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ADALYA

The Annual of the Koç University Suna & İnan Kırac Research Center
for Mediterranean Civilizations

(OFFPRINT)



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The Annual of the Koç University Suna & İnan Kırac Research Center
for Mediterranean Civilizations (AKMED)

Adalya, a peer reviewed publication, is indexed in the A&HCI
(Arts & Humanities Citation Index) and CC/A&H (Current Contents /
Arts & Humanities)
Adalya is also indexed in the Social Sciences and Humanities Database of
TÜBİTAK/ULAKBİM TR index and EBSCO.

<i>Mode of publication</i>	Worldwide periodical
<i>Publisher certificate number</i>	18318
ISSN	1301-2746
<i>Publisher management</i>	Koç University Rumelifeneri Yolu, 34450 Sarıyer / İstanbul
<i>Publisher</i>	Umran Savaş İnan, President, on behalf of Koç University
<i>Editor-in-chief</i>	Oğuz Tekin
<i>Editors</i>	Tarkan Kahya and Arif Yacı
<i>English copyediting</i>	Mark Wilson
<i>Editorial Advisory Board</i>	(Members serve for a period of five years) Prof. Dr. Mustafa Adak, Akdeniz University (2018-2022) Prof. Dr. Engin Akyürek, Koç University (2018-2022) Prof. Dr. Nicholas D. Cahill, University of Wisconsin-Madison (2018-2022) Prof. Dr. Edhem Eldem, Boğaziçi University / Collège de France (2018-2022) Prof. Dr. Mehmet Özdoğan, Emeritus, Istanbul University (2016-2020) Prof. Dr. C. Brian Rose, University of Pennsylvania (2018-2022) Prof. Dr. Charlotte Roueché, Emerita, King's College London (2019-2023) Prof. Dr. Christof Schuler, DAI München (2017-2021) Prof. Dr. R. R. R. Smith, University of Oxford (2016-2020)
©	Koç University AKMED, 2020
<i>Production</i>	Zero Production Ltd. Abdullah Sok. No. 17 Taksim 34433 İstanbul Tel: +90 (212) 244 75 21 • Fax: +90 (212) 244 32 09 info@zerobooksonline.com; www.zerobooksonline.com
<i>Printing</i>	Fotokitap Fotoğraf Ürünleri Paz. ve Tic. Ltd. Şti. Oruç Reis Mah. Tekstilkent B-5 Blok No: 10-AH111 Esenler - İstanbul / Turkey Certificate number: 47448
<i>Mailing address</i>	Barbaros Mah. Kocatepe Sok. No. 22 Kaleiçi 07100 Antalya - TURKEY Tel: +90 (242) 243 42 74 • Fax: +90 (242) 243 80 13 https://akmed.ku.edu.tr
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Early Byzantine Pottery from Limyra's West and East Gate Excavations

PHILIP BES*

Abstract

This article presents and discusses Early Byzantine pottery that was excavated at and around Limyra's East and West Gates in 2011 and 2012. Not all excavated contexts were relevant to the aim of the study, which focuses on the Early Byzantine period. Pottery that pre- and post-dates this period also occurred frequently. The pottery from selected contexts was sorted and quantified using fabric, shape and surface treatment as classificatory principles. It is noteworthy that pottery datable between the 2nd century BCE and the 3rd, perhaps the 4th century CE was not found in stratigraphic context: it was only identified in the form of residual fragments. Early Byzantine pottery occurs in large numbers, and especially around the West Gate there is a strong signal for contexts datable to the 5th and early/first half of the 6th century CE. All amphorae were imported, mostly from various parts of the Eastern Mediterranean; small quantities originated in the Western Mediterranean and the Black Sea. Most cooking vessels and part of the utilitarian and tableware repertoire, however, was obtained from local/regional workshops, pottery now partly better understood in terms of fabric and typological repertoire.

Keywords: Limyra, ancient Lycia, Roman pottery, Late Roman amphorae, lyciennes kaolinitiques, ancient urbanism

Öz

Bu makalede, Limyra kentinin Doğu ve Batı Kapıları'nda, 2011 ve 2012 yıllarında gerçekleştirilen kazı çalışmaları sonucu ele geçen Erken Bizans Dönemi keramiği tanıtılmaktadır. Yoğun biçimde Roma öncesi ve sonrası keramikleri sunan kontekstler, çalışma kapsamının dışında bırakılmıştır. Seçilmiş kontekstlere ait keramikler, üretim özelliği, form ve yüzey işleniş kriterleri göz önünde tutularak tasnif edilmiş ve incelenmiştir. Stratigrafik kontekst içerisinde, diğer tabakalardan karıştığı düşünülen birkaç örnek haricinde, MÖ 2.-3. yüzyıl ve olasılıkla MS 4. yüzyıl keramiklerinin yer almayışı dikkat çekici bir husustur. Malzeme içerisinde, Erken Bizans Dönemi'ne ait çok sayıda keramik ele geçmiş olup, özellikle Batı Kapısı çevresinde MS 5. ve 6. yüzyıl başına/ilk yarısına tarihlenebilen kontekstlere rastlanılmıştır. Tüm ithal olan amphoraların önemli bölümü Doğu Akdeniz'in çeşitli merkezlerine; geriye kalan az sayıdaki örnek ise Batı Akdeniz ve Karadeniz'deki atölyelere aittir. Bu çalışma, pişirme kaplarının önemli bölümünün ve yerel/bölgesel atölyelere ait günlük kullanım kapları ve sofa kapları repertuarının bir kısmının hamur özellikleri ve tipolojileri açısından daha iyi anlaşılmasını mümkün kılmaktadır.**

Anahtar Kelimeler: Limyra, antik Lykia, Roma Dönemi keramiği, Geç Roma Dönemi amphoraları, lyciennes kaolinitiques, antik şehircilik

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** My gratitude goes out to Dr. Martin Seyer (Austrian Archaeological Institute - Austrian Academy of Sciences, Vienna), director of the Austrian archaeological research in and around Limyra since 2007, for offering me the opportunity to study the pottery presented here. The Austrian Archaeological Institute kindly supported my research stays in Limyra (2013-2016, 2018-2019). My sincere appreciation goes out to Banu Yener-Marksteiner, Sandra Mayer, Helmut Lotz, Ulrike Schuh and Katharina Kugler for help in various ways, and to Alexandra Dolea (Austrian Archaeological Institute - Austrian Academy of Sciences, Vienna) for allowing reference to pottery from the Polis West excavations of 2016, 2018-2019. Photography of the finds was kindly undertaken by Regina Hügli (Vienna). Pencil drawings were made by Sandra Mayer and Rolf Sporleder, and digitized by Nicola Math (Austrian Archaeological Institute). Hylke de Jong kindly improved the English.

Background

Limyra was an urban center in southeast Lycia from Classical to Byzantine times.¹ Its ruins, concentrated at the foot of the Toçak Dağı massif, are located ca. six km north-northeast from modern Finike (ancient Phoinix).² Archaeological and other research³ has revealed, amongst others, remains of a number of Hellenistic, Roman Imperial and Early Byzantine public and private monuments that testify to a once large and monumental urban center.⁴ In the late 5th to early 6th century,⁵ the city was divided into a Western and an Eastern City by means of two fortification walls. Towers incorporated into segments of both enceintes indicate their defensive purpose.⁶ The builders of both enceintes made ample use of spolia that were either already available, or derive from (monumental) buildings that were spoliated to this end, which could partly explain the paucity of standing monumental remains (e.g., temples, stoas) in contemporary Limyra.⁷

In 2011 and 2012, stratigraphic excavations were carried out at and around the East and West Gates, located in the Eastern and Western city walls respectively. At the East Gate, or Osttor (OT hereafter) (fig. 1), excavations were supervised by Helmut Lotz.⁸ Two artefacts of cultural and religious interest drew scholarly attention: two fragmentary stone slabs - presumably screens - each carrying the partly preserved depiction of a menorah.⁹ The excavations at the West Gate - or Westtor (WT hereafter) - were supervised by Ulrike Schuh.¹⁰ The large trench that was eventually opened comprised three zones: (1) the actual gate passage; (2) a zone parallel to and inside of the wall; and (3) a zone near-perpendicular to this wall that exposed a substantial portion of a paved street running southeast (presumably one of Roman Limyra's monumental streets), a stretch of Hellenistic city wall, and an adjacent area to its west (fig. 2).¹¹ This contribution aims to (1) highlight the chronological dimensions of the studied pottery¹² from these excavations; and (2) share observations based on that data that help contextualize Limyra within a regional and supra-regional setting of Early Byzantine (ca. 350-625/650) ceramic production and exchange.¹³

¹ All dates are CE unless noted. Early Byzantine is now preferred over Late Roman (see Dolea, forthcoming).

