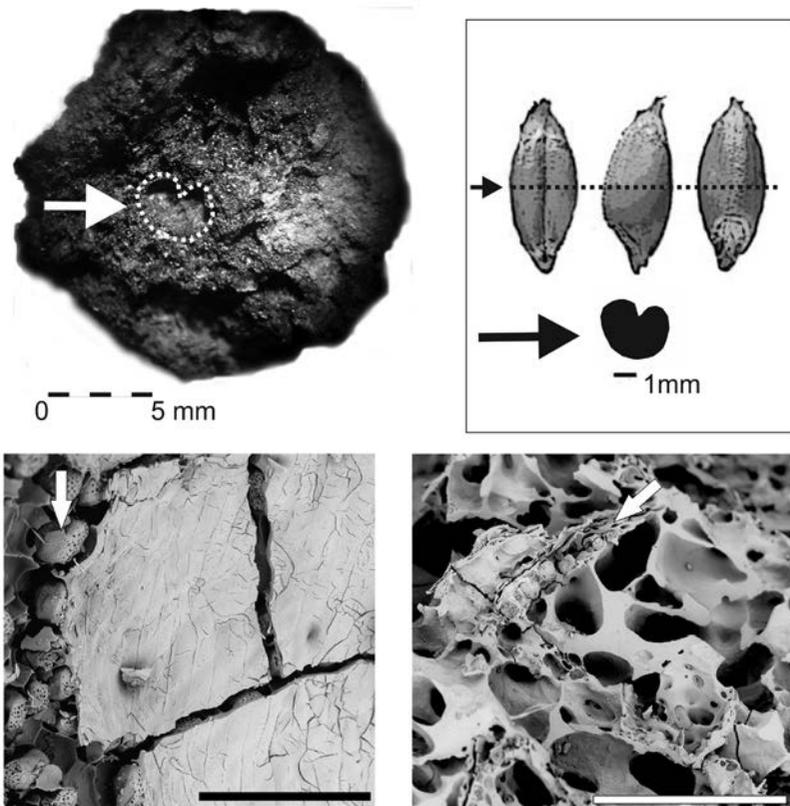


FIG. 8.A. Charred porous matter with traces of cereal grains; 8.B. Scanning electron images of part of the same crust: remains of wheat (*Triticum*) pericarp and underlying aleuron layer indicated with arrow (left, scale 100 μm) and porous matter in close view containing cross section of cereal pericarp with aleurone layer indicated with arrow (right, scale 270 μm).

91. Hansson 1994; Heiss 2013, pp. 48-49.

THE CERAMICS

Cooking pots (Q200/210) represent 19% of the total ceramic assemblage of Düzen Tepe (FIG. 9). Although some minor variations occur in the rim, they can be grouped under one general description. A typical cooking pot in Düzen Tepe has an ellipsoid-shaped body. The larger specimens tend more towards a globular shape and the smaller ones often show an S-curved profile. The collar can be slightly out-turned, which mainly occurs with the smaller pots, but is often absent or very short. Raised bases are most common, but flat bases are present too. The handles consist mostly of straps, sometimes ribbed, placed on the shoulder and connected to the collar. Rounded handles only appear on the smaller cooking vessels. Furthermore, sherds of cooking vessels can be easily recognized by fire clouding and burn marks on the outside. These vessels were most commonly produced in a distinct cooking ware fabric, characterized by a gritty light brown to red brown matrix and frequent quartz, pyroxene, biotite, and amphibole inclusions⁹² (Fabric 230). The concept of a cooking pot is, by nature, specifically functionally oriented. The potter tries to find a combination of a receptacle able to survive thermal shock, which is light, yet robust, and is adapted to the available cooking technologies and preferred menus. This resulted in only minor variations in details such as the handles, base or rim, “but the general shape and proportions were difficult to improve,”⁹³ which makes it more difficult to trace similar morphological traditions.



FIG. 9. Two of the cooking pots from Düzen Tepe.

92. Braekmans 2010, p. 134.

93. Stewart 2010, p. 167.

The function of cooking vessels seems rather easy to describe: a receptacle in which food is cooked or heated. Nevertheless, it is possible to define the function in more detail. As Paul Arthur suggested, deep, closed cooking pots were more suitable for boiling and stewing, which resulted in (semi-)liquid meals.⁹⁴ This hypothesis is supported by many ceramologists dealing with these kinds of vessels.⁹⁵ Archaeological experiments led to the conclusion that cooking pots with a volume of *c.* 3 litres were best suited for savoury dishes such as stews and soups, while the smaller vessels of about 1 litre were more often used for cooking milk and porridges.⁹⁶ For roasting large pieces of meat or fish, these cooking pots are less useful, but open casseroles would serve the purpose well.⁹⁷ Open cooking vessels and pans have not been documented in the archaeological record of Düzen Tepe. The raised and flat bases which are a typical attribute of the Düzen Tepe pots make it possible to place these next to the hearth or above the fire on a grate.⁹⁸ However, as the fire clouding suggests, the cooking pots still came into direct contact with the fire, suggesting a position next to the flames. Yet, two fragments of presumed braziers (FIG. 10) provide some additional information on the cooking practices. If the pots were placed on top of these, they would still show fire clouding around and on the bottom of the base, which was attested for some better preserved cases. As hearths are the most likely option, the two brazier fragments are most likely an underrepresentation, as the fire clouding on the cooking vessels indicates.



FIG. 10. A brazier fragment.

94. Arthur 2007, p. 18.

95. Rotroff 2006, pp. 165-167; Jackson and Tidmarsh 2011, p. 92; Stewart 2010, pp. 168-169.

96. Curta 2001, p. 286.

97. Arthur 2007, p. 18; Jackson and Tidmarsh 2011, p. 92.

98. Pellegrino 2007, p. 229; Dusinger 2013, p. 127.

As the variation in design of a cooking pot is limited, parallels need to be sought in the attributes. The most distinctive attributes here are the bases. Flat bases are known in Achaemenid Sardis⁹⁹ and in middle Hellenistic Gordion.¹⁰⁰ The cooking pots of the latter site in particular show high similarities with the cooking pots found at Düzen Tepe, not only in having similar bases, but similar body shapes and rims as well. According to Elspeth Dusinberre¹⁰¹ cooking pots with flat bases were introduced in Anatolia under Achaemenid rule. Raised bases in turn, appear in a sounding at Xanthos¹⁰² dated to the early 5th century BC, in the Hellenistic material of Salamine on Cyprus¹⁰³ and a 4th century context in Troy.¹⁰⁴ In contrast, the Greek mainland and the Levant¹⁰⁵ preponderantly made use of round base cooking pots. The cooking vessels at Düzen Tepe thus seem to be part of a broader Anatolian tradition in Achaemenid times.

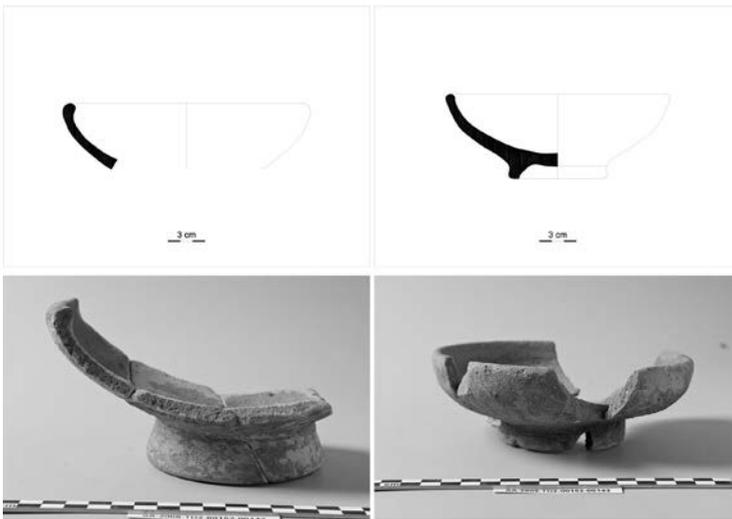


FIG. 11. Incurved rim bowls from Düzen Tepe.

The *echinus* bowls (B170; FIG.11), a simple spherical recipient on a ring foot and with an incurving rim, is the most frequently represented table ware type

99. Dusinberre 1999, pp. 94-95.

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

101. Dusinberre 2013, p. 127; Dusinberre 1999, pp. 94-95.

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

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

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

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

found at Düzen Tepe (about 13% of the total amount of diagnostic material). Shannan M. Stewart in her study of the Hellenistic pottery from Gordion defined incurved rim bowls as “a small open vessel with an incurving rim, a deep interior with the maximum diameter near the upper quarter of the wall, and a ring or false ring foot.”¹⁰⁶ Susan I. Rotroff’s definition in her volumes on the Hellenistic ceramics from the Athenian Agora is more concise and describes *echinus* as “bowls with incurved rims.”¹⁰⁷ The most frequent fabrics used in Düzen Tepe for producing this type are ‘orange-red table wares’ (Fabric 239), ‘buff wares’ (Fabric 237) and different types of ‘lime-tempered common wares’ (Fabrics 227, 228, 229 and 232). This type remained in use at later Hellenistic Sagalassos and lived on in Sagalassos Red Slip Ware as type 1B170 until late antiquity.¹⁰⁸

Defining the function of the incurved rim bowl is not as straightforward as it is for the Achaemenid bowl. The functional propositions vary between wine¹⁰⁹ and food¹¹⁰ consumption, although the majority of scholars refer to these as bowls for the latter. Indeed, as Stewart pointed out with some experiments, drinking out of a bowl with an incurved rim is very hard to do without spilling.¹¹¹ Apparently, soups, stews, porridges and side dishes such as greens, fruit and nuts were quite easily consumed from an *echinus*; the (often high) standing ring and incurved rim make it possible to hold the bowl in one hand while scooping out the meal with a piece of bread or a spoon.¹¹²

Incurved rim bowls became very popular in Anatolia by the end of the 4th and during the 3rd centuries BC, while in the 4th century BC they were already commonly found in the Aegean.¹¹³ However, as pointed out by Elspeth Dusinberre, the shape was represented originally in the 7th century BC in Iran and Media. At Sardis the *echinus* seemed to appear together with the Achaemenid bowl under Achaemenid rule.¹¹⁴ During both the Achaemenid and the Hellenistic periods, the incurved rim bowl was present in large numbers on sites such as Pasargadae,¹¹⁵ Nea Paphos,¹¹⁶ Palaipaphos,¹¹⁷ Dülük Baba

106. Stewart 2010, p. 195.

107. Rotroff 1997, p. 161.

108. Van der Enden *et al.* 2014.

109. Schäfer 1968, pp. 37-38.

110. Rotroff 1997, p. 161; Stewart 2010, p. 196; Jackson and Tidmarsh 2011, p. 13.

111. Stewart 2010, p. 196.

112. *Ibidem*; Jackson and Tidmarsh 2011, p. 13.

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

114. Dusinberre 1999, p. 95.

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

116. Hayes 1991, pp. 158-159 and Fig. XIV and LVII.

117. Lund 1993, Fig. 40 c-44 - c-54.

Tepesi,¹¹⁸ Xanthos,¹¹⁹ and Jebel Khalid.¹²⁰ Since these bowls were abundant in the Eastern Mediterranean and often produced locally, resulting in minor variations, it is quite difficult to find exact parallels. Morphological resemblance of the Düzen Tepe material is mainly found with the early Hellenistic shallow *echinus* bowls from Gordion,¹²¹ with the partially glazed *echinus* bowls from Sardis¹²², the simple incurving rim bowls of Pergamon¹²³ and Troy,¹²⁴ with the *echinus* bowls in burnished grey ware from Hellenistic Jebel Khalid¹²⁵, and with the ‘Hellenistic bowl’ and ‘Hellenistic slipped incurved rim bowl’ from Paphos.¹²⁶ Especially with Paphos, Jebel Khalid, Sardis and Gordion, the parallels are morphologically coherent. The morphological execution at Düzen Tepe thus shows resemblances to other Anatolian and Northern Levantine sites in early Hellenistic times.

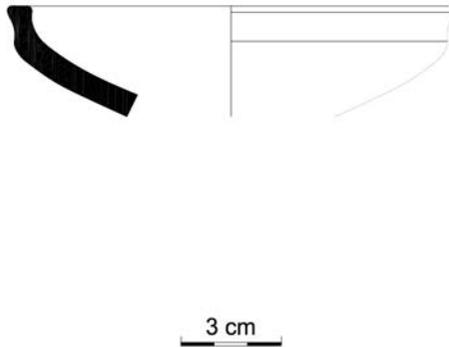


FIG. 12. A ledge rim bowl.

Another common type at Düzen Tepe is a bowl or dish with a flattened plain rim (5% of diagnostic material), sometimes with a small carination in the upper part of the wall (B140; FIG. 12). Because of this carination, the type is also called a ledge rim bowl or dish. Shannan M. Stewart described this

118. Strothenke 2013, p. 277.

119. Lemaitre 2010, Fig. 8.7.

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

121. Stewart 2010, Fig. 201.

122. Rotroff and Oliver 2003, plate 7 and 8, no. 32-47.

123. Schäfer 1968, tafel 4, no. C13-19.

124. Berlin 2002, no. 70-76.

125. Jackson and Tidmarsh 2011, p. 409.

126. Hayes 1991, Fig. XIV and LVII.

type as “an open vessel with a projecting (‘ledge’) rim, an upper wall with some degree of carination, and a ring foot or flat base.”¹²⁷ At Düzen Tepe, the rim sometimes turns slightly outwards, resulting in a soft S-curve. Since the depth and diameter of the ledge rim bowl and the incurved rim bowl at Düzen Tepe are fairly similar,¹²⁸ a corresponding function is suggested. The most important difference is that the rim of the ledge rim bowl is turned outward, so eating wet meals out of it would have caused spilling, which makes this bowl relatively more suitable for the consumption of dry foodstuffs, such as nuts, greens, dried fruits and pieces of meat.¹²⁹ A drinking function can be excluded, as these are too shallow to serve as a drinking cup.

No studies on the distribution of the ledge rim bowl are published so far. At Gordion this shape was present in large amounts from the early Phrygian period (950-800 BC) onwards, when it was referred to as ‘carinated bowl’, until the early Hellenistic period, when it was the only pottery type which did not go through a process of standardization as the other types did. In the middle Hellenistic period, the ledge rim bowl was replaced by a new shape which was highly different from its predecessors.¹³⁰ The Gordian ledge rim bowl thus seems to have been the subject of a local evolution. Yet, especially at this site, the Achaemenid period was marked by a change in ceramic morphology, mimicking metal Persian wares, most notably in the vessels related to wine serving and consumption.¹³¹ In this regard, Stewart mentions that she could not find any parallels in contemporary Anatolia.¹³² Yet, a similar type can be found in Pasargadae during the late and post-Achaemenid periods¹³³ and in Altın Tepe under Achaemenid rule.¹³⁴ Some examples were also found in the slipped wares of Xanthos.¹³⁵ The strongest morphological analogy stems from 4th century BC Troy,¹³⁶ when this site was part of the Persian empire. Again this type was Achaemenid in origin and seemingly quite widespread in Anatolia during the late Achaemenid and early Hellenistic periods.

127. Stewart 2010, p. 176.

128. E.g. diameter ledge rim bowl: 18.3-21.3 cm; incurved rim bowl: 18.3-20.6, Braekmans 2010, p. 131.

129. Stewart 2010, p. 178.

130. Sams 1994, p. 44; Stewart 2010, pp. 176-177.

131. Dusinger 2013, pp. 125-126.

132. Stewart 2010, p. 177.

133. Stronach 1978, pp. 246-247 no. 1-3.

134. Summers 1993, pp. 101-104.

135. Yener-Marksteiner 2007, Abb. 10: no. 5-7.

136. Berlin 2002, plate 11.

FOOD CONSUMPTION AT DÜZEN TEPE

Most foods are organic materials and therefore subject to decay. Food products were not harvested or slaughtered all year round.¹³⁷ As a result, long-term storage of edible products was needed. At Düzen Tepe, the majority of plant based foods, such as grain and pulses, are known for being relatively easy to store for long periods of time and can be kept easily in large storage vessels and cisterns. Fruits can also be stored easily by drying or processing them. It therefore seems that the inhabitants of Düzen Tepe had to put effort in to preserving their foods, as did all pre-industrial communities. The animal products were less easily stored. Milk has a tendency to decay very quickly, a process which can be slowed down by fermenting or coagulating it, with yoghurt and cheese as respective end products. These derivatives have the additional advantage that they contain less lactose. Finally, meat products rot quite quickly too, which can be decelerated by smoking, drying, fermenting, pickling, salting or candying it. Each of these techniques were already known in Neolithic times or were developed in antiquity.¹³⁸

Paul Arthur proposed that closed cooking pots are associated with most of cattle and pig in the archaeozoological record, while casseroles or open cooking pots are linked with a majority of ovicaprines.¹³⁹ For Düzen Tepe, however, this relationship did not hold true, since only closed cooking pots were recognized, in combination with a majority of sheep and goat. Nonetheless, additional association by Arthur¹⁴⁰ between closed cooking vessels and so-called 'wet' meals, such as soups, stews and porridges, is very likely for Düzen Tepe for the following reasons. Firstly, preserved meat, pulses and grains seem to have been the most commonly consumed food. These ingredients needed to be prepared and often cooked with large amounts of water for a long time to become tender. Secondly, the most popular bowl for consumption is the incurved rim bowl, which serves very well for the consumption of 'wet' meals.¹⁴¹ Thirdly, the flat round breads, discussed above, are ideal for spooning stews or soups from these *Echinus* bowls. Finally, the lack of other cooking vessels implies that almost exclusively one-pot meals were consumed. Side dishes are not excluded, because of the presence of the ledge rim bowls, which were useful for the serving of dried fruits, raw vegetables,

137. E.g. Munson 2000, p. 396; Thevenin 2011, p. 8; Hodkinson 1988, p. 50.

138. Curtis 2001, pp. 171-172 and pp. 396-398; Robb 2007, p. 145.

139. Arthur 2007, pp. 15-28.

140. *Ibidem*, p. 18.

141. Stewart 2010, p. 196; Jackson and Tidmarsh 2011, p. 13.

yoghurt, nuts and seeds. Shannan M. Stewart¹⁴² came to a similar conclusion for the ceramic assemblages of Hellenistic Gordion, while she assumed *meze* style dining, by which a selection of small dishes is served. In this respect, it is important to notice that at Gordion, as opposed to Düzen Tepe, casseroles were equally popular as the closed cooking pots, indicating that one-pot meals were less frequently consumed compared to Düzen Tepe. Moreover, the incurved rim bowls in Düzen Tepe rather point to the consumption of individual portions that were ladled out of the cooking pot.

Foodways and cultural practices

Archaeologists and historians have frequently attempted to study cultural identities in the past.¹⁴³ Here we can ask ourselves whether we can study these at all. Cultural identity is a communal or individual feeling of belonging to some group or another, politically and socially negotiated within the community.¹⁴⁴ Since they are dead, it is impossible to ask the people of Düzen Tepe to which culture they belonged. Moreover, the material manifestation is seldom a direct reflection of these cultural identities, as they are influenced by other factors too, such as the technological capabilities, the available raw materials and the effects of the market. The material culture and ecofacts in the Düzen Tepe archaeological record therefore are to be understood as proxies for the local food practices and not as indicators for specific cultural identities. Therefore, a focus on practices, instead of on identities, is the preferred option here.

Some of the scholarly endeavours to study cultural identities in antiquity focussed on Persianization or Hellenization, looking for cultural traits of the overlords adopted and adapted by local communities. As Düzen Tepe was subsequently part of both empires and kingdoms, a similar exercise could be attempted for this settlement. Two papers, by Maria Brosius¹⁴⁵ and Christopher Tuplin¹⁴⁶ respectively, have stressed that, although the Achaemenids had no clear policy to enforce their cultural identity on the communities in their empire, that some specific cultural aspects were nevertheless adopted. The cultural traits listed by them – the manner of appearance, the adherence to court etiquette, and certain forms of entertainment such as banqueting,

142. Stewart 2010, pp. 229.

143. E.g. Gruen 2011; Hales and Hodos 2010.

144. Hall and du Gay 1997, pp. 2-16; Assmann 1995, pp. 128-133; Meskell 2007, p. 24.

145. Brosius 2011.

146. Tuplin 2011.

hunting and archery in iconography, as well as personal names, language, clothing and food culture – mostly relate to Persian court culture, emulated by the satrapal elites. These cannot be applied to the context of Düzen Tepe, however, representing a small and local Pisidian community. Indeed, we cannot expect the inhabitants of this settlement to participate in court-style *symposia*, nor in lion hunts in the royal hunting gardens of Kelainai,¹⁴⁷ the capital of Greater Phrygia, a little over 50km from Düzen Tepe.

The foodways of Düzen Tepe and related material culture indicate that most of their food choices were locally and regionally embedded. The menu consisted mainly of local products which were the result of a combination of the restrictions set by the environment and the available agricultural technology. Food imports are limited to some rare specific goods, such as the olives, marine fish and shellfish.¹⁴⁸ Most of the pottery too, is of local manufacture.¹⁴⁹ Further on, the food practices corresponded with other sites in Anatolia, as indicated by the pottery. Moreover, the ceramic Achaemenid bowls were quite common throughout contemporary Anatolia and reflected a widespread wine-culture.¹⁵⁰ The standard way of cooking – (semi-)wet, grain-based, one-pot meals – even appears to be part of a broader Eurasian, pre-industrial phenomenon.¹⁵¹ Parallels with the Persian heartland should, therefore, not be understood as if Düzen Tepe had direct contacts with the Achaemenid east or ‘felt’ Persian. As the settlement was part of the empire, it is quite normal that they adopted certain practices, without regarding them as foreign. This is in agreement with the academic consensus that the Achaemenid empire did not pursue a strict cultural policy,¹⁵² but that, when it comes to wining and dining, cultural practices spread throughout the Achaemenid empire¹⁵³ in dialectical translation with local possibilities, habits and customs.

Contacts with the Greek world via the Pamphylian cities along the Anatolian south coast, or through the conquest of Alexander the Great in 333 BC¹⁵⁴ cannot be excluded at Düzen Tepe. Yet, in the food practices Greek or Hellenistic cultural traits are completely absent – no traces of practices of the Greek *symposion*, no bulbous cooking pots and plates *etc.* This was not necessarily

147. Xenophon, *Anabasis*, 1.2.7.

148. De Cupere *et al.* forthcoming.

149. Daems *et al.*, this issue; Poblome *et al.* 2013b, p. 531.

150. Miller 2011; Dusinberre 2013, pp. 139-140; Lungu 2016.

151. Laudan 2013, p. 9ff.

152. Brosius 2011, pp. 136; Dusinberre 2013, pp. 266-271.

153. Dusinberre 2013, p. 268.

154. Arrian, *Anabasis Alexandri* I, 27-28.

a conscious process, forming an opposition against the ‘other’, but can be explained from the point of view that food consumption is a very conservative, and in this case mostly localized and traditional practice. *Bon appetit!*

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References

- Aiello and Wheeler 1995 = L.C. Aiello, P. Wheeler, *The expensive-tissue hypothesis brain and digestive system in human and primate evolution*, “*Current Anthropology*”, 36/2, pp. 199-221, <https://doi.org/10.1086/204350>.
- Aiello 2007 = L.C. Aiello, *Notes on the Implications of the Expensive Tissue Hypothesis for Human*, in W. Roebroeks, ed., *Guts and Brains: An Integrative Approach to the Hominin Record*, Amsterdam, 2007, pp. 17-28.
- Albala 2014 = K. Albala, ed., *Routledge International Handbook of Food Studies*, New York, 2014.
- Arthur 2007 = P. Arthur, *Pots and boundaries. On cultural and economic areas between late antiquity and the early middle ages*, in M. Bonifay, J.-C. Trégliat, eds., *LRCW 2. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean. Archaeology and Archaeometry*, (BAR International Series S1662), Oxford, 2007, pp. 15-27.
- Ashley et al. 2004 = B. Ashley, J. Hollows, S. Jones, B. Taylor, *Food and cultural studies*, London, 2004.
- Assmann 1995 = J. Assmann, *Collective Memory and Cultural Identity*, “*New German Critique*”, 65, pp. 125-133, <https://doi.org/10.2307/488538>.
- Bakker et al. 2012 = J. Bakker, E. Paulissen, D. Kaniewsky, G. Verstraeten, V. De Laet, M. Waelkens, *Man, vegetation and climate during the Holocene in the territory of Sagalassos, Western Taurus Mountains, SW Turkey*, “*Vegetation history and archaeobotany*”, 21/4-5, pp. 249-266, <https://doi.org/10.1007/s00334-011-0312-4>.
- Bergier 1998 = J.-F. Bergier, *Food and Material Culture*, in M.R. Schärer, A. Fenton, eds., *Food and material culture: proceedings of the fourth symposium of the International commission for research into European food history*, East Linton, 1998, pp. 1-7.
- Berlin 2002 = A.M. Berlin, *Ilion before Alexander: a Ritual Deposit of the Fourth Century BC*, “*Studia Troica*”, 12, pp. 131-165.