² Hellenkemper and Hild 2004, 806-9.

³ This has been carried out under the auspices of the German Archaeological Institute and Frankfurt University from 1969-1983, Vienna University from 1984-2001, and the Austrian Archaeological Institute since 2002.

⁴ Hellenkemper and Hild 2004, 686-90; Seyer 2019; Seyer et al. 2019. Among the most spectacular monuments are the Ptolemaion (Stanzl 2012, 2017) and the Cenotaph of C. Caesar (Ganzert 1984; Borchhardt 2002).

⁵ Seyer (forthcoming); Dolea (forthcoming).

⁶ For the date of the walls see Peschlow 2006. For further background see Foss 1994, especially 2-3, 37-42; Hellenkemper and Hild 2004, 686-90; Marksteiner 2012.

⁷ Cavalier 2012; 2015, 247-48. Research by Laurence Cavalier and Emilie Cayre (University of Bordeaux) concerning the spolia is ongoing.

⁸ IKAnt, Institut für Kulturgeschichte der Antike (Austrian Academy of Sciences); see Seyer 2013, 59-61, figs. 11-12; Seyer and Lotz 2013a, 2013b; also see Peloschek et al. 2017, 263, fig. 4.

⁹ Seyer and Lotz 2013c, 2014; Weiss 2014; Pülz 2014.

¹⁰ OREA, Institut für Orientalische und Europäische Archäologie (Austrian Academy of Sciences); see Seyer and Schuh 2013; Seyer 2013, 61-63, figs. 14-16.

¹¹ Seyer 2019.

¹² This is stored in the excavation depots located on site.

¹³ For a selection of recent literature on Roman and Byzantine pottery from Limyra, see Yener-Marksteiner 2007, 2009, 2012, 2016a-b, 2019; Vroom 2004, 2005, 2007; Eisenmenger 2003; Bes 2019.

The Ceramic Data: Methodology, Preservation, Quality

The pottery presented here has been briefly reported upon in recent years.¹⁴ A cursory scan of each Fundnummer (representing a stratigraphic unit and its finds, specified per material category; FN hereafter, singular and plural) took place in 2013-2014. This resulted in a shortlist of FN reserved for detailed study and quantification, whose analysis was completed in 2018.¹⁵ FN omitted from this shortlist contained no Roman or Early Byzantine pottery, or pottery that was chronologically too strongly mixed making further interpretation inherently unreliable. These were nevertheless looked at, with the aim of obtaining a more comprehensive picture and expanding our existing knowledge regarding the repertoire of shapes/typology and fabrics. The pottery from each FN that was shortlisted was sorted and classified according to fabric, shape and surface treatment (e.g., slip, glaze, ribbing), and subsequently fully quantified by count and weight (taking fresh breaks into account), per functional category (tablewares, amphorae, etc.),¹⁶ and per kind of fragment (rims, bases, handles and body sherds).¹⁷ The pottery from most studied FN present a rather homogeneous picture, with a predominance of amphorae, kitchen/cooking wares, utilitarian wares (mostly basins and jars), and tablewares, and with, for example, small but relevant quantities of oil lamps.¹⁸

Residual and intrusive fragments were marked as such, but otherwise classified with the pottery from a FN. Only one intrusive fragment (a glazed sherd) was spotted due to the rigid selection of FN (cf. *supra*). Small quantities of residual fragments, on the other hand, were identified in nearly all studied FN, urging some caution regarding stratigraphic and chronological interpretation. Much of the residual pottery comprises recurring categories - some known from other publications concerning Limyra¹⁹ - that include Classical and Hellenistic black slip (sometimes of very fine quality), Eastern Sigillata A, B and D, African Red Slip Ware (ARSW henceforth), various amphora types (e.g., Dressel 2-4 from Kos, Agora M239, a few Western types), and one fragment of a Pompeian Red Ware dish that was manufactured somewhere around the Bay of Naples. We think that additional residual and possibly also intrusive fragments went unnoticed (e.g., body sherds, unidentified categories). This residual pottery attests to previous occupation/activities at or near the OT and WT. Yet it is noteworthy that no stratigraphy datable to the Late Hellenistic and Roman Imperial periods was encountered. The excavations at the OT did not go deep enough to reach these periods because of the high water

¹⁴ Bes 2014, 2015, 2016.

¹⁵ Standard literature is used for the classification and study of amphorae and tablewares: Robinson 1959; Keay 1984; Peacock and Williams 1986; Bonifay 2004; Pieri 2005; Kassab Tezgör 2009; Reynolds 2010; Bezeczky 2013; Southampton 2014; tablewares: Hayes 1972, 2008; Meyza 2007.

¹⁶ Bes and Poblome 2017, 318, table 12.1. This functional-classificatory approach carries an inherently artificial aspect: obviously an oil lamp was not used for beverage consumption, nor an amphora for lighting. We further presume that to certain extents, and in ways possibly partly like us, the way people in the past (re)used their (ceramic) material culture reflected one's social, cultural and economic environment.

¹⁷ Poblome and Bes 2018.

¹⁸ Nearly all lamps conform to type Bailey Q3339 (Vroom 2004, 304-5, fig. 8; Yener-Marksteiner 2009, 233-34, 241, pl. 15, fig. 7, nos. 55-57, though not no. 54, an oinophoros) and are thought to have been manufactured in Lycia (Yener-Marksteiner 2009, 234). One specimen has been identified at Sagalassos, possibly in the same fabric (personal observation). This type is reminiscent of lamps dated to the late 6th and early 7th century thought to have been manufactured on Kos (Poulou-Papadimitriou and Didioumi 2010, 742, 747, fig. 6e), yet the angle of the nozzle's lip differs. A small quantity of lamp fragments is residual: some are molded and occur in a pale beige fabric reminiscent of Corinthian lamps, though their source probably should be sought elsewhere.

¹⁹ E.g., Yener-Marksteiner 2012.

table.²⁰ Some trenches at the WT, on the other hand, reached a depth of over 2 m (from the current ground level), and Classical and Early Hellenistic stratigraphy was found sporadically. A similar picture has begun to emerge from the more recent excavations (2016, 2018-2019) in the Western City somewhat to the east of the WT.²¹ Here no stratigraphy datable to the Late Hellenistic and Roman Imperial periods has been encountered thus far, even if pottery belonging to those periods is identified in residual form.

Preservation and weathering – rarely taken into consideration as a rule – of the pottery are somewhat heterogeneous, and the residual fragments alone testify to this. Fragmentation ranged from very small pieces to sometimes very large fragments, so some vessels could be partly and, occasionally, fully restored.²² Of note in this respect are fragments found in different FN that either join or very likely belong to a single vessel (cf. *infra*). Also, many fragments from the OT had been waterlogged for a considerable amount of time, resulting in weathered edges and powdery surfaces. This made their study more difficult, though not to such an extent as to impede proper identification. It is likely that more recent activities also disturbed (part of) the stratigraphy: for example, substantial parts of the Western City were used for agricultural activities certainly until the early 1970s.²³ Ceramic Building Material (CBM) as an artefact category is studied separately and omitted here.²⁴ Obviously residual and intrusive fragments as well as sherds that are very worn or “tiny” (smaller than the nail of the little finger) are omitted from all quantities and percentages given below. Such worn/tiny sherds, occurring in small quantities in nearly all FN, were counted and weighed separately and also recorded with the other pottery from a FN. Certainly they are part of a unique archaeological context, and thus also reflect how that context came about. Yet their presence frustrates the aims of the present article: the interpretation of patterns and trends. Omitting them is thus done for good reason.

The Ceramic Data: Quantities and Chronologies

That small quantities of Classical, Hellenistic and Roman Imperial pottery (ca. 400 BCE-350 CE) were identified has already been mentioned. Most pottery, however, belongs to the Early Byzantine period (ca. 350-625/650). Table 2 shows all FN that were studied, and for each FN it lists count, weight, proposed date range, and the presence/absence of the more significant fabrics and types supporting that date range. What follows first is a summary of the pottery studied from the OT and WT.

OT²⁵

Two FN from one stratigraphic unit (Schichtseinheit 27, or SE 27) were singled out for detailed study. All pottery was heavily waterlogged. FN 1036 contains 319 fragments collectively weighing ca. 10.7 kg. Most pottery dates to the late 5th century at the earliest, and the absence of late forms of Cypriot Red Slip Ware or Late Roman D (CRSW and LRD hereafter respectively)

²⁰ Rantitsch et al. 2016.