- Bourdieu 1984 = P. Bourdieu, *Distinction: a social critique of the judgement of taste*, Cambridge MA, 1984.
- Braekmans 2010 = D. Braekmans, *The Archaic, Classical and Hellenistic Ceramics in the Later Territory of Sagalassos and Düzen Tepe*, Unpublished Ph.D. dissertation, University of Leuven, 2010.
- Brosius 2011 = M. Brosius, *Keeping Up with the Persians: Between Cultural identity and Persianization in the Achaemenid Period*, in E. Gruen, ed., *Cultural Identity in the Ancient Mediterranean*, Los Angeles, 2011, pp. 135-149.
- Brothwell and Brothwell 1969 = D.R. Brothwell, P. Brothwell, *Food in antiquity: a survey of the diet of early peoples*, Baltimore, 1969.
- Caple 2006 = C. Caple, *Objects: reluctant witnesses of the past*, London, 2006, <https://doi.org/10.4324/9780203409060>.
- Çokay-Kepçe and Recke 2007 = S. Çokay-Kepçe, M. Recke, *Achaemenid bowls in Pamphylia*, in İ. Delemen, O. Casabonne, eds., *The Achaemenid impact on local populations and cultures in Anatolia*, Ankara, 2007, pp. 83-96.
- Coşkun 2011 = G. Coşkun, *Achaemenid Bowls from Seyitömer Höyük, "Olba"*, 19, pp. 57-79.
- Counihan 1999 = C.M. Counihan, *The anthropology of food and body: gender, meaning and power*, London, 1999.
- Curta 2001 = F. Curta, *The making of the Slavs: history and archaeology of the Lower Danube Region, c. 500-700*, Cambridge, 2001, <https://doi.org/10.1017/CBO9780511496295>.
- Curtis 2001 = R.I. Curtis, *Ancient food technology*, Leiden, 2001.
- De Cupere *et al.* forthcoming = B. De Cupere, W. Van Neer, K. Vyncke, H. Vanhaverbeke, *Animal exploitation during the Classical/Hellenistic period at Tepe Düzen (SW Turkey): preliminary results*, forthcoming.
- Diederichs 1980 = C. Diederichs, *Céramiques hellénistiques, romaines et byzantines (Salamine de Chypre IX)*, Paris, 1980.
- Dietler 2001 = M. Dietler, *Theorizing the feast: Rituals of consumption, commensal politics, and power in African contexts*, in M. Dietler, B. Hayden, eds., *Feasts: Archaeological and ethnographic perspectives on food, politics, and power*, Tuscaloosa, 2001, pp. 65-114.
- Dietler 2006 = M. Dietler, *Alcohol: anthropological/archaeological perspectives*, "Annual Review of Anthropology", 35, pp. 229-249, <https://doi.org/10.1146/annurev.anthro.35.081705.123120>.
- Dusinberre 1999 = E.R.M. Dusinberre, *Satrapal Sardis: Achaemenid bowls in an Achaemenid capital*, "American Journal of Archaeology", 103/1, pp. 73-102, <https://doi.org/10.2307/506578>.
- Dusinberre 2003 = E.R.M. Dusinberre, *Aspects of empire in Achaemenid Sardis*, Cambridge, 2003.
- Dusinberre 2013 = E.R.M. Dusinberre, *Empire, Authority, and Autonomy in Achaemenid Anatolia*, Cambridge, 2013, <https://doi.org/10.1017/CBO9781139087551>.
- Edwards 1975 = G.R. Edwards, *Corinthian Hellenistic pottery, (Corinth: Results of Excavations Conducted by the American School of Classical Studies at Athens 7/3)*, Princeton, 1975, pp. iii-254, <https://doi.org/10.2307/4390663>.
- Ekroth 2007 = G. Ekroth, *Meat in ancient Greece: sacrificial, sacred or secular?* "Food and History", 5.1, pp. 249-272, <https://doi.org/10.1484/J.FOOD.1.100193>.

- Fischler 1988 = C. Fischler, *Food, self and identity*, "Social Science Information", 27/2, pp. 275-292, <https://doi.org/10.1177/053901888027002005>.
- Foley et al. 2012 = B.P. Foley, M.C. Hansson, D.P. Kourkoumelis, T.A. Theodoulou, *Aspects of ancient Greek trade re-evaluated with amphora DNA evidence*, "Journal of Archaeological Science", 39/2, pp. 389-398, <https://doi.org/10.1016/j.jas.2011.09.025>.
- Frankel 2003 = R. Frankel, *The Olynthus mill, its origin, and diffusion: Typology and distribution*, "American Journal of Archaeology", 107/1, pp. 1-21, <https://doi.org/10.3764/aja.107.1.1>.
- Fuller et al. 2012 = B.T. Fuller, B. De Cupere, E. Marinova, W. Van Neer, M. Waelkens, M.P. Richards, *Isotopic reconstruction of human diet and animal husbandry practices during the Classical-Hellenistic, imperial, and Byzantine periods at Sagalassos, Turkey*, "American Journal of Physical Anthropology", 149/2, pp. 157-171, <https://doi.org/10.1002/ajpa.22100>.
- Garnsey 1998 = P. Garnsey, *Cities, peasants and food in classical antiquity: Essays in social and economic history*, Cambridge, 1998, <https://doi.org/10.1017/CBO9780511585395>.
- Garnsey 1999 = P. Garnsey, *Food and society in classical Antiquity*, Cambridge, 1999, <https://doi.org/10.1017/CBO9780511612534>.
- Gruen 2011 = E.S. Gruen, ed., *Cultural Identity in the Ancient Mediterranean*, Los Angeles, 2011.
- Hales and Hodos 2010 = S. Hales, T. Hodos, eds., *Material culture and social identities in the ancient world*, Cambridge, 2010.
- Hall and du Gay 1997 = S. Hall, P. du Gay, eds., *Questions of cultural identity*, London, 1997.
- Hansson 1994 = A.-M., Hansson, *Grain-paste, porridge and bread. Ancient cereal-based food*, "Laborativ arkeologi", 7, pp. 5-20.
- Hayes 1991 = J.W. Hayes, *Paphos III: The Hellenistic and Roman Pottery*, Nicosia, 1991.
- Heiss 2013 = A.G. Heiss, Korn und Mehl, Brei und Brot — Besonderheiten der Getreide und ihre Spuren in der Vergangenheit, in H. Etlzstorfer, M. Pfaffenbichler, C. Rapp and F. Regner, eds., *Brot & Wein. Niederösterreichische Landesausstellung 2013*, Schallaburg, 2013, pp. 42-49.
- Higman 2011 = B.W. Higman, *How food made history*, West Sussex, 2011, <https://doi.org/10.1002/9781444344677>.
- Hodkinson 1988 = S. Hodkinson, *Animal husbandry in the Greek polis*, in C.R. Whittaker, ed., *Pastoral economies in classical antiquity*, Cambridge, 1988, pp. 35-74.
- Hürmüzlü et al. 2009 = B. Hürmüzlü, A. De Giorgi, P. Iversen, *New Research in Northwestern Pisidia: Ancient Konane (Conana) and its Territory*, "Colloquium Anatolicum", 7, pp. 235-256.
- Jackson and Tidmarsh 2011 = H. Jackson, J. Tidmarsh, *Jebel Khalid on the Euphrates. Vol. 3: the pottery*, Sidney, 2011.
- Jones and Valamoti 2005 = G. Jones, S.M. Valamoti, *Lallemantia, an imported or introduced oil plant in Bronze Age northern Greece*, "Vegetation history and archaeobotany", 14/4, pp. 571-577, <https://doi.org/10.1007/s00334-005-0004-z>.
- Kuhrt 2010 = A. Kuhrt, *The Persian Empire: a corpus of sources from the Achaemenid period*, London, 2010.
- Laudan 2013 = R. Laudan, *Cuisine & Empire. Cooking in world history*, Berkeley, 2013.
- Lemaître 2010 = S. Lemaître, Contribution à l'étude du mobilier céramique des époques archaïque et classique du Létôon de Xanthos, in S. Lemaître, ed., *Céramiques*

- antiques en Lycie: VIIe s. a.C-VIIe s. p.C.: les produits et les marchés (Ausonius Etudes 16)*, Bordeaux, 2010, pp. 115-136.
- Lund 1993 = J. Lund, *Pottery of the Classical, Hellenistic and Roman Periods*, in L. Sørensen, D. Rupp, ed., *The Land of the Paphian Aphrodite: Vol. 2. The Canadian Palaiaphos Survey Project—Artifact and Ecological Studies*, (*Studies in Mediterranean Archaeology* 104/2), 1993, pp. 79-156.
- Lungu 2016 = V. Lungu, *The “Achaemenid bowls” from Celaenae: an introduction*, in A. Ivantchik, L. Summerer, A. von Kienlin, eds., *Kelainai-Apameia Kibotos, Une metropole achéménide, hellénistique et romaine, Eine achämenidische hellenistische und römische Metropole*, Bordeaux, 2016, pp. 453-471.
- Marek 2010 = C. Marek, *Geschichte Kleinasiens in der Antike*, München, 2010.
- Margaritis and Jones 2006 = E. Margaritis, M. Jones, *Beyond cereals: crop processing and Vitis vinifera L. Ethnography, experiment and charred grape remains from Hellenistic Greece*, “*Journal of Archaeological Science*”, 33/6, pp. 784-805, <https://doi.org/10.1016/j.jas.2005.10.021>.
- McGee 2013 = H. McGee, *Over eten & koken: wetenschap en cultuur in de keuken*, Amsterdam, 2013.
- McGovern 2013 = P.E. McGovern, *Ancient wine: the search for the origins of viniculture*, Princeton NJ, 2013, <https://doi.org/10.1515/9781400849536>.
- Megaloudi 2006 = F. Megaloudi, *Plants and diet in Greece from Neolithic to Classic periods: the archaeobotanical remains*, (*BAR International Series* S1516), Oxford, 2006.
- Meskel 2007 = L. Meskel, *Archaeologies of Identity*, in T. Insoll, ed., *The Archaeology of Identities: a reader*, London, 2007, pp. 23-43.
- Miller 1987 = D. Miller, *Material culture and mass consumption*, Oxford, 1987.
- Miller 2011 = M.C. Miller, “*Manners Makyth Man*”: *Diacritical Drinking in Achaemenid Anatolia*, in E.S. Gruen, ed., *Cultural Identity in the Ancient Mediterranean*, Los Angeles, 2011, pp. 97-134.
- Mills 1999 = B.J. Mills, *Ceramics and the social contexts of food consumption in the Northern Southwest*, in J.M. Skibo, G.M. Feinman, eds., *Pottery and people: A dynamic interaction*, Salt Lake City UT, 1999, pp. 99-114.
- Moreno 2007 = A. Moreno, *Feeding the democracy: the Athenian grain supply in the fifth and fourth centuries BC*, Oxford, 2007, <https://doi.org/10.1093/acprof:oso/9780199228409.001.0001>.
- Moritz 1958 = L.A. Moritz, *Grain mills and Flour in classical antiquity*, Oxford, 1958.
- Munson 2000 = P.J. Munson, *Age-correlated differential destruction of bones and its effect on archaeological mortality profiles of domestic sheep and goats*, “*Journal of Archaeological Science*”, 27/5, pp. 391-407, <https://doi.org/10.1006/jasc.1999.0463>.
- Neyt et al. 2012 = B. Neyt, D. Braekmans, J. Poblome, J. Elsen, M. Waelkens, P. Degryse, *Long-term clay raw material selection and use in the region of Classical/Hellenistic to Early Byzantine Sagalassos (SW Turkey)*, “*Journal of Archaeological Science*”, 39/5, pp. 1296-1305.
- Orton et al. 2005 = C. Orton, M. Hughes, M. Hughes, *Pottery in archaeology*, Cambridge, 2005.
- Papathanasiou et al. 2013 = A. Papathanasiou, T. Theodoropoulou, S.M. Valamoti, *The quest for prehistoric meals: towards an understanding of past diets in the Aegean: integrating stable isotope analysis, archaeobotany and zooarchaeology*, in S. Voutsaki,

- S.M. Valamoti, eds., *Diet, Economy and Society in the Ancient Greek World: Towards a Better Integration of Archaeology and Science. Proceedings of the International Conference held at the Netherlands Institute at Athens on 22-24 March 2010*, (Pharos Supplement 1), Leuven, 2013, pp. 19-32.
- Parker-Pearson 2003 = M. Parker-Pearson, *Food, culture and identity: an introduction and overview*, in M. Parker-Pearson, ed., *Food, culture and identity in the Neolithic and early Bronze Age*, (BAR International Series S1117), Oxford, 2003, pp. 1-30.
- Pellegrino 2007 = E. Pellegrino, *Présentation des céramiques à pâte rouge orangée granuleuses de Xanthos. Une production de céramique culinaire locale sur le long terme*, (Actes de la table-ronde de Poitiers 16), Bordeaux, 2007, pp. 225-260.
- Poblome 1999 = J. Poblome, *Sagalassos red slip ware. Typology and chronology*, (Studies in Eastern Mediterranean Archaeology 2), Turnhout, 1999.
- Poblome et al. 2013a = J. Poblome, D. Braekmans, B. Mušič, M. van der Eenden, B. Neyt, B. De Graeve, P. Degryse, *A pottery kiln underneath the Odeon of ancient Sagalassos. The excavation results, the table wares and their archaeometrical analysis*, in N. Fenn, C. Römer-Strehl, eds., *Networks in the Hellenistic World*, (BAR International Series 2539), Oxford, 2013, pp. 175-185.
- Poblome et al. 2013b = J. Poblome, D. Braekmans, N. Firat, B. Neyt, E. Kaptijn, H. Vanhaverbeke, F. Martens, K. Vyncke, M. Waelkens, P. Degryse, *How did Sagalassos come to be? A ceramological survey*, in M. Tekocak, ed., *Festschrift for Levent Zoroğlu*, Antalya, 2013, pp. 527-540.
- Reitz and Wing 1999 = E.J. Reitz, E.S. Wing, *Zooarchaeology*, Cambridge, 1999.
- Rice 1987 = P. Rice, *Pottery analysis*, Chicago, 1987.
- Robb 2007 = J.E. Robb, *The Early Mediterranean Village: Agency, Material Culture and Social Change in Neolithic Italy*, Cambridge, 2007, <https://doi.org/10.1017/CBO9780511499647>.
- Rotroff 1997 = S.I. Rotroff, *Hellenistic pottery: Athenian and imported wheel made table ware and related material*, (The Athenian Agora 29), Princeton NJ, 1997.
- Rotroff 2002 = S.I. Rotroff, *West slope in the east*, "Travaux de la Maison de l'Orient méditerranéen", 35/1, pp. 97-115.
- Rotroff 2006 = S.I. Rotroff, *Hellenistic Pottery: The Plain Wares*, (The Athenian Agora 33), Princeton NJ, 2006.
- Rotroff and Oliver 2003 = S. Rotroff, A. Oliver, *The Hellenistic Pottery from Sardis: The Finds through 1994 (Archaeological exploration of Sardis. Monographs 12)*, Cambridge, 2003.
- Sams 1994 = G.K. Sams, *The Early Phrygian Pottery*, (The Gordion Excavations, 1950-1973: Final Reports 4), Philadelphia, PA, 1994.
- Schäfer 1968 = J. Schäfer, *Hellenistische Keramik aus Pergamon*, (Pergamische Forschungen 2), Berlin, 1968.
- Schmidt 1957 = E.F. Schmidt, *Persepolis*, Chicago IL, 1957.
- Scholliers 2012 = P. Scholliers, *Ten Years of "Food & History": "la sfida è partita"*, "Food & History", 10/2, pp. 27-41, <https://doi.org/10.1484/J.FOOD.1.103304>.
- Simpson 2005 = J. Simpson, *The royal table*, in J. Curtis, J. Simpson, eds., *Forgotten empire: The world of ancient Persia*, Berkeley CA, 2005, pp. 104-131.
- Sinopoli 1991 = C.M. Sinopoli, *Approaches to Archaeological Ceramics*, Dordrecht, 1991, <https://doi.org/10.1007/978-1-4757-9274-4>.

- Sparkes and Talcott 1970 = B.A. Sparkes, L. Talcott, *Black and Plain Pottery of the 6th, 5th, and 4th Centuries BC*, (*The Athenian Agora* 12), Princeton NJ, 1970.
- Stewart 2010 = S.M. Stewart, *Gordion After the Knot: Hellenistic Pottery and Culture*, Ph.D. Dissertation, University of Cincinnati, 2010.
- Stronach 1978 = D. Stronach, *Pasargadae: a report on the excavations conducted by the British Institute of Persian Studies from 1961 to 1963*, Oxford, 1978.
- Strothenke 2013 = E. Strothenke, *Hellenistische Keramik im nordsyrischen Hinterland - Funde vom Dülük Baba Tepesi*, in N. Fenn, C. Römer-Strehl, eds., *Networks in the Hellenistic World*, (*BAR International Series* 2539), Oxford, 2013, pp. 273-282.
- Summerer et al. 2011 = L. Summerer, A. Ivantchik, A. von Kienlin (eds.), *Kelainai-Apameia Kibotos: Développement urbain dans le contexte anatolien. Stadtentwicklung im anatolischen Kontext* (*Actes du colloque international Munich, 2-4 avril 2009 / Akten des Internationalen Kolloquiums, München, 2-4 April 2009*), Bordeaux, 2011.
- Summers 1993 = G.D. Summers, *Archaeological evidence for the Achaemenid period in eastern Turkey*, "*Anatolian studies*", 43, pp. 85-108, <https://doi.org/10.2307/3642966>.
- Talloon and Poblome 2016 = P. Talloon, J. Poblome, *The 2014 and 2015 Control Excavations on and around the Upper Agora of Sagalassos*, "*Anatolica*", 42, 111-150.
- Thevenin 2011 = M. Thevenin, *Kurdish Transhumance: Pastoral practices in South-east Turkey*, "*Pastoralism: Research, Policy and Practice*", 1/1, pp. 1-24.
- Tuplin 2011 = C. Tuplin, *The Limits of Persianization: Some Reflections on Cultural Links in the Persian Empire*, in E.S. Gruen, ed., *Cultural Identity in the Ancient Mediterranean*, Los Angeles, 2011, pp. 150-182.
- Urem-Kotsou and Kotsakis 2007 = D. Urem-Kotsou, K. Kotsakis, *Pottery, cuisine and community in the Neolithic of North Greece*, in C. Mee, J. Renard, eds., *Cooking up the Past: food and culinary practices in the Neolithic and Bronze Age Aegean*, Oxford, 2007, pp. 225-246.
- Valamoti et al. 2011 = S.M. Valamoti, A. Moniaki, A. Karathanou, *An investigation of processing and consumption of pulses among prehistoric societies: archaeobotanical, experimental and ethnographic evidence from Greece*, "*Vegetation history and archaeobotany*", 20/5, pp. 381-396, <https://doi.org/10.1007/s00334-011-0302-6>.
- van der Enden et al. 2014 = M. van der Enden, J. Poblome, P. Bes, *From Hellenistic to Roman Imperial in Pisidian tableware: The genesis of Sagalassos Red Slip Ware*, in H. Meyza, K. Domžalski, eds., *Late Hellenistic to Mediaeval Fine wares of the Aegean Coast of Anatolia. Their production, imitation and use*, Warschau, 2014, pp. 81-93.
- Vanhaverbeke et al. 2010 = H. Vanhaverbeke, M. Waelkens, K. Vyncke, V. De Laet, S. Aydal, B. Mušič, B. De Cupere, J. Poblome, D. Braekmans, P. Degryse, El. Marinova, G. Verstraeten, W. Van Neer, B. Šlapšak, I. Medarič, H.A. Ekinici and M.O. Erbay, 'Pisidian' culture? *The Classical-Hellenistic site at Düzen Tepe near Sagalassos (southwest Turkey)*, "*Anatolian Studies*", 60, pp. 105-128, <https://doi.org/10.1017/S0066154600001046>.
- Vermoere 2004 = M. Vermoere, *Holocene vegetation history in the territory of Sagalassos (southwest Turkey): a palynological approach*, (*Studies in eastern Mediterranean archaeology* 6), Turnhout, 2004.
- Vermoere et al. 2000 = M. Vermoere, E. Smets, M. Waelkens, H. Vanhaverbeke, I. Librecht, E. Paulissen, L. Vanhecke, *Late Holocene environmental change and the*

- record of human impact at Gravgaz near Sagalassos, southwest Turkey, "Journal of Archaeological Science", 27/7, pp. 571-595, <https://doi.org/10.1006/jasc.1999.0478>.
- Vermoere *et al.* 2001 = M. Vermoere, L. Vanhecke, M. Waelkens, E. Smets, *Modern pollen studies in the territory of Sagalassos (Southwest Turkey) and their use in the interpretation of a Late Holocene pollen diagram*, "Review of palaeobotany and palynology", 114/1, pp. 29-56, [https://doi.org/10.1016/S0034-6667\(00\)00072-5](https://doi.org/10.1016/S0034-6667(00)00072-5).
- Vermoere *et al.* 2002 = M. Vermoere, S. Bottema, L. Vanhecke, M. Waelkens, E. Paulissen, E. Smets, *Palynological evidence for late-Holocene human occupation recorded in two wetlands in SW Turkey*, "The Holocene", 12/5, pp. 569-584, <https://doi.org/10.1191/0959683602hl568rp>.
- Vigne 1991 = J.D. Vigne, *The meat and offal weight (MOW) method and the relative proportion of ovicaprines in some ancient meat diets of the north-western Mediterranean*, "Rivista di studi liguri", 57/1-4, pp. 21-47.
- Von Reden 2007 = S. Von Reden, *Classical Greece: Consumption*, in W. Scheidel, I. Morris, R.P. Saller, eds., *The Cambridge economic history of the Greco-Roman world*, Cambridge, 2007, pp. 362-384.
- Vyncke 2013 = K. Vyncke, *Düzen Tepe: the potential of contextual analysis and functional space analysis by means of an interdisciplinary archaeological and archaeometric research at a Classical-Hellenistic site*, Unpublished Ph.D. dissertation, University of Leuven, 2013.
- Vyncke *et al.* 2011 = K. Vyncke, P. Degryse, E. Vassilieva, M. Waelkens, *Identifying domestic functional areas. Chemical analysis of floor sediments at the Classical-Hellenistic settlement at Düzen Tepe (SW Turkey)*, "Journal of Archaeological Science", 38/9, pp. 2274-2292, <https://doi.org/10.1016/j.jas.2011.03.034>.
- Waelkens *et al.* 2011 = M. Waelkens, J. Poblome, K. Vyncke, *Indigenous versus Greek identity in Hellenistic Pisidia. Myth or reality?*, in J. Gates-Foster, ed., *Hellenes and Non-Hellenes/Beyond Identity in the Hellenistic East*, Rome, 2011, pp. 19-54.
- Warde 1997 = A. Warde, *Consumption, food and taste: culinary antinomies and commodity culture*, London, 1997.
- Wilkins and Hill 2006 = J.M. Wilkins, S. Hill, *Food in the ancient world*, New York, 2006.
- Wrangham 2009 = R. Wrangham, *Koken: Over de oorsprong van de mens*, Amsterdam, 2009.
- Yener-Marksteiner 2007 = B. Yener-Marksteiner, *Fundkeramik aus Sondage West 3 and der Ringmauer im Westbereich von Xanthos*, in S. Lemaître, ed., *Céramiques antiques en Lycie: VIIe s. a.C-VIIe s. p.C.: les produits et les marchés (Ausonius Etudes 16)*, Bordeaux, 2007, pp. 77-113.
- Zohary *et al.* 2012 = D. Zohary, M. Hopf, E. Weiss, *Domestication of Plants in the Old World: The origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin*, Oxford, 2012, <https://doi.org/10.1093/acprof:osobl/9780199549061.001.0001>.