²¹ Seyer et al. 2019. Several loci from the 2018 excavations are dated preliminarily to the 3rd and 4th centuries.

²² Bes 2014, 79, fig. 6; 2015, 79, fig. 7; 2016, 83, fig. 5.

²³ Ganzert 1984, table 14.45.

²⁴ A few fragments of roof tiles and spacer pins have been analyzed (Peloschek et al. 2017). Spacer pins also figure in a recent discussion concerning the Südthermen (Sewing 2015); see also Schuh 2012, 162-63, 167, fig. 5. For preliminary results concerning the CBM from the recent excavations, see Dolea 2017.

²⁵ The author is very grateful to Helmut Lotz for sharing information and insights regarding the OT excavations.

tentatively suggests a terminus ante quem of the mid-6th century. FN 1039 (located below 1036) contains 1,896 fragments (weight ca. 53.5 kg), and the pottery is slightly younger, arguably the later 6th and first half of the 7th century, supported in part by late forms of CRSW/LRD.²⁶ Stratigraphic interpretation, fragmentation of the pottery, absence of younger fabrics and types,²⁷ and the larger quantity in FN 1039 suggest that FN 1036 and 1039 together date to ca. 575-650. SE 27 was interpreted as a waste dump and stratigraphically abutted the south-east wall of the north tower, the semicircular wall, as well as the short stretch of wall that runs parallel with the tower. It also covered this latter wall (fig. 1, bottom right). The preservation and relative degree of chronological homogeneity suggests that this pottery did not have a long and complex depositional history when it was dumped here - even if no vessels could be restored - and arguably came from (a space) nearby. Its functional composition has a domestic character; this interpretation, however, remains tentative. It is worth noting that no coins were retrieved from SE 27, despite the considerable volume of this stratigraphic unit. This makes it plausible that the contents from which SE 27 came were searched for valuables before being moved/dumped.

WT

The pottery from the WT presents a partly different chronological picture. A total of 10,829 fragments weighing ca. 210.4 kg (figs. 3-4) were examined. Late CRSW/LRD forms (Hayes Forms 9, 10 and derivatives) are present but rare; the scarcity or absence of other categories of late pottery is equally significant. Moreover, the presence of several large fragments and partly restored Pontic - mostly Sinopean - carrot-type amphorae strengthen the idea that at least part of the stratigraphy around the WT dates to ca. 500 at the (very) latest. Occupation/activity, however, did not end after ca. 500 as pottery from other FN indicates. The excavations at and around the WT encompass a large area, and not all FN were studied (cf. *supra*). Trench WT7 is the one exception, however, and the focus in the remainder of this section. Excavations in WT7 reached a depth of over 2 m below the current surface, and the monumental remains found at that depth were interpreted as podium blocks for a temple datable to the Hellenistic period.²⁸ Some of the pottery is rather well-preserved, one such vessel being a partly restored Cypriot LRD Hayes Form 11 (fig. 5a), of which joining fragments were found in FN 105, 105A and 106. It concerns an earlier variant indicated by the thick rectangular and undercut rim. In Beirut these appear to predate the mid-6th century.²⁹ This specific vessel is comparatively deep, which possibly explains why it was chosen to hold (wet) plaster (fig. 5b). Perhaps the plaster had begun to dry out (or had already done so), rendering the vessel unusable, upon which it was discarded.

During the study of the pottery from WT7, fragments of (at least) 15 vessels were attested in two or more FN. This strengthens the notion that at least part of the stratigraphy represents a limited number of dumping or filling activities over a relatively short period of time (if not one event) instead of a series of individual and distinct events. One or more of the upper layers, however, may have been disturbed at a later point (cf. *infra*). A number of FN from the

²⁶ Meyza 2007; Poblome and Firat 2011; Reynolds 2011.

²⁷ See Seyer et al. 2019, 237-39, fig. 4. Pottery from unstudied FN indicates that the area of the OT was occupied after the Early Byzantine period.

²⁸ Seyer 2013, 63.

²⁹ E.g., Reynolds 2011, 209, 211, 213, figs. 1.16, 3.35-39, 5.72-73.

WT have a terminus ante quem of ca. 500 based on the pottery. Pottery from WT7 presents a somewhat different picture. While it does not represent a primary and thus chronologically homogeneous collection, the many joins throughout part of the stratigraphy encourage viewing it in its entirety. Some of the main dating criteria are supplied by a handful of specimens of CRSW/LRD Hayes Forms 9 and 10, originally dated between 550 and the late 7th century. Meyza, however, recently proposed a slightly earlier starting date of 530. Further chronological information is supplied by single examples of ARSW Hayes 104C (550-625/650) and 107 (600-650). Several of these vessels were found in FN 85 (from an upper layer) that was considered to have been (recently) disturbed, which finds corroboration in an Ottoman coin³⁰ from FN 85. More of these were found in FN 65 and 70 (similarly high up in the stratigraphy) in which also post-Early Byzantine pottery was identified. Single fragments of CRSW/LRD Hayes Forms 9 and 10 were, however, also found in two FN deeper down in the stratigraphy of WT7. This tentatively suggests that much of this stratigraphy did not derive from before ca. 525-550. None of the coins from WT7 date to the 6th or 7th century,³¹ which at the very least does not contradict this current chronological interpretation and may in fact hint at different depositional patterns between the pottery and the coins. One coin from FN 105, found further down the stratigraphy, however, has been tentatively dated to the Ottoman period and potentially indicates that also lower down the stratigraphy was more recently disturbed. Alternatively, an “easier” explanation is that it slid down. Since it has only been tentatively identified, coupled with the absence of post-Early Byzantine pottery in all except three of the upper FN, the idea of a deposition date (not too long) after ca. 525-550 may be entertained. The substantial quantity of data from WT7 also helps to make observations, particularly concerning proportions and provenance of Early Byzantine amphorae at Limyra (cf. *infra*).

Thoughts and Observations

The quantity and variety of the pottery studied has some bearing on regional and supra-regional ceramic manufacture and exchange concerning Early Byzantine Limyra, with regards to two aspects. First, two ceramic categories very likely originate from southeast Lycia. Though no primary evidence (e.g., workshops, kilns, wasters, tools) has been found to date, this hypothesis is strengthened by secondary, archaeological arguments. The data on long-distance imported amphorae will be discussed further below.

Regional Manufacture - Cooking and Related Vessels

One group common in all FN is a macroscopically heterogeneous group that comprises a functionally and especially morphologically broad repertoire of cooking and serving vessels. Originally noted by Vroom, it was formalized to some extent by Yener-Marksteiner who classified the majority as Scherbentyp (ST) 1 and 2, the distinction based on an absence/presence of small reddish grits.³² When present, their quantity nevertheless varies from one vessel to the next. ST1 and ST2 were part of an in-depth regional typological and archaeometric study wherein these categories were coined “lyciennes kaolinitiques”.³³ They are considered to have

³⁰ The author is grateful to Joachim Gorecki who most kindly permitted me to refer to this numismatic evidence.

³¹ The youngest is attributed to the emperor Zeno and dated to 476-491.

³² Lemaître et al. 2013, 193: “nodules ferrugineux brun-rouge de taille variée (de 0,5 à 1 mm de diamètre)”.

³³ Waksman and Lemaître 2010, 782-83; Arqué et al. 2012, 143; Lemaître et al. 2013.

their origin in southern Lycia, if not from near Limyra.³⁴ The extremely common occurrence and broad typological repertoire of vessels in ST1 and ST2 in Limyra - where these already occur in the Roman Imperial period³⁵ - indeed support the hypothesis of a fabric (group) that has its origins in the region, if not the vicinity of Limyra proper. It occurs in western (Xanthos, Letoon) and central (Andriake) Lycia where it appears to be less common, except perhaps for Rhodiapolis near Limyra.³⁶ The thin walls (at times not more than a few mm) and gritty composition are attributes that almost certainly promote a higher rate of breakage compared to, for example, certain red slip tablewares, and presumably cause an overrepresentation in the quantified data.³⁷

There is no need to reiterate the characteristics of “lyciennes kaolinitiques” in detail, though it is useful to summarize its macroscopic and decorative characteristics to help gain a better understanding of its regional distribution.³⁸ The color of fresh breaks (fig. 6) and surfaces can be off-white, pale yellow, pale pink, (very) pale brown or light red. Part of the exterior surface on a number of vessels carries an orange, reddish, (dark) brown or greyish wash that is usually mottled and appears to have been applied by wiping or smearing (e.g., with a cloth). A faint metallic sheen of this wash is not uncommon and presumably hints at relatively high firing temperatures, or perhaps (combined with) the use of a certain fuel. Vessel profiles are well-made and well-finished, with sharp edges and angles (in terms of, e.g., ridging, lip profiles). Some shapes are quite elaborately profiled. Some vessels (and lids?) carry painted motifs that often can best be seen as stylized palmettes, trees or shrubs (fig. 7). Some deep cooking pots (chytrai), “filter” jugs,³⁹ and one-handled semi-ovoid pans occur in a somewhat advanced stage of sintering if not an early stage of vitrification. This is indicated by their reduced appearance and clingy sound when ticked. The consistency of sintering across vessel types suggests that it was desired and deliberate; such vessels were perhaps fired separately. One reason for this consistency could be that these pots had to have a much-reduced porosity that rendered them ideal for one or more purposes that nevertheless elude us.⁴⁰

The “lyciennes kaolinitiques” group contains a broad morphological-functional repertoire. Common in Early Byzantine times is a deep, closed cooking pot (chytra) with a triangular rim profile.⁴¹ A pan with a horizontal and usually pointed handle (fig. 8)⁴² also regularly appears in Early Byzantine contexts.⁴³ Less common are fragments of (deep) closed cooking pots with various rim profiles that, according to current insights, are partly residual. Some deep

³⁴ Vroom 2004, 297, 300; Yener-Marksteiner 2007, 265 n. 273; Lemaître et al. 2013, 195-96.

³⁵ Yener-Marksteiner 2007, 265; Lemaître et al. 2013, 196; Banu Yener-Marksteiner, pers. comm.

³⁶ Pellegrino 2007a, 662; Lemaître et al. 2013, 195, 199-200, figs. 5, 8, 10; Çömezoğlu 2014, 665-66, 671, fig. 2.

³⁷ This aspect also prompted the use of a different method of quantification (cf. *infra*, n. 59).

³⁸ Vessels in ST1 or ST2 are occasionally identified at Sagalassos, and include a jug, the lid of a lidded jug, and a partly preserved large, deep cooking bowl with strongly profiled rim, horizontal handles, and painted circles on its exterior wall. The author has not yet observed this shape at Limyra. Very small quantities of Sagalassos Red Slip Ware, manufactured in Sagalassos (Poblome and Bes 2018, 734), have been identified in Limyra.

³⁹ The term “filter jug” may not fully suit the original purpose(s). The pierced disc inside the neck - attached where the neck meets the shoulder - could have had the purpose of keeping insects out, among others, in turn hinting at use/content. For a fuller discussion see Rocheron and Blanco 2014, 686-88, 692, nos. 10-15 (no. 14 is a lidded jug with such a “filter”) in “lyciennes kaolinitiques”; see also Rotroff 1997, 181.

⁴⁰ Rice 2015, 113-14, 314-19.

⁴¹ Yener-Marksteiner 2007, 265, 267, fig. 21 (form 4); Lemaître et al. 2013, 196.

⁴² Vroom 2004, 297-98, fig. 4.

⁴³ The basic shape is reminiscent of examples in Brittle Ware; see Vokaer 2007, 702, 708-9, figs. 2.7, 3.7.

cooking pots were equipped with a spout, and a small number of fragments of closed vessels have a lime layer on the interior (that does not extend onto the break). This suggests that such vessels were used for boiling or storing water, in turn hinting at a fairly strict separation in use. Shallow vessels in the *lopas* tradition occur now and then (fig. 9). Lids were presumably used (also) with these, yet lids are rarely noted (see fig. 4i-j for possible lids). Other functional categories that regularly occur are jugs with and without a “filter”. Some of the jugs are *Kleeblattkrügen* (i.e., the rim has a pinched mouth). One notable product of the workshops are lidded jugs or pitchers whose main popularity is dated to the 7th century. These were equipped with a second, small ring handle - which ran from the main handle to the lip (fig. 10) - onto which a convex lid was attached. Naturally this was assembled before firing. The lid was usually decorated with painted red lines that were visible when the lid closed the mouth of the jug.⁴⁴ Similar vessels in metal, thought to have inspired their ceramic equivalents, are known from various places in the Eastern Mediterranean. These are dated to the 6th to 8th centuries and thought to have experienced a heightened popularity or distribution during the 7th century.⁴⁵ Their lid was fixed by means of a short metal chain, which would be highly impractical in clay. It seems that potters who made lidded jugs adapted the (metal) concept to match the properties or possibilities offered by clay, yet retained the nicely shaped rounded handles in profile. Their appearance somewhat recalls modern German-style beer mugs that are also equipped with a lid. With them, however, the lid is lifted with the thumb by means of a small lever.

Regional Manufacture - Utilitarian Vessels (including Household and Kitchen Vessels)

A second ceramic ware, now labelled Fabric 2 in the Limyra fabric classification, is also common in all studied FN. It also occurs commonly in the 2016, 2018, and 2019 excavations in the Western City⁴⁶ and comes in a variety of functional shapes. For various reasons, Fabric 2 is an easily spotted ware. First, quite coarsely shaped brown shiny grits are present. While never many, these easily stand out, especially when a fragment is held in direct sunlight. Second, exterior surfaces quite often have a greenish tinge, sometimes with black stripes, presumably resulting from a carelessly applied slip. The feel, especially on the exterior, suggests a rather dense and compact matrix. Fragments also often produce a cling when ticked with a fingernail. Whereas Fabric 2 generally is hard fired, this partial overfiring might be an unintentional side effect of conditions that the potters, or those responsible for firing the kiln(s), were not able to fully control. On the other hand, given the typological-functional repertoire of Fabric 2 - largely utilitarian: mortaria,⁴⁷ basins, pithoi, pithoi lids, large jugs (“*einhenkelige Kannen*”)⁴⁸ and other closed shapes (e.g., amphorae) - it is plausible that this partial overfiring was in fact intentional. It equipped vessels with a denser outer layer to reduce porosity. It would also lend the vessels additional strength. Part of the repertoire of Fabric 2 (e.g., mortaria) indeed suggests that

⁴⁴ Vroom 2004, 297, 299-300, fig. 5; Fedoseev et al. 2010, 86-87, fig. 31.1 (with bibliography), for a well-preserved example from Pantikapeion (Kerch, Eastern Crimea). The macroscopic description recalls that of ST1. The absence of painted motifs on the lid, however, makes this identification unlikely. Moreover, in the absence of broader research, the possibility, if not likelihood, of two or more places of manufacture should be considered.

⁴⁵ Pitarakis 2005.

⁴⁶ Supervised by Dr. Alexandra Dolea; Seyer et al. 2017, 2019.

⁴⁷ Imported mortaria are rare; one Ras al-Bassit mortarium was identified in FN 54. See Çokay-Kepçe 2013.

⁴⁸ Yener-Marksteiner 2009, 232, fig. 12, table 7.51. The handles and manner in which these are attached to the rim of some of the “amphorae” found at Rhodiapolis (Çömezoğlu 2014, 675, fig. 9) resemble “*einhenkelige Kannen*” found at Limyra and *might* in fact be such vessels.

a certain sturdiness or strength was required. These considerations do not explain, however, why only some were partially overfired.

Magnification (40 times) of a fresh break shows a dense clay matrix that is usually bichrome and littered with tiny whitish specks. Pores usually concern micropores, slightly larger elongated pores are sometimes spotted, and a few angular quartz bits can be noted. Most characteristic, however, are coarsely shaped, rust-colored grits - some appear to contain tiny rounded quartz (?) - that noticeably reflect direct sunlight. These make Fabric 2 characteristic (fig. 11). This macroscopic description is intended for those working in the region to help identify it, since recent archaeometrical analyses included several samples that suggest that Fabric 2 - and other petrofabrics - originates to the east and southeast of Limyra.⁴⁹ The quantity and typological-functional repertoire of Fabric 2 strongly support a regional origin. Ultimately only archaeological and geological evidence - workshops, kilns, wasters and/or the clay beds from whence this and perhaps other (related) clays/fabrics were quarried - can confirm this hypothesis.

Noteworthy is the lower wall and button toe of an amphora in Fabric 2 (fig. 12) found in FN 35 (trench WT4), the pottery from which was dated to ca. 450-500/525. Its profile does not offer unequivocal clues as to its date. Such buttoned toes may be more of a pre-Roman feature, though whether Fabric 2 was already in use prior to the Roman Imperial period is not yet known. A Roman or Early Byzantine date cannot be excluded, however, when some amphora types were equipped with such or similar toes. No rims or handles were recognized in the studied FN that can be associated with amphorae in Fabric 2, which strengthens the notion that this fragment is residual.⁵⁰ On another level the date of this fragment is less important. A case was recently made for the manufacture of amphorae in Late Classical Lycia.⁵¹ The fragment from FN 35 forms a small albeit intriguing clue that amphorae were possibly manufactured in the region of Limyra, possibly to its east-southeast. It was thus part of a bigger jigsaw puzzle of ceramic production in Lycia, in which Patara,⁵² Xanthos,⁵³ Rhodiapolis,⁵⁴ Myra, Tlos,⁵⁵ and Kibyra north of Lycia⁵⁶ are known to have played a role.