HELLENISTIC AND ITALIC AMPHORAE FROM SAGALASSOS

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Introduction

The aim of this paper is to present an overview of a number of middle/late Hellenistic (c. 200-25 BCE) and early Roman imperial (25 BCE – 100 CE) amphora fragments found at the archaeological site of Sagalassos, located in ancient Pisidia in southwest Anatolia.

Whereas the importance of material culture has long been acknowledged for tracing trade and exchange in the past,¹ amphorae particularly have been regarded as ideal proxies for reconstructing contacts between sites within socio-economic networks, because of their intrinsic functionality as transport vessels of agricultural produce.² The pivotal importance of amphorae implies their extensive study, resulting, at times, in a very detailed description of aspects of fabric, form, chronology, content, provenance and distribution. Establishing the provenance of amphorae found at a given site has great potential to show patterns of connectivity and trade. Counting sherds and/or defining the minimum number of individual vessels or estimated vessel equivalents can be indicative of the intensity of contact.³ However, we should be careful using amphora fragments to automatically assume direct trading contacts between settlements or assess the respective weights of trade routes.⁴ At any rate, such studies are most effective when the spatial and temporal dimensions of the material are contextually linked, requiring the material to derive from securely datable archaeological deposits. Additionally, the

1. Peacock 1977a.
2. Peacock and Williams 1986; Lawall 1998, p. 76. For an historical overview, see Garland 1983.
3. Fulford 1977; Orton 1975; 2009.
4. Lawall 2005, pp. 190-194; Panagou 2016, pp. 209-210.

attested material culture needs to be embedded in a conceptual approach of ancient socio-economic systematics, to make things speak.

Unfortunately, for the material discussed in this paper such arguments are difficult to construct. The town of Sagalassos reached its largest extent during Roman imperial times and continued to be inhabited into the middle Byzantine period. These later occupation phases have covered and/or destroyed much of the archaeology related to the late Achaemenid origins of the community and its original phase of urbanisation in middle Hellenistic times. As a result, the material presented here was in most cases not found *in situ*, making any attempts at linking aspects of connectivity to a secure chronological dimension through these amphorae impossible. Of the studied fragments, three were found during archaeological surveying campaigns within the Ağlasun valley, which Sagalassos overlooks, while the others were found during excavations at the site proper. Of the latter, two were found in a topsoil layer, five in erosional layers, two in late antique fill layers, one in a fourth century CE occupation layer, one in a foundation trench of a building constructed in the second half of the first century CE, and two in foundation trenches linked to construction works in the first half of the first century CE. As even the fragments from the oldest stratigraphic deposits consisted of reworked material brought in during construction works related to the early Roman imperial period, little to no direct chronological information can be derived from this material. The only chronological framework that we can rely on is external, relating to periods of circulation of specific types of amphorae, obtained from other sites. This allows setting the brackets for the Sagalassos fragments to between middle Hellenistic and early Roman imperial times, ranging from c. 200 BCE to 100 CE.

Even though our material comes with clear limits, we considered its presentation to hold some importance. The listing of amphora finds from non-coastal regions in the ancient world has relevance for understanding past realities of circulation of goods, as well as approaching socio-economic patterns of these past worlds. At Sagalassos, a lot of attention has so far been dedicated to its local pottery production, allowing the presented material to instigate some reflection on wider aspects of urban life. Specifically, (part of) the material can be related to the initial stages of urbanisation, which is an area of growth in studying the history of the region of Pisidia.

Presenting the material

The amount of fragments of Hellenistic and Italic amphorae from Sagalassos is at present very limited.⁵ All were found in locations other than their original contexts. In general, the archaeological harvest at Sagalassos is related mostly to the Roman imperial, late antique and Byzantine periods in line with the archaeological opportunities offered by the extant urban framework. It should therefore come as no surprise that the discussed amphora fragments are small, resulting from the long object history, starting as imported amphorae in periods before the main archaeology of the site and ending up as sherds in residual positions in scattered deposits. Nevertheless, the identification of the origin of the amphorae and the broad external chronological framework based on typology and fabric provide a first glance at the relations of an inland, mountainous site in Asia Minor with some well-known agricultural production centres and regions on the Aegean and Tyrrhenian coasts. All of the amphorae originally carried wine.

RHODIAN HELLENISTIC AMPHORAE

1. SA-2002-DA2-94 (FIG. 1)

Rim fragment with small part neck and traces of handle, preserved height 4.5 cm, preserved length 7 cm. Exterior light beige with traces pale slip, core beige to brown, well levigated fabric with nearly no inclusions visible, hard fired.



FIG. 1. Rim fragment of Rhodian amphora.

5. The fieldwork leading to this paper was carried out in the 2009 Sagalassos season. Dr. Philip Bes kindly prepared the initial selection of the amphora material. The sherds discussed in this paper were found during a variety of excavations initiated by Marc Waelkens as director of the Sagalassos Archaeological Research Project (1990-2013).

2. SA-2003-SS-134

Lower part vertical handle fragment, preserved height 7.5 cm, diameter 3.5 cm. Exterior beige, core light brown to light red, well levigated fabric with fine white inclusions, one notable red brown inclusion, hard fired.

3. SA-2003-LA2-80 (FIG. 2)

Upper part vertical handle fragment, broken at the bend towards horizontal part, split off lengthwise, preserved height 5.5 cm. Light brown, well levigated fabric with fine colourless, grey and dark inclusions, hard fired. Two other Rhodian fragments, a small shoulder fragment with print of handle attachment and a small wall fragment could form part of the same amphora.



FIG. 2. Wall fragment of Rhodian amphora.

4. SA-1996-B-197

Bottom with beginning of peg toe, interior slightly twisted clay pellet, preserved height 6 cm. Exterior light brown, core red pink, well levigated fabric with fine white and red brown inclusions, badly eroded and decomposing.

5. SA-2003-SS-107 (FIG. 3)

Fragment lower wall, maximum length preserved 6.5 cm. Exterior light brown, traces pale slip, core light red, well levigated fabric with fine white and dark inclusions, hard fired.



FIG. 3. Wall fragment of Rhodian amphora.

The output of wine and amphorae on Rhodes in the Hellenistic period was very considerable.⁶ The top shaped Rhodian amphora with its fine rounded handles was easily recognisable, then as now. These containers were widely distributed throughout the Mediterranean and Levant. Although production started already around 300 BCE, the massive output from Rhodes is best situated between c. 250-80 BCE with a peak in the second century BCE. Both handles of the Rhodian amphorae were systematically stamped with the respective names of the eponym officials and the producers providing invaluable dating clues.⁷ Unfortunately, no stamped handles have been discovered at Sagalassos so far. The First Mithridatic War most probably led to a serious decline of production which ended with the capture of Rhodes in 43 BCE by Cassius. Production was resumed from Augustan times onwards and Rhodian amphorae of a more slender form with typical horned handles were successfully distributed throughout the empire during the first century CE. As far as is known, no fragments of this Roman imperial version turned up at Sagalassos, although production centres in the *peraiā* of Rhodos on mainland Asia Minor are well attested and considered prolific.⁸

6. Grace and Savvatiānou-Petropoulakou 1970, pp. 289-316; Empereur and Hesnard 1987, pp. 18-20; Withbread 1995, pp. 53-67.
7. Grace 1953; Finkielsztejn 2001.
8. Hesnard 1986; Empereur and Picon 1986, pp. 116-117; 1989, pp. 224-225; Peacock 1977b, pp. 266-270.

KNIDIAN HELLENISTIC AMPHORA?

6. SA-2000-TSW2-13

Middle to lower wall fragment, rather coarse fabric, irregular break, dark brown matrix with lots of small white, dark, red brown and colourless inclusions. Some letters of a graffito *post cocturam* preserved:]I Π (height 1.5 cm) followed at a distance of 1.5 cm by the smaller letters ΥΛ(?) (height 0.5 cm).

Knidian wine and amphora production became important around the end of the fourth and the early third centuries BCE.⁹ Typical morphological features were the egg shaped body, the slender tall strap handles and the ringed toe. From the final decades of the third century BCE on, stamping on the handles became regular. As much as the Rhodian stamps, the Knidian ones are invaluable tools for dating. No Knidian stamps were found in Sagalassos. A wide variety of fabrics is considered to point to a large number of production sites, as also indicated by the stamps. Hellenistic Knidian amphorae circulated widely in the Cyclades, Athens and mainland Greece. An appreciable production continued in Roman imperial times.

KOAN HELLENISTIC AMPHORAE AND IMITATIONS FROM THE ASIA MINOR COAST

7. SA-2000-TSW2-13 (FIG. 4)

Upper vertical part of the two tubes of a double barrelled handle, broken at the bow to the horizontal part, preserved height 8 cm, diameter 2.6 cm. Fairly levigated fabric, exterior greenish beige, core beige, some red brown, black and colourless inclusions, medium-hard fired. Almost certainly original from Kos.



FIG. 4. Handle fragment of Koan amphora.

9. Grace and Savvatianou-Petropoulakou 1970, pp. 317-354; Empereur and Hesnard 1987, pp. 20-21; Withbread 1995, pp. 68-80; Koehler and Wallace Matheson 2004, pp. 163-169.

8. SA-2008-MAC-0084-00136 (FIG. 5)

Upper horizontal part of a double barrelled handle, width 4.8 cm, preserved length 5.5 cm. Beige slip, core brown, fabric with white and dark inclusions, scaly at break, hard fired. Probably Koan imitation from a centre on the Asia Minor coast.



FIG. 5. Handle fragment of Koan imitation amphora.

9. SA-2006-DA-47-88

Wall fragment, preserved length 11 cm. Light greenish slip, core and interior red brown, fabric with colourless and brown inclusions, a fair quantity of white inclusions, sandy but medium-hard fired. Probably Koan imitation from a centre on the Asia Minor coast.

10. SA.2002-DA2-111 (FIG. 6)

Fragment shoulder with handle attachment, preserved length 8 cm, rounded to quadrangular section handle of 2.8 x 3.3cm. Greenish grey exterior, core light brown to pink brown, fabric with red-brown and some white inclusions, medium-hard fired. Imitation of a Rhodian example from Kos or Asia Minor coast?



FIG. 6. Shoulder fragment of Koan imitation amphora.

Wine and amphorae from Kos manifested themselves in the course of the third century BCE.¹⁰ Initially, different types with strap and rounded handles existed, but in the end the double barrelled handles became typical, as well as the thin wall of the body. The slender types of the second and first centuries BCE were much imitated, with fabrics macroscopically hard to distinguish. Petrological analysis and surveys on production sites proved this type to be made on different coastal sites such as at Myndos and even in the peraia of Knidos.¹¹ Kos remained a prolific centre in Roman imperial times with an important distribution. Some fragments of this later production were also found in Sagalassos. In the first century CE, the Koan amphora type became one of the most imitated wine containers in the empire.