Long-Distance Imported Amphorae

The amphora fragment discussed above, even if residual, is the only fragment among the studied pottery from the OT and WT to be of regional manufacture. Consequently, all other amphorae fragments are either of known provenance or otherwise suspected to have been imported from outside Lycia. This should not lead to the immediate conclusion that Limyra was entirely dependent on an external supply of agricultural products, or at least so during the

⁴⁹ Peloschek et al. 2017, 250, 252-53, 263, 266, figs. 5, 9, for three related petrofabrics characterized by the presence of diorite. At the time of publication, the moniker Fabric 2 was not yet being used. Samples that *macroscopically* would now be classified as Fabric 2 are nos. 5-7, 14, 17 and presumably also 10 (Peloschek et al. 2017, 266, fig. 9).

⁵⁰ Vroom 2004, 294: "I have not yet identified any locally produced amphorae of the late antique period".

⁵¹ Dündar 2013, 47-50, figs. 6-11; 2016a, 512, 514, fig. 11 (with bibliography).

⁵² See, e.g., Dündar 2015, 204-5, 217-23, figs. 14-27.

⁵³ Pellegrino 2007b.

⁵⁴ Çetintaş 2018. During a visit to Limyra, Mr. E. Çetintaş very kindly shared information regarding ceramic wasters from Rhodiapolis that included tableware forms that might well be classified as LRD. These provide further evidence for the manufacture of Early Byzantine tablewares in Lycia.

⁵⁵ Summarized in Dündar 2016a, 514-17.

⁵⁶ Özüdoğru and Dündar 2007; Uygun and Dökü 2008; Japp 2009; Kugler 2018, 484-87. Published evidence suggests that Lycia is perhaps best characterized as a patchwork in which a number of sites were active in terms of *regional* manufacture and distribution.

Early Byzantine period. It is plausible that agricultural products (and other goods) from the territory were transported in ceramic containers that traditionally we do not identify as transport vessels *stricto sensu*,⁵⁷ or in media other than pottery (e.g., barrels, baskets, sacks).⁵⁸

In Limyra, amphorae form a considerable component in any Early Byzantine context. Concerning the OT, 622 fragments (weighing ca. 19.6 kg) were identified as amphorae out of a total of 2,215 sherds (28.1% by RBHS count, 30.6% by RBHS weight). From all pottery fragments from the WT that were studied (n=10,829), 3,104 sherds (weighing 78.8 kg) are classified as amphorae (28.7% by RBHS count, 37.5% by RBHS weight).⁵⁹ Table 1 shows absolute and relative quantities for all amphorae, organized by provenance and type, from the OT and WT.⁶⁰ As indicated, an additional (small) percentage is potentially residual. Yet this consideration is again less relevant when we focus on provenance. The majority originates from eastern sources and is largely represented by Late Roman Amphora 1 (LRA1 hereafter; fig. 13) (OT: 32.2%; WT: 41.2%), Late Roman Amphora 4 (LRA4 henceforth) (OT: 12.1%; WT: 15.9%), and Late Roman Amphora 5 (LRA5 hereafter) (OT: 17.4%; WT: 1.7%).⁶¹ Smaller quantities derive from various other sources elsewhere in the Eastern Mediterranean, the Aegean (e.g., Samos Cistern Type, fig. 14),⁶² the Black Sea (fig. 15), and the Western Mediterranean (e.g., Tunisia). The flow of amphorae to Limyra thus appears to have been predominantly eastern and tied to exchange lines with a general east-west direction. The amphorae from a number of FN from the WT present a somewhat wider typological spectrum, which ties in with the argument for a slightly older date range for some of these FN. A few differences are noteworthy. First, there is a small but notable percentage of Pontic carrot-type amphorae, most of the Kassab Tezgör type-variant C Snp III-1.⁶³ Most are of Sinopean manufacture (fig. 16), though at least one specimen was presumably manufactured at Herakleia Pontike (fig. 17).⁶⁴ Second, note the much lower percentage of LRA5 in the WT (1.7%) in comparison to the OT (17.4%) and that average weight indicates that the latter is much less fragmented.

A chronological comparison between FN that are dated to ca. 450-550 and those to ca. 550-650 (table 3) presents some interesting differences.⁶⁵ Attributed to ca. 450-550 are FN 15, 17, 35, 44, 54, 65, 90-91, 95, 99, 105-7, 111-12, 114, 116, 125 and 133 (all from the WT). To ca. 550-650 are attributed FN 1036 and 1039 (from the OT), 3-4, 7, 39, 85 and 138-39 (from the WT).

⁵⁷ A possible example is Sagalassos where amphorae were likely manufactured in the Ağlasun Valley. Analyses have pointed out that the clays, classified as Fabric 4, were quarried there (Neyt et al. 2012) and only appear by (the second half of) the 4th century (Poblome et al. 2008, 1002). One- and two-handled closed vessels (jars, amphorae) in Fabric 1, quarried at Çanaklı some eight km from Sagalassos, were manufactured since Augustan times. No archaeological evidence for their manufacture has been found in Eastern Suburbium (previously the Potters' Quarter). One scenario is that closed vessels in Fabric 1 were manufactured elsewhere outside the city, and that (part of) these were used to bring agricultural produce to Sagalassos.

⁵⁸ Peña 1998.

⁵⁹ In 2018, the Minimum Number of Vessels (MNI) method of quantification was introduced (Orton and Hughes 2013, 203-18, and 206-7 for criticism concerning full sherd-count quantification). See our contribution for *Anatolia Antiqua* (in preparation).

⁶⁰ For other quantified data see Vroom (2005, 249-50, figs. 1, 3 (presumably RBH)), with notable differences between both datasets (e.g., regarding LRA2, LRA5, LRA7), see Vroom 2004, 292, tables 1A-D.

⁶¹ LRA1 and LRA4 dominate in sondages SO 30/36/37 (Western City); see Yener-Marksteiner 2009, 235.

⁶² Pieri 2005, 132-37, especially 135, fig. 91.

⁶³ Kassab Tezgör 2009, 130-34, pl. 19.5-7.

⁶⁴ Bes 2020a.

⁶⁵ FN that do not "nicely" fall in either of these periods are not considered here, hence table 3 contains only counts and weight for the FN mentioned here.

LRA1, LRA4 and LRA5 are best represented (cf. *supra*), yet a few interesting differences are observed. First, there is a more limited repertoire during the second period. According to current knowledge, some categories, for example, Agora M273, presumably no longer circulated other than as residual fragments after around 500. Second, LRA1 (having similar average sherd weight for both periods) shows a slight but noticeable increase in the second period. Third, Pontic (mostly Sinopean) carrot-type amphorae presumably also no longer circulated after 500. The onset of Vandal rule and their presence in the Western Mediterranean, even if it were less disruptive than once thought, may have had an encouraging effect elsewhere. Perhaps Pontic amphorae began to play a relatively greater role in Pontic-Eastern Mediterranean exchange toward/around the mid-5th century. Sinopean amphorae in *pâte claire* (Kassab Tezgör type-group D Snp I-III) began to circulate just before 500. So far, these latter amphorae do not seem to have made any real impact in Limyra. Quantified data from other sites in the Eastern Mediterranean (e.g., Beirut, Zeugma), however, suggest that Sinopean amphorae in *pâte claire* played a significant role in long-distance exchange.⁶⁶ Fourth, and arguably most significant, is a substantial increase in amphorae from the southern Levant. Whereas the percentage of LRA4 decreases somewhat, LRA5 and Agora M334 combined increases from 2.1% to 12.3%. Quantified data using MNI from the 2018 excavations in the Western City also show a strong increase of southern Levantine amphorae in the 6th century.⁶⁷ Preliminary observations concerning inland Sagalassos also suggest that LRA5 might be somewhat more common during the 6th and into the 7th century. Regarding imported amphorae, Sagalassos more generally shows similar relative trends with Limyra.⁶⁸ This possibly also echoes Reynolds' observation that in the 6th century (and into the 7th?) both type-groups appeared more commonly at western ports.⁶⁹ Methodological and hence interpretive caution is required given Reynolds' use of RBH and that of RBHS here. Leaving out body sherds, however, would mean that some type- and provenance-identifications disappear.