CHIAN HELLENISTIC AMPHORA AND LAGYNOS

11. SA-1996-B-192 (FIG. 7)

Fragment shoulder broken at the carination to the lower wall, preserved length 3.5 cm. White slip on surface with red brown core and interior, well levigated fabric with nearly no inclusions visible apart some fine white particles, hard fired.

10. Grace and Savvatianou-Petropoulakou 1970, pp. 363-365; Empeureur and Hesnard 1987, pp. 22-23; Withbread 1995, pp. 81-106.
11. Hesnard 1986; Empeureur and Picon 1986, pp. 109-112; Empeureur and Picon 1989, pp. 225-226; Empeureur and Hesnard 1987, p. 13; Monsieur and De Paepe 2002, pp. 163-166.



FIG. 7. Wall fragment of Chian amphora.

12. SA-1999-LA-127 (FIG. 8)

Fragment shoulder most probably from a lagynos, preserved length 7.5 cm. White slip on surface with red brow core and interior, slightly laminated, well levigated fabric with nearly no inclusions visible, some white and red brown particles, hard fired.



FIG. 8. Shoulder fragment of Chian lagynos.

The production of wine amphorae on Chios was impressive in Archaic and Classical times. In the second half of the fourth century BCE, a new amphora type was designed with a long neck, rounded handles and a triangular shaped body ending in a massive toe.¹² In the course of the third century BCE, Chios probably lowered its mass production and focused more on quality wine, which is supposedly reflected in a substantial decrease of amphora and lagynoi output for export. The production of this amphora type continued into Augustan-Tiberian times.

12. Grace and Savvatianou-Petropoulakou 1970, pp. 359-363; Empereur and Hesnard 1987, pp. 21-22; Monsieur 1990; Withbread 1995, pp. 134-153.

ITALIC REPUBLICAN AMPHORAE FROM THE TYRRHENIAN COAST

13. SA-2008-MAC-0084-00136 (FIG. 9)

Fragment upper vertical part of a handle with break on the carination to the horizontal part, preserved height 12 cm. Exterior light pink red, core dark pink red, coarse fabric with much inclusions, especially black, red brown and colourless particles, medium-hard fired.



FIG. 9. Handle fragment of Tyrrhenian amphora.

14. SA-2001-DA1-136 (FIG. 10)

Wall fragment, length preserved 3.5 cm. Pink red coarse fabric with much inclusions, especially black sparkling particles, medium-hard fired.



FIG. 10. Wall fragment of Tyrrhenian amphora.

15. SA-2001-DA2-111

Chip of a wall fragment, length preserved, 3.5 cm. Brown red coarse fabric with much inclusions dominated by black particles, some white.

16. SA-2002-SS-83 (FIG. 11)

Wall fragment, preserved length 5.8 cm. Pink red coarse fabric with core of grey and red brown layers, fair amount of inclusions, red brown particles as abundant as black.



FIG. 11. Wall fragment of Tyrrhenian amphora.

The fabrics of these Italic amphora fragments leave no doubt as to the location of the production sites on the Tyrrhenian coast. All sherds point to a volcanic environment, most probably Campania known as a major wine and amphora production region.¹³ One diagnostic handle can be identified safely as a late Graeco-Italic or an early Dressel 1 type, dated to 150-50 BCE. The thickness of the three wall fragments indicates that these belonged to amphorae, although Campanian table and cooking wares were also distributed in the Eastern Mediterranean. Our fragments, however, can be assigned to a specific amphora type, with implications for the chronology. The sherds formed part of the more slender versions of the Graeco-Italic types (second century BCE), the sturdy Dressel 1 types (first century BCE) or the Dressel 2-4 types with their double barrelled handles in imitation of Koan prototypes (first century CE).

Discussing the amphorae

Although out of context and reduced to rough external chronological indicators, we tend to read in the examples collected at Sagalassos that these did not appear before the original phase of urbanisation of this settlement,

13. Hesnard *et al.* 1989; Ricq de Boüard *et al.* 1989; Peacock and Williams 1986, pp. 84-92 and 105-106; Tchernia 1986, pp. 42-100; Maza 1988; Monsieur and De Paepe 2002, pp. 166-169; Olmer 2003.

TABLE 1. Overview of Hellenistic and Italic amphorae found at Sagalassos.

Type	Origin	Chronology	Fragment	Context/Locus
1 Hellenistic type	Rhodos	250-50 BCE	rim	SA-2002-DA2-94
2 Hellenistic type	Rhodos	250-50 BCE	handle	SA-2003-SS-134
3 Hellenistic type	Rhodos	250-50 BCE	handle	SA-2003-LA2-80
4 Hellenistic type	Rhodos	250-50 BCE	bottom	SA-1996-B-197
5 Hellenistic type	Rhodos	250-50 BCE	wall	SA-2003-SS-107
6 Hellenistic type	Knidos?	200 BCE- 50 CE	wall	SA-2000-TSW2-13
7 Dressel 5 Hellenistic	Kos or imitation	200-50 BCE	handle	SA-2000-TSW2-13
8 Dressel 5 Hellenistic	Kos or imitation	200-50 BCE	handle	SA-2008-MAC-0084-00136
9 Dressel 5 Hellenistic	Kos or imitation	200-50 BCE	wall	SA-2006-DA-47-88
10 Imitation Rhodian Hell.?	Kos or imitation	200-50 BCE	shoulder	SA-2002-DA2-111
11 Hellenistic type	Chios	200BCE - 25 CE	shoulder	SA-1996-B-192
12 Lagynos	Chios	200-50 BCE	shoulder	SA-1999-LA-127
13 Greco-Italic or Dressel 1	Campania	150-50 BCE	handle	SA-2008-MAC-0084-00136
14 Gr-It or Dr 1 or Dr 2-4	Campania	150BCE - 100 CE	wall	SA-2001-DA1-136
15 Gr-It or Dr 1 or Dr 2-4	Campania	150 BCE - 100 CE	wall	SA-2001-DA2-111
16 Gr-It or Dr 1 or Dr 2-4	Campania	150 BCE - 100 CE	wall	SA-2002-SS-83

from around c. 200 BCE onwards.¹⁴ (TABLE 1) Apart from a presumed demographic concentration within the newly constructed urban framework, this phase also saw the origin of an extensive territory administratively linked to the new town. The newly found momentum of development was also translated into the initiation of a new line of pottery tableware production, mostly in line with Anatolian models.¹⁵

On the other hand, we should avoid coming to far-reaching historical conclusions based on this limited amount of material, from secondary and scattered deposits. Moreover, research on contemporary amphora material, especially at inland Anatolian sites or sites along the south coast of the peninsula, is not yet encompassing enough to gauge and compare importance of types and patterns.

Sites such as Gordion, Pessinous and Xanthos¹⁶ also did not reveal large quantities of Hellenistic and Italic amphorae, although Gordion seems a case on its own regarding the import of Rhodian amphorae. The pre-Hellenistic period yielded a certain amount and diversity of Pontic, Aegean and Levantine amphorae, possibly due to the position of Gordion on or near the

14. Talloen and Poblome 2016.

15. Poblome *et al.* 2013a; 2013b; van der Enden *et al.* 2014.

16. Lawall 2008; 2010; Monsieur 2001; Monsieur and De Paepe 2002; Lemaître 2015.

Persian Royal Road. In the wake of arrangements of the Galatian settlement around 260 BCE, imported amphorae seem to become rare. This is contrasted with a group of 34 Rhodian amphora stamps discovered in the context of the so-called SET house. These formed a chronologically homogenous group of the first decade of the second century BCE. Mark Lawall proposed in a very convincing way a link with the base that the Roman commander Manlius Vulso set up at Gordion in 189 BCE, upon the abandonment of the city by the Galatians. The clustering of Rhodian amphorae in this case seems to reflect supply of the Roman army rather than market dependent exchange or trade. As impressive amounts of Rhodian amphorae otherwise came to light in Ionia and Pergamon,¹⁷ military logistics of supply could tap into the supply to these markets.

Although both Pessinous¹⁸ and Sagalassos were confronted with the expedition of Manlius Vulso, the available evidence at both sites is too scant and hazy to consider explaining the presence of Rhodian amphorae at both sites in this way. Moreover, a clear chronological framework is lacking. No stamps were found at these sites and the amphora fragments were too small to extract dating clues from their typology. Rhodian Hellenistic amphorae were produced and exported successfully during a window of 150 years,¹⁹ of which there is ample proof on some Asia Minor coastal sites. At Perge,²⁰ the excavations at the acropolis yielded 12 legible Rhodian stamps with a chronology between c. 234-146 BCE (TABLE 2). On the south-eastern Cilician coast, at Kinet Höyük,²¹ probably ancient Issos, some 30 Rhodian stamps were evenly spread in a longer chronological range, i.e. between 250-100/80 BCE. Strangely enough, although not situated far from the coast, we should remark that Xanthos revealed only a small amount of Rhodian amphorae.²² We cannot propose a detailed scenario as to why and how, but the presence of Rhodian Hellenistic amphorae at newly urbanising Sagalassos can perhaps be seen in the context of the relative proximity of Rhodos, its massive wine and amphora production and the generally successful distribution of the latter in these parts of the ancient world.

17. See the famous Pergamon Deposit with more than 900 Rhodian amphora handles found on the Burgberg and dated to c. 198-161 BCE: Börker and Burrow 1998.
18. The Rhodian amphorae of Pessinous are not yet published. Some 10 fragments were identified.
19. Rhodian wine production and export culminated between c. 190-150 BCE: Lund 2011, pp. 287-289.
20. Laube 2003.
21. Monsieur and Poblome, in press.
22. Lemaître 2015, p. 12: amongst them there is one illegible stamp.

TABLE 2. Legible Rhodian amphora handles found on the acropolis of Perge.²³

	Period	Date	Eponym	Manufacturer	Month	Device
1	IIa-b	c. 233-220+		Soteridas		
2		c. 233-220+		Damonikos	Artamitios	
3		c. 219-210+		Mentor	Badromios	
4	II?	c. 234-199?		Menandros I		
5	IIIa	c. 194	Sostratos			head Helios
6	IIIc	c. 177-175	Kallikrates II		Petageitnuos	
7		c. 176-174	Damokles II		Petageitnuos	
8	IIc-IIIe	c. 199-167/165+		Damokrates I		rose
9	IIIe	c. 165-163	Archilaidas		Artamitios	
10	IIIb-IVa	c. 186-153+		Marsyas	Karneios	
11	IVa	c. 154-153	Gorgon		Karneios	
12	IVa-b	c. 160-146+		Hippokrates		rose
13	III-IV	c. 194-146		Herakleitos I or II?		

Sagalassos also yielded some other typical Hellenistic wine amphorae from Chios, Kos, several unknown production centres on the Asia Minor coast, and perhaps Knidos. These types occurred in small quantities at the inland site of Pessinous as well, but not anymore at Gordion as upon its abandonment in 189 BCE there was only an important resettlement phase by the end of the first century CE.²⁴ There is also a remarkable paucity of Hellenistic amphorae in Xanthos.²⁵ The nearly complete absence of Knidian amphorae at Sagalassos is not necessarily surprising. Whatever the reasons may be, Knidian amphorae did not occur regularly along the western and southern coasts of Asia Minor, nor in the Levant.²⁶ In contrast, the presence of Knidian amphorae is massive in Athens, the Cyclades and somewhat less at Alexandria.²⁷ It seems as if the markets of Asia Minor were mostly reserved for Rhodian wine.

What could have been expected in Hellenistic Sagalassos are Pamphylian amphorae. Perhaps these went unnoticed. These vessels were rather well represented on the acropolis of Perge.²⁸

23. Arrangement after Laube 2003, pp. 133-134. For the chronology of the manufacturers the upper dates of a combination with eponyms were chosen.

24. Monsieur 2001; Monsieur and De Paep 2002; Lawall 2008, p. 164.

25. Lemaitre 2015, p. 10.

26. E.g. at Kinet Höyük where only some fragments were probably identified; even in Pergamon these are poorly represented: Börker and Burow 1998, pp. 56-58 and 110-112.