Summary

The pottery discussed above helps to refine and understand better the typological and chronological classification of regional (e.g., Fabric 2) and supra-regional (e.g., Black Sea amphorae) groups. It also attempts to make a contribution concerning Limyra's urban development during the 5th to 7th centuries.⁷⁰ The pottery from the WT generally indicates a continuation of occupation/activity. One of the conclusions concerning the pottery from the WT was that a considerable portion is not younger than ca. 500, which pottery from the excavations of 2016, 2018 and 2019 also echoes. It will therefore be interesting to see how the stratigraphical and architectural interpretation of these recent excavations relate with those from 2011 and 2012 within the framework of urban development. The original construction of the fortification wall in the late 5th to early 6th century that thus "created" the Western City must have had profound consequences both for the existing urban fabric as well as for life within the new wall. Moreover, construction work on the Western City's fortification wall in the 7th century - presumably in relation to tumultuous times caused in particular by the Arab territorial conquests - seems to signify a more fundamental transformation. This is also indicated by marked changes in the

⁶⁶ Bes 2020a, fig. 21.

⁶⁷ Cf. *supra*, n. 60.

⁶⁸ Bes 2020b.

⁶⁹ Reynolds 2010, 100.

⁷⁰ Dolea (forthcoming); Seyer (forthcoming).

ceramic repertoire.⁷¹ The stratigraphical unit (SE 27) from the OT that was studied abutted the north tower and the semicircular wall. That the pottery from it was dated to ca. 575-650 appears to point to a terminus ante quem of ca. 575-650 for the construction of tower and wall. While more research is naturally required, this might suggest that the tower and wall - note that these need not have been built contemporaneously - were built during or prior to ca. 575-650, and in light of the overall assessment of the pottery perhaps not too long before ca. 575.

Regional workshops catered for most cooking and utilitarian vessels. In particular the workshops that manufactured the repertoire of cooking and related vessels provided for nearly all the inhabitants' requirements. The utilitarian vessels present a slightly more varied picture, since these were partly also imported from sources elsewhere. This, in fact, also applies to the tablewares. In addition to small quantities from Tunisia and western Turkey, the majority was manufactured on Cyprus and/or within central-southern Asia Minor - defined as the LRD *koinè*⁷² - perhaps in one or more regional centers (e.g., Rhodiapolis?). In contrast, thus far all amphorae appear to have been imported almost certainly via the sea from beyond Lycia, and from predominantly Cilician, Levantine and Aegean sources. This general pattern is also partly recognizable elsewhere in Lycia, for instance, the dominance of LRA1 at Patara and Andriake.⁷³ Whilst the commonly attested categories suggest that Limyra was primarily located on exchange routes with an east-west orientation, amphorae from various Western sources (e.g., Tunisia, also identified at Patara)⁷⁴ and the Black Sea emphasize the complexity of Early Byzantine sea-borne exchange. For example, a summary of contexts dated to between ca. 450-550 and between ca. 550-650 suggests that certain changes occurred in the proportional supply of amphorae, most notably amphorae from the southern Levant (LRA5, Agora M334). Whereas the applied quantification method urges some caution in the interpretation and comparison of these results, the data as such offers clues that may well echo changes that took place elsewhere in the Early Byzantine (Eastern) Mediterranean. Such clues are more clearly observed in loci that have been excavated in the Western City in 2016, 2018 and 2019. In fact, the ongoing study of the pottery from these excavations - with a revised methodological approach - will document the changes in the repertoire of regionally manufactured cooking vessels as well as the proportions of imported amphorae between the 3rd and 8th centuries in further detail.

⁷¹ Bes 2019.

⁷² Meyza 2007; Yener-Marksteiner 2007, 252, 258; 2009, 227, 229; Poblome and Firat 2011.

⁷³ Patara: Dündar 2016b, 99; 2018, 170-71; Andriake: Yener-Marksteiner 2013, 232.

⁷⁴ Yıldırım 2012, 153-55, 160-61, 168, fig. 1.

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FIG. 1 Overview photograph of the OT after the excavations in 2012 (© ÖAW-ÖAI/Pascal Brandstätter).



FIG. 2 Overview photograph of the WT after the excavations in 2012 (© ÖAW-ÖAI/Regina Hügli).

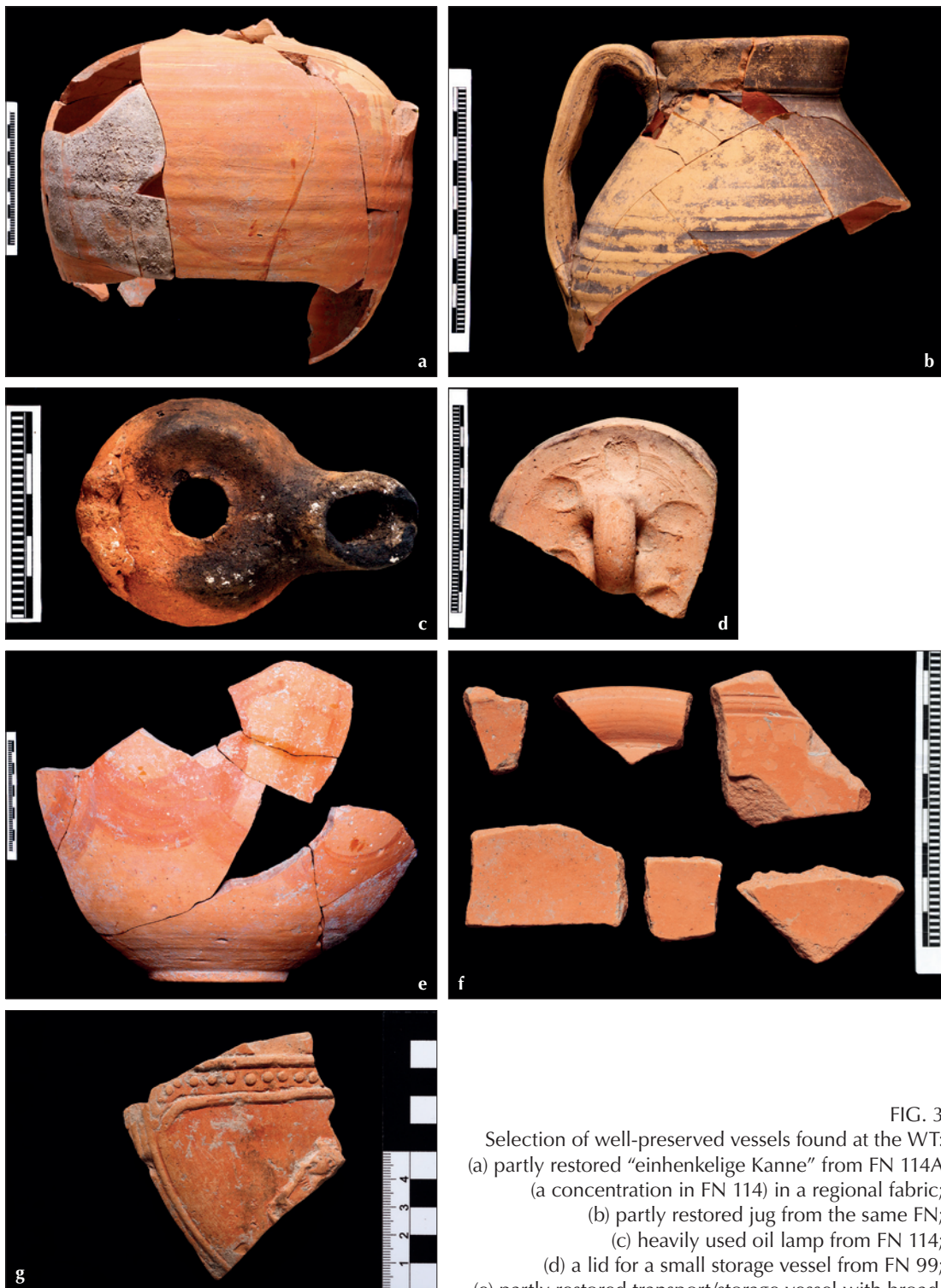


FIG. 3

Selection of well-preserved vessels found at the WT:

- (a) partly restored "einhenkelige Kanne" from FN 114A
(a concentration in FN 114) in a regional fabric;
- (b) partly restored jug from the same FN;
- (c) heavily used oil lamp from FN 114;
- (d) a lid for a small storage vessel from FN 99;
- (e) partly restored transport/storage vessel with broad, painted spirals from FN 99 presumably in a regional fabric;
- (f) fragments of ARSW from FN 85; and
- (g) fragment of an oinophoros from FN 7

(© ÖAW-ÖAI/Regina Hügli).

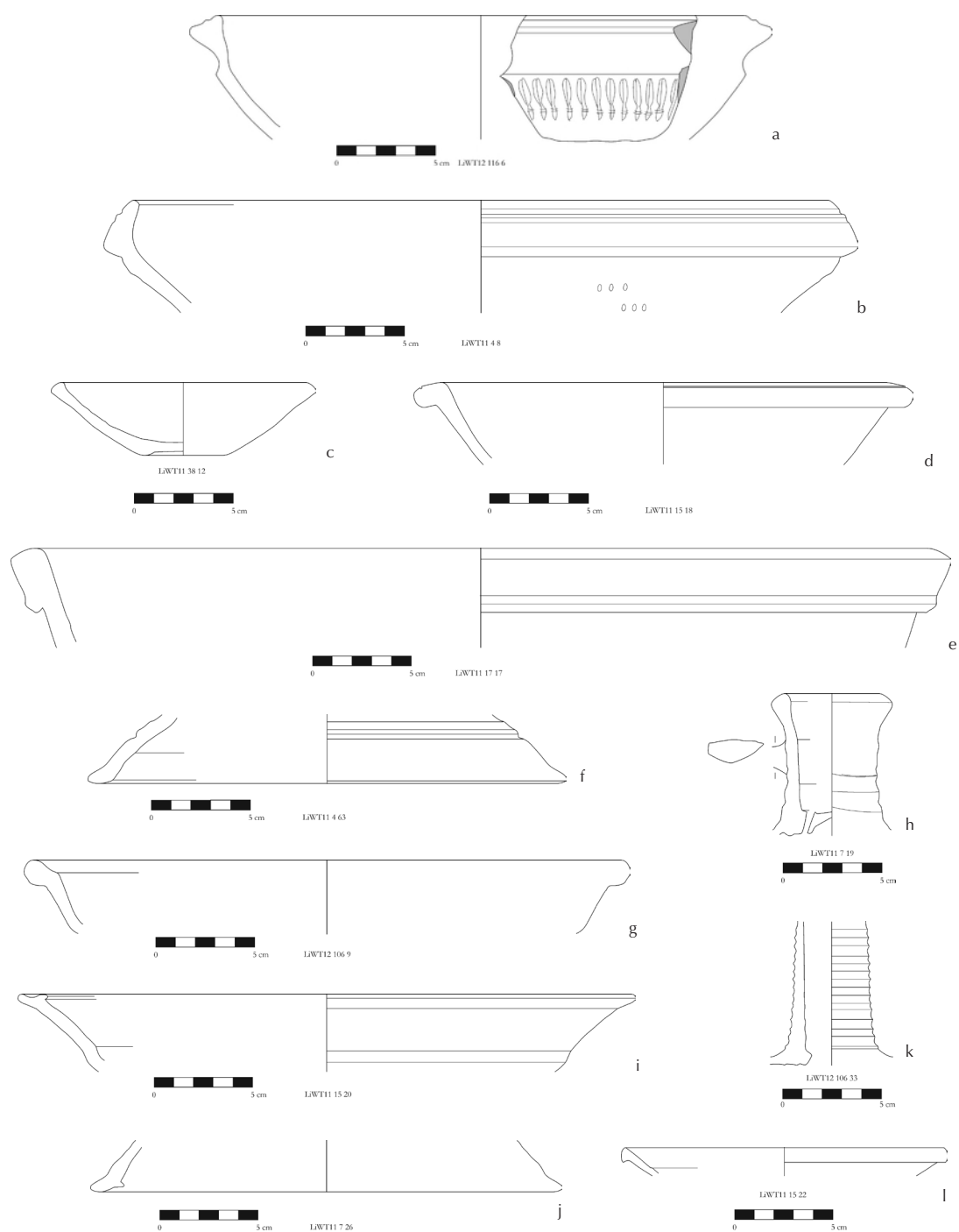


FIG. 4 Selection of tablewares and cooking wares from the WT: (a) Cyriot(?) LRD Hayes Form 7 from FN 116; (b) Cyriot(?) LRD Hayes Form 10A(?) from FN 4; (c) LRD Hayes Form 1 or Meyza Form 3C from FN 35; (d) LRD Hayes Form 8A from FN 15; (e) LRD Hayes Form 11 from FN 17; (f) LRD lid or bowl from FN 4; (g) pan in "lyciennes kaolinitiques" from FN 106; (h) "filter" jug in "lyciennes kaolinitiques" from FN 7; (i) lid or bowl in "lyciennes kaolinitiques" from FN 15; (j) lid(?) in "lyciennes kaolinitiques" from FN 7; (k) jug(?) in "lyciennes kaolinitiques" from FN 106; and (l) ARSW Hayes Form 68(?) from FN 15
(© ÖAW-ÖAI/Nicola Math).



FIG. 5b
Lump of plaster inside the vessel shown
in fig. 5a (© ÖAW-ÖAI/Regina Hügli).

FIG. 5a
Partly restored Cypriot(?) LRD Hayes
Form 11 (© ÖAW-ÖAI/Regina Hügli).

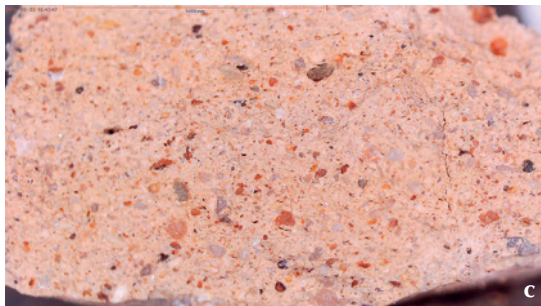
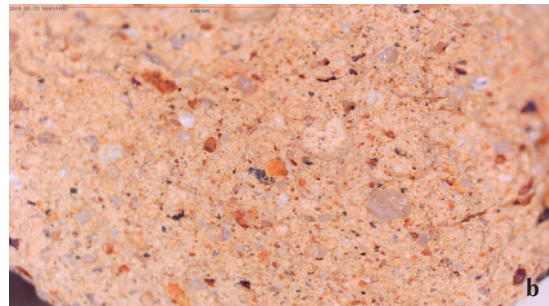


FIG. 6 Microscope photographs (magnified ca. 40 times) of fresh breaks of vessels in “lyciennes kaolinitiques”: (a) pan from context 5013 (2016 excavations, Western City); (b) chytra/stew pot (cf. Yener-Marksteiner 2007, 267-68, table 21, C62) from the same context; (c) pan or lid from context 5011 (2016 excavations, Western City); and (d) lopas from FN 13 (2011 excavations, WT), otherwise not included in this study (© Philip Bes).

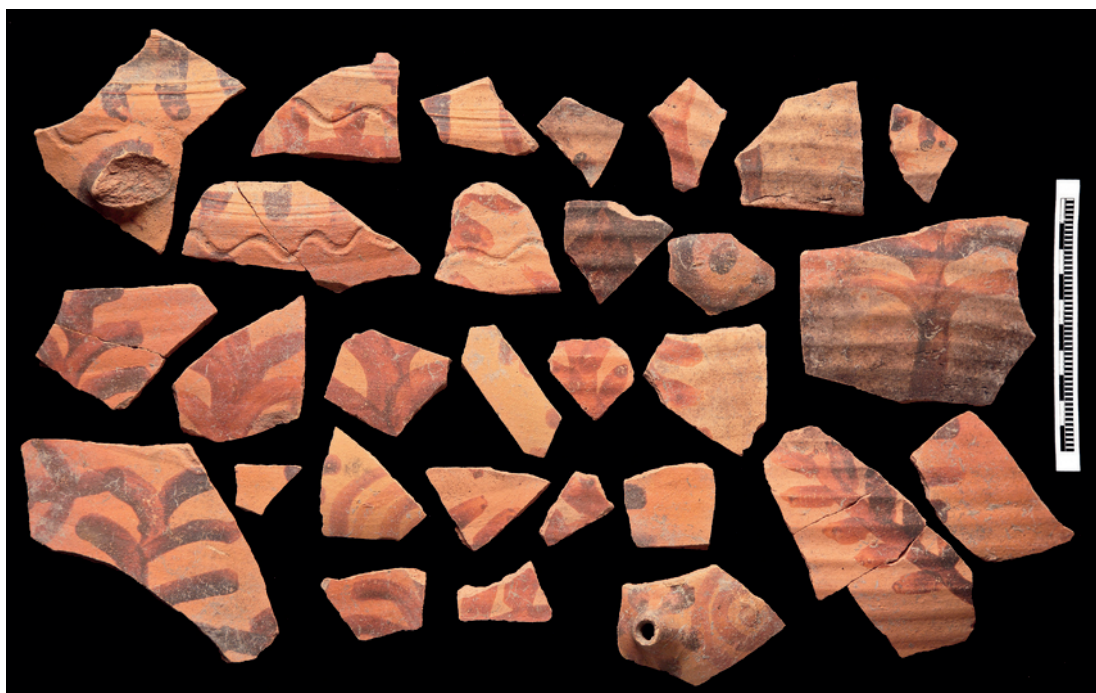


FIG. 7
Two vessels in “lyciennes kaolinitiques” with painted designs: (a) fragments of a spouted vessel from FN 85, 105, 107 and 125; and (b) partly restored bowl or lid, with holes or notches cut out before firing, from FN 105 (© ÖAW-ÖAI/Regina Hügli).