27. Koehler and Wallace Matheson 2004.

28. Grace 1973; Laube 2003, pp. 132-135.

The evidence on activities of Italic and Roman merchants within Anatolia and on the south coast of Asia Minor is not very abundant and the nature unclear. Considering the current state of the art, amphorae do not qualify as telling tracers even though these do occur in a certain variety on different sites. Nevertheless, it is difficult to grasp their importance because there is no quantified data available.²⁹ We mostly rely on the publication of isolated finds of Italic amphorae, which, in a fragmented condition, can be difficult to recognise.³⁰ At Sagalassos only Campanian amphorae were identified and with the exception of a handle of a Graeco-Italic or an early Dressel 1A type, their poorly preserved state does not allow assignation with certainty to a specific typology. Strikingly, no other Tyrrhenian or Adriatic productions were represented. This is in contrast with the typological variety attested in wrecks or of finds on land elsewhere. Central Adriatic wine amphorae of the Lamboglia 2 and Dressel 6A types are known from Pessinous, Kinet Höyük, Tarsos and some underwater locations.³¹ A geographically related group, carrying another commodity, the Apulian and Brindisian oil amphorae were attested in Pessinous, Patara, Xanthos, Kinet Höyük and Tarsos.³² Finally, there are different types of Tyrrhenian origin: the wine amphorae Dressel 1A and B and Dressel 2-4 (Pessinous, Patara and Xanthos)³³ and those for fish-based products, the Dressel 1C and Dressel 21-22 (Xanthos and Museum of Anamur)³⁴. The oldest imports of Italic amphorae in the Eastern Mediterranean were Central Adriatic Graeco-Italic types. Six complete examples were found in the fill of a man-hole within the South Stoa at Corinth, containing materials of the 146 BCE destruction.³⁵ To be sure, the import of Italic amphorae in Greece and Asia Minor needs to be considered partly in the light of Roman colonialism and military expeditions, such as the Mithridatic wars and the wars of Pompeius against the Cilician pirates.

29. Lund 2000, p. 89; Lemaître 2015, p. 3.

30. Lemaître 2015, p. 24.

31. Pessinous: unpublished, at least 8 fragments were identified. Kinet Höyük: Monsieur and Poblome, in press. Tarsos: Jones 1950, n° 1050, fig. 169 and 177. Underwater finds: Museum of Bodrum: Oğuz Alpözen 1975, p. 21, n° 1 and p. 28, n° 1; Museum of Anamur: Zoroğlu *et al.* 2008, p. 48, n° 34-37.

32. Pessinous: unpublished, at least 2 fragments. Patara: DüNDAR: 2013; Lemaître 2015, p. 19. Xanthos: Lemaître 2015, p. 18. Kinet Höyük: Monsieur and Poblome, in press. Tarsos: Jones 1950, fig. 143, A.

33. Pessinous: Monsieur 2001; Monsieur and De Paepe 2002. Xanthos: Lemaître 2015, pp. 13-16 and 18; Patara: DüNDAR 2013; Lemaître 2015, p. 19.

34. Lemaître 2015, pp. 4-5, 16, 18; Zoroğlu *et al.* 2008, p. 48, n° 39.

35. Romano 1994, pp. 86-88, n° 63-68.

First interpretations and conclusions

With little to no information preserved regarding the original contexts of these fragments, can we still use this material to understand aspects of local community development within a larger framework? The material under scrutiny in this paper represents the oldest examples of amphora encountered at Sagalassos, with the beginning of their circulation situated between 200 and 150 BCE. Interestingly, amphorae were all but absent from the material record at the nearby late Achaemenid to early Hellenistic site of Düzen Tepe. Radiocarbon dating and palynological studies, combined with evidence from ceramological studies, have indicated that Düzen Tepe was inhabited from the fifth century onwards, until its abandonment somewhere during the second century BCE, with the main occupation of the settlement probably situated during the fourth and third centuries BCE.³⁶ This places the arrival of amphorae at Sagalassos near the end date of the occupation period of Düzen Tepe, or even outside of this time period altogether when the maximal end-date of the circulation period – 50 BCE for the Hellenistic amphorae and 79 CE for the early Roman imperial pieces – is considered. This leaves ample room for these objects to have reached Sagalassos only after Düzen Tepe was already abandoned. As a result, the absence of amphorae at Düzen Tepe can be attributed to chronological differences. However, it can be argued that the main underlying explanation goes deeper and is related to differences in socio-cultural frameworks.

The absence of amphorae at Düzen Tepe and contemporary Sagalassos cannot be attributed to a supposed isolation of local communities from wider system dynamics. Although Düzen Tepe was characterized by a predominantly locally-oriented socio-economic system, it clearly had no problem familiarizing itself with wider developments to provide a template for local artisanal production where possible/wanted, nor to supplement local production with import whenever the former was not possible, sufficient or desired.³⁷ Could the observed Anatolia-oriented template of material culture perhaps be symptomatic of the community not having access to Aegean/Mediterranean trade patterns that would have allowed amphorae to reach the site? As amphorae did reach the later, middle Hellenistic community at Sagalassos, while a similar Anatolia-oriented template was still observed for its material culture, connectivity cannot have been the only factor. Did the people of Düzen Tepe perhaps have no need for importing amphorae and their contents because of sufficient local production? Archaeobotanical and palynological research

36. Vanhaverbeke *et al.* 2010; Daems *et al.*, this issue.

37. Daems and Poblome 2016; Daems *et al.*, this issue.

indicated local olive and grape cultivation and processing taking place at Düzen Tepe or in the immediate vicinity of the site, suggesting local production of oils and wine must have existed, insofar as vine cultivation can be directly linked to wine making.³⁸ But also at Hellenistic Sagalassos we have the same indications for local grape or olive production, suggesting local production did not prevent the import of other wines.

Interestingly, the proposed outer date of circulation of these amphorae and the demise of Düzen Tepe roughly coincided with the initial phase of development of the urban fabric of Sagalassos and its associated material culture.³⁹ Are these (quasi) simultaneous developments happening coincidentally? Or can we suspect these processes to be in some way interconnected? We should not necessarily interpret practices and the processes behind them to be directly causally connected, but perhaps rather to be symptomatic of larger developments shaping social, economic, cultural and political configurations and developments at this time.

Even in Moses Finley's minimalist assessment of the ancient economy, individual households as basic economic units were never completely self-sufficient, despite the 'ideology of autarky'.⁴⁰ Diversification in household production therefore already required a certain amount of production beyond its own needs, generating inter-household exchange to obtain goods necessary for the average household to perform all its functions. Such inter-household reciprocity provided the necessary economic base for family-based social organization and can be subsumed under the moniker of 'domestic economy'.⁴¹ In such a system, local grape and olive production was sufficient to fulfil basic local needs, leaving no incentive to participate in trade systems connected with the Aegean, let alone Campania, which could have resulted in the import of amphorae. Yet, amphorae, more or less by definition, were geared towards long-distance markets based on the exchange of production surpluses.⁴²

In the post-Finley era it has been commonly asserted that the ancient economy went beyond the limitations of the domestic economy model.⁴³ Keeping things simple and putting aside the role of individual entrepreneurship, most other economic incentives beyond the level of the household can be sub-

38. Bakker *et al.* 2012, pp. 253-259; Vermoere 2004, pp. 133 and 136-139; De Cupere *et al.* 2017; Cleymans *et al.*, this issue.

39. van der Enden *et al.* 2014; Poblome *et al.* 2013b; Talloen and Poblome 2016.

40. Harris and Lewis 2016, pp. 5 and 25-28.

41. Ault 2007

42. Lawall 2016, p. 263.

43. Hopkins 1983; Mattingly and Salmon 2001; Harris and Lewis 2016.

sumed under the marker of ‘political economy’. On this level, household production was connected to the outside world through the emergent nexus of the community as a local socio-political unit. Although these three scales (in a simplified model consisting of household, community, and outside world) could in theory interact freely with each other, certain lines of structuration guided much of this intra-scalar communication along fixed pathways. However, such pathways do not merely offer constraints but also act as a catalyst for further system dynamics to emerge and develop. Therefore, we should like to suggest that the appearance of amphorae at Sagalassos can be seen as a material trace of a wider transition phase, moving from the primordial roles and activities of households to those of the community as a whole. In this respect, the attestation of amphorae at Sagalassos from middle Hellenistic times onwards can be regarded as symptomatic of wider developments crystallizing as urbanisation at work.

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References

- Ault 2007 = B. Ault, *Oikos and Oikonomia: Greek Houses, Households and the Domestic Economy*, (*British School at Athens Studies* 15), pp. 259–65.
- Bakker *et al.* 2012 = J. Bakker, E. Paulissen, D. Kaniewski, V. De Laet, G. Verstraeten, M. Waelkens, *Man, Vegetation and Climate during the Holocene in the Territory of Sagalassos, Western Taurus Mountains, SW Turkey*, “*Vegetation History and Archaeobotany*”, 21 (4), pp. 249–66, <https://doi.org/10.1007/s00334-011-0312-4>.
- Börker and Burow 1998 = C. Börker and J. Burow, *Die hellenistische Amphorenstempel aus Pergamon. Der Pergamoncomplex. Die übrigen Stempel aus Pergamon (Pergamenische Forschungen 11)*, Berlin, 1998.
- Daems and Poblome, 2016 = D. Daems, J. Poblome, *Adaptive cycles in communities and landscapes. The case of Sagalassos and Düzen Tepe during the Classical/Hellenistic period*, “*Archaeological Review Cambridge*”, 31-2, 2016, pp. 91-107.
- De Cupere *et al.* 2017 = B. De Cupere, D. Frémondeau, E. Kaptijn, E. Marinova, J. Poblome, R. Vandam, W. Van Neer, *Subsistence economy and land use strategies in the Burdur province (SW Anatolia) from prehistory to the Byzantine period*, “*Quaternary International*”, 436/B, pp. 4-17, <https://doi.org/10.1016/j.quaint.2015.11.097>.

- Dündar 2013 = E. Dündar, *Roman Amphora Stamps from Patara*, “Olba”, 21, pp. 142-149.
- Empereur and Picon 1986 = J.-Y. Empereur, M. Picon, *A la recherche des fours d’amphores*, in J.-Y. Empereur and Y. Garlan (eds) *Recherches sur les amphores grecques et romaines*, (*Bulletin de Correspondance Hellénique Suppl.* 13), Paris, 1986, pp. 103-126.
- Empereur and Hesnard 1987 = J.-Y. Empereur, A. Hesnard, *Les amphores hellénistiques*, in P. Lévêque, J.-P. Morel (eds), *Céramiques hellénistiques et romaines II*, Besançon, 1987, pp. 10-71.
- Empereur and Picon 1989 = J.-Y. Empereur, M. Picon, *Les régions de production d’amphores impériales en Méditerranée orientale*, in *Amphores romaines et histoire économique: dix ans de recherche*, (*Collection de l’Ecole française de Rome* 114), Rome, 1989, pp. 223-248.
- Finkielsztejn 2001 = G. Finkielsztejn, *Chronologie détaillée et révisée des éponymes amphoriques rhodiens, de 270 à 108 av. J.-C. environ. Premier bilan* (*BAR International Series* 990), Oxford, 2001.
- Fulford 1977 = M. Fulford, *Pottery and Britain’s foreign trade in the later Roman period*, in D.P.S. Peacock (ed.) *Pottery and early commerce. Characterization and trade in Roman and later ceramics*, London, 1977, pp. 35-84.
- Garlan 1983 = Y. Garlan, *Greek amphorae and trade*, in P. Garnsey, K. Hopkins, C. Whittaker (eds), *Trade in the Ancient Economy*, London, 1983, pp. 27-35.
- Grace 1953 = V. Grace, *The Eponyms named on Rhodian Amphora Stamps*, “*Hesperia*”, 22, pp. 116-128, <https://doi.org/10.2307/146986>.
- Grace 1973 = V. Grace, *Imports from Pamphylia*, in *Etudes déliennes* (*Bulletin de Correspondance Hellénique Suppl.* 1), Paris, 1973, pp. 183-208.
- Grace and Savvatianou-Petroupoulakou 1970 = V. Grace, M., Savvatianou-Petroupoulakou, *Les timbres amphoriques grecs*, in P. Bruneau (ed.), *L’ilot de la Maison des comédiens* (*Exploration archéologique de Délos, Fascicule* 27), Paris, 1970, pp. 277-382.
- Harris and Lewis 2016 = E. Harris, D. Lewis, *Introduction: Markets in Classical and Hellenistic Greece*, in E. Harris, D. Lewis, M. Woolmer (eds), *The Ancient Greek Economy: Markets, Households and City-States*, New York, 2016, pp. 1-39, <https://doi.org/10.1017/CBO9781139565530.002>.
- Hesnard 1986 = A. Hesnard, *Imitations et raisonnement archéologique: à propos des amphores de Rhodes et de Cos*, in J.-Y. Empereur, Y. Garlan (eds), *Recherches sur les amphores grecques et romaines*, (*Bulletin de Correspondance Hellénique Suppl.* 13), Paris, 1986, pp. 69-79.
- Hesnard et al. 1989 = A. Hesnard, M. Ricq de Bouard, P. Arthur, M. Picon, A. Tchernia, *Aires de production des gréco-italiques et des Dressel 1*, in *Amphores romaines et histoire économique: dix ans de recherche*, (*Collection de l’Ecole française de Rome* 114), Rome, 1989, pp. 21-65.
- Hopkins 1983 = K. Hopkins, *Introduction*, in P. Garnsey, K. Hopkins, C. Whitaker, *Trade in the Ancient Economy*, London, 1983, pp. 1-15.
- Jones 1950 = F.F. Jones, *The Pottery*, in H. Goldman (ed.), *Excavations at Gözli Kule, Tarsus: I. The Hellenistic and Roman Periods*, Princeton, New Jersey, 1950, pp. 149-296.
- Koehler and Wallace Matheson 2004 = G.C. Koehler, M.P. Wallace Matheson, *Knidian amphora chronology, Pergamon to Corinth*, in J. Eiring, J. Lund (eds), *Transport*

- Amphorae and Trade in the Eastern Mediterranean*, (Monographs of the Danish Institute at Athens 5), Athens, 2004, pp. 163-169.
- Laube 2003 = I. Laube, *Die Amphorenstempel*, in H. Abbasoğlu, W. Martini (eds), *Die Akropolis von Perge I. Survey und Sondagen 1994-1997*, Mainz am Rhein, 2003, pp. 131-137.
- Lawall 1998 = M.L. Lawall, *Ceramics and Positivism Revisited: Greek Transport Amphoras and History*, in H.M. Parkins, C. Smith (eds), *Trade, Traders and the Ancient City*, London, 1998, pp. 75-101.
- Lawall 2005 = M. Lawall, *Amphoras and Hellenistic Economies: Addressing the (Over) Emphasis on Stamped Amphora Handles*, in Z.H. Archibald, J.K. Davies and V. Gabrielsen (eds), *Making, moving, and managing: The new world of ancient economies, 323-31 BC*, Oxford, 2002, pp. 188-232.
- Lawall 2008 = M.L. Lawall, *Rhodian Amphora Stamps from Gordion 189 BC*, in A. Avram, V. Lungu, M. Neagu (eds), *Philius Charin: Mélanges à la mémoire de Niculae Conivici, Călăși*, 2008, pp. 111-120.
- Lawall 2010 = M.L. Lawall, *Pontic, Aegean and Levantine Amphorae at Gordion*, in D. Tassab Tezgör, N. Inaishvili (eds), *PATABS I. Production and Trade of Amphorae in the Black Sea*, (Varia Anatolica 21), Istanbul, 2010, pp. 159-165.
- Lawall 2016 = M. Lawall, *Practices in the Economies of Greece, Sixth to First Centuries BCE*, in E. Harris, D. Lewis, M. Woolmer, *The Ancient Greek Economy: Markets, Households and City-States*, New York, 2016, pp. 254-275, <https://doi.org/10.1017/CBO9781139565530>.
- Lemaître 2015 = S. Lemaître, *Amphores italiqes en Lycie: témoins des réseaux marchands en Méditerranée orientale? (IIe s. av. J.-C./Ier s. ap. J.-C.)*, "Cahiers Mondes Anciens 7", 2015, <https://doi.org/10.4000/mondesanciens.1617>.
- Lund 2000 = J. Lund, *Transport Amphorae as Evidence of Exportation of Italian Wine and Oil to the Eastern Mediterranean in the Hellenistic Period*, in J. Lund, P. Pentz (eds), *Between Orient and Occident, Studies in Honour of P.J. Riis*, Copenhagen, pp. 77-99.
- Lund 2011 = J. Lund, *Rhodian transport amphorae as a source for economic ebbs and flows in the Eastern Mediterranean in the second century BC*, in Z. Archibald, J. K. Davies, V. Gabrielsen (eds), *The Economies of Hellenistic Societies, Third to First Centuries BC*. Oxford, 2011, pp. 280-295, <https://doi.org/10.1093/acprof:osobl/9780199587926.003.0013>.
- Mattingly and Salmon 2001 = D. Mattingly, J. Salmon, *Economies Beyond Agriculture in the Classical World*, London, 2001, <https://doi.org/10.4324/9780203204467>.
- Maza 1988 = G. Maza, *Recherches méthodologiques sur les amphores gréco-italiques et Dressel 1 découvertes à Lyon. II^e-I^{er} siècles avant J.-C.*, SFECAG, Actes du Congrès d'Istres, pp. 11-30.
- Monsieur 1990 = P. Monsieur, *Une amphore de Chios au Musée de Tournai*, "L'Antiquité Classique", 59, pp. 237-245, <https://doi.org/10.3406/antiq.1990.2297>.
- Monsieur 2001 = P. Monsieur, *Note préliminaire sur les amphores découvertes à Pessinonte*, "Anatolia Antiqua", 9, pp. 73-84, <https://doi.org/10.3406/anata.2001.957>.
- Monsieur and De Paepe 2002 = P. Monsieur, P. De Paepe, *Amphores de Cos et amphores italiqes à Pessinonte: Croiser les données archéologiques et pétrographiques*, "Anatolia Antiqua", 10, pp. 155-175, <https://doi.org/10.3406/anata.2002.979>.

- Monsieur and Poblome, in press = P. Monsieur, J. Poblome, *Greek amphora stamps and the pottery found at Kinet Höyük (Cilicia)*, in N. Badoud, A. Marangou-Lerat (eds), *Analyse et exploitation des timbres amphoriques grecs (Bulletin de Correspondance Hellénique Supplément)*, forthcoming.
- Oğuz Alpözen 1975 = T. Oğuz Alpözen, *Bodrum müzesi ticari amphoreları*, “*Türk arkeoloji dergisi*”, 12, pp. 5-32.
- Olmer 2003 = F. Olmer, *Le commerce du vin chez les Éduens d’après les timbres d’amphores*, (*Bibracte* 7), Gluxen-Glenne, 2003.
- Orton 1975 = C. Orton, *Quantitative pottery studies: some progress, problems and prospects*, “*Science & Archaeology*”, 16, pp. 30–35.
- Orton 2009 = C. Orton, “*Four pots good, two pots bad*”: exploring the limits of quantification in the study of archaeological ceramics, “*FACTA. A Journal of Roman Material Culture Studies*”, 3, pp. 65-73.
- Panagou 2016 = T. Panagou, *Patterns of Amphora Stamp Distribution: Tracking down Export Tendencies*, in E. Harris, D. Lewis, M. Woolmer (eds) *The Ancient Greek Economy: Markets, Households and City-States*, New York, 2016, pp. 207-229, <https://doi.org/10.1017/CBO9781139565530.010>.
- Peacock 1977a = D.P.S. Peacock (ed.), *Pottery and early commerce: characterization and trade in Roman and later ceramics*, London, 1977.
- Peacock 1977b = D.P.S. Peacock, *Roman amphorae: typology, fabric and origins*, in *Méthodes classiques et méthodes formelles dans l’étude des amphores*, (*Collection de l’Ecole française de Rome* 32), Rome, 1977, pp. 261-278.
- Peacock and Williams 1986 = D.P.S. Peacock, D.F. Williams, *Amphorae and the Roman economy. An introductory guide*, London, 1986.
- Poblome et al. 2013a = J. Poblome, D. Braekmans, B. Music, M. van der Enden, B. Neyt, B. De Graeve, P. Degryse, *A pottery kiln underneath the Odeon of ancient Sagalassos, SW Turkey. The excavation results, the table wares and their archaeometrical analysis*, in N. Fenn, C. Römer-Strehl (eds), *Networks in the Hellenistic world according to the pottery in the Eastern Mediterranean and beyond (BAR International Series 2539)*, Oxford, 2013, pp. 193–204.
- Poblome et al. 2013b = J. Poblome, D. Braekmans, M. Waelkens, N. Firat, H. Vanhaverbeke, F. Martens, E. Kaptijn, K. Vyncke, R. Willet, P. Degryse, *How did Sagalassos come to be? A ceramological survey*, in M. Tekocak (ed.), *Studies in Honour of K. Levent Zoroğlu*, Antalya, 2013, pp. 527-540.
- Ricq de Boüard et al. 1989 = M. Ricq de Boüard, E. Meille, M. Vichy, M. Picon, *Les argiles utilisées pour la fabrication des amphores en Italie. Etrurie, Latium, Campanie*, in *Amphores romaines et histoire économique: dix ans de recherche*, (*Collection de l’Ecole française de Rome* 114), Rome, 1989, pp. 257-268.
- Romano 1994 = I.B. Romano, *A Hellenistic deposit from Corinth: evidence for Interim Period activity (146-44 B.C.)*, “*Hesperia*”, 63, pp. 57-104, <https://doi.org/10.2307/148242>.
- Talloon and Poblome 2016 = P. Talloon, J. Poblome, *The 2014 and 2015 control excavations on and around the Upper Agora of Sagalassos: The structural remains and general phasing*, “*Anatolica*”, 42, pp. 111-150.
- Tchernia 1986 = A. Tchernia, *Le vin de l’Italie romaine. Essai d’histoire économique d’après les amphores (Bibliothèque de l’Ecole française de Rome 261)*, Rome, 1986.

- van der Enden *et al.* 2014 = M. van der Enden, J. Poblome, P. Bes, *From Hellenistic to Roman Imperial in Pisidian tableware: the genesis of Sagalassos Red Slip Ware*, in H. Meyza, K. Domzalski (eds), *Late Hellenistic to Mediaeval fine wares of the Aegean coast of Anatolia - Their production, imitation and use*, Nieborów, 2014, pp. 81–93.
- Vanhaverbeke *et al.* 2010 = H. Vanhaverbeke, M. Waelkens, K. Vyncke, V. De Laet, S. Aydal, B. Music, B. De Cupere, J. Poblome, D. Braekmans, P. Degryse, E. Marinova, G. Verstraeten, W. Van Neer, B. Slapsal, I. Medaric, H.A. Ekinci, M.O. Erbay, 'Pisidian' culture? *The Classical-Hellenistic site at Düzen Tepe near Sagalassus (southwest Turkey)*, "Anatolian Studies", 60, pp. 105-128, <https://doi.org/10.1017/S0066154600001046>.
- Vermoere 2004 = M. Vermoere, *Holocene vegetation history in the territory of Sagalassos (southwest Turkey): a palynological approach*, Turnhout, 2004.
- Withbread 1995 = I. K. Whitbread, I.K., *Greek transport amphorae. A petrological and archaeological study*, (Fitch Laboratory Occasional Paper 4), 1995.
- Zoroğlu *et al.* 2008 = L. Zoroğlu, M. Dillon, D. Yakınlar, N. Rauh, *Anamur arkeoloji müzesi'ndeki amfora araştırmaları raporu (Araştırma Sonuçları Toplantısı 26)*, Ankara, 2008, pp. 33-50.

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