FIG. 8 Semi-ovoid pan in “lyciennes kaolinitiques” with “steel pan”-like handle from FN 91 (© ÖAW-ÖAI/Regina Hügli).



FIG. 9 Carinated casserole or lops in "lyciennes kaolinitiques" from FN 118 (© ÖAW-ÖAI/Regina Hügli).



FIG. 10 Part of the stripe-painted handle of a lidded jug (from FN 28, otherwise not included in this study), onto which a small ring handle was attached that held the lid proper (© ÖAW-ÖAI/Regina Hügli).

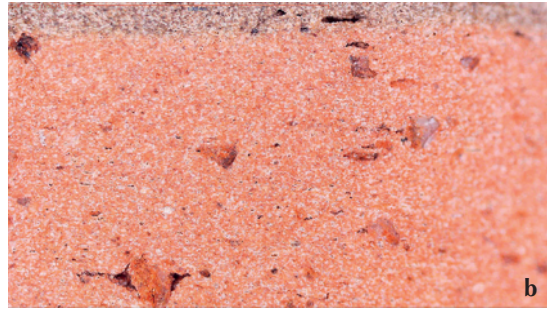
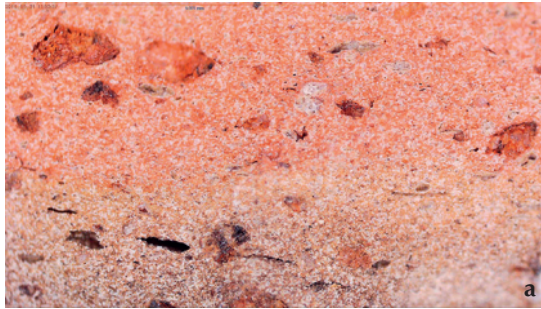


FIG. 11 Microscope photographs (magnified ca. 40 times) of vessels in Fabric 2: (a) amphora toe from FN 35 (see fig. 12); and (b) pithos rim from context 5013 (2016 excavations, Western City) (© Philip Bes).

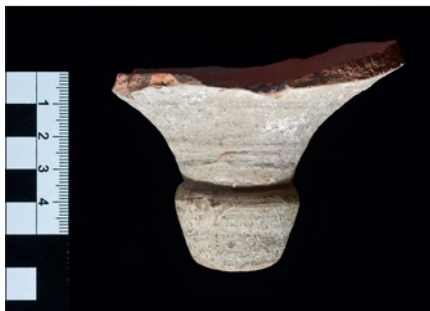


FIG. 12 Amphora toe in Fabric 2 from FN 35 (see fig. 11a) (© ÖAW-ÖAI/Regina Hügli).



FIG. 13 Restored top of a LRA1B, variant 1, from FN 115 with a partly preserved dipinto (© ÖAW-ÖAI/Regina Hügli).



FIG. 14
Fragments of a
Samos Cistern
Type from FN 115
(© ÖAW-ÖAI/
Regina Hügli).



FIG. 15
Handle fragments of
Sinopean amphorae in
pâte claire, cf. Kassab
Tezgör type-group D
Snp I-III, from FN 1039
(© ÖAW-ÖAI/Regina
Hügli).



FIG. 16
Fragments of Sinopean
carrot-type amphorae:
(a) lower segment, cf.
Kassab Tezgör type-variant
C Snp III-1 from FN 114;
and (b) restored top, cf.
Kassab Tezgör type-variant
C Snp III-1b from FN 125
(© ÖAW-ÖAI/Regina Hügli).



FIG. 17
Restored top of a Pontic
carrot-type amphora from FN 114A
(a concentration in FN 114),
cf. Kassab Tezgör type-variant
C Snp III-1 similis, possibly
manufactured at Herakleia Pontike
(© ÖAW-ÖAI/Regina Hügli).

TABLE 1 Overview of attested amphorae from the studied contexts from the OT and WT, organized by provenance and type (© Philip Bes/ÖAW-ÖAI).

	Region	Typological Category	OT				WT			
			Count n	Count %	Weight n	Weight %	Count n	Count %	Weight n	Weight %
EastMed	Cilicia Pedias/ Cyprus	LRA1	200	32,2	7690	39,2	1279	41,2	33269	42,2
	Gaza-Negev	LRA4	75	12,1	2905	14,8	495	15,9	13767	17,5
	Caesarea-Akko	LRA5	108	17,4	2672	13,6	54	1,7	743	0,9
		LRA5/Agora M334	-	-	-	-	13	0,4	183	0,2
	Akko region	Agora M334	21	3,4	484	2,5	26	0,8	314	0,4
	Scythopolis	LRA6	-	-	-	-	6	0,2	59	0,1
	Southern Levant	-	-	-	-	-	2	0,1	80	0,1
	Aegean	Agora M273	-	-	-	-	11	0,4	865	1,1
		LRA2	2	0,3	60	0,3	8	0,3	835	1,1
		Agora M273/Samos Cistern Type	4	0,6	158	0,8	10	0,3	628	0,8
		Samos Cistern Type	-	-	-	-	22	0,7	1011	1,3
	Cretan(?)	-	1	0,2	15	0,1	29	0,9	777	1,0
	Maeander	LRA3	19	3,1	425	2,2	89	2,9	996	1,3
		-	-	-	-	-	32	1,0	547	0,7
	Maeander/ Southwest Turkey	-	-	-	-	-	1	0,0	15	0,0
	Egypt	LRA7	4	0,6	197	1,0	8	0,3	170	0,2
	EastMed	-	54	8,7	755	3,8	41	1,3	1200	1,5
Black Sea	Sinope	C Snp I-III	-	-	-	-	4	0,1	210	0,3
		C Snp II-III	-	-	-	-	6	0,2	1770	2,2
		D Snp I-III	5	0,8	329	1,7	2	0,1	55	0,1
	Sinope(?)	-	4	0,6	270	1,4	3	0,1	135	0,2
	Herakleia Pontike?	C Snp III-1 similis	-	-	-	-	1	0,0	910	1,2
		C Snp III-2	-	-	-	-	2	0,1	15	0,0
		C Snp II-III	-	-	-	-	3	0,1	185	0,2
	Pontic	-	-	-	-	-	1	0,0	60	0,1
	Pontic(?)	-	-	-	-	-	17	0,5	382	0,5
WestMed	Southern Italy/ Sicily	Keay 52	-	-	-	-	2	0,1	100	0,1
	Tunisia	Spatheion	2	0,3	55	0,3	5	0,2	160	0,2
	Tunisia/ Tripolitania	-	5	0,8	385	2,0	36	1,2	1392	1,8
	WestMed	-	1	0,2	30	0,2	1	0,0	120	0,2
	Unidentified	-	117	18,8	3206	16,3	895	28,8	17854	22,7
			622	35,0	19636	30,0	3104	39,6	78807	38,6

TABLE 2 Summary table of all FN from the OT and WT excavations that were studied in detail; einhKan=einhinkelige Kannen (large, one-handled jugs), lyckaol=lyciennes kaolinitiques (cooking and related vessels from southeast Lycia) (© Philip Bes/ÖAW-ÖAI).

Year	Trench	FN	Total Count	Count minus Residual and ‘?’	Weight (gr)	Weight minus Residual and ‘?’	Ceramic Date (CE and ca.)
2012	OT (SE 27)	1036	327	319	11085	10734	475–550
		1039	1913	1896	54289	53531	575–650
2011	WT3	3	28	27	574	571	550+
		4	59	59	3527	3527	540+
		7	406	393	7758	7583	550+
		9	123	122	4700	4690	650–700/750?
		15	99	95	2180	1828	<525/550?
		17	73	72	2616	2611	500–550, up to 575?
		39	223	218	3641	3586	575+
	WT3/2	54	560	539	9721	9506	450–500, into early sixth?
	WT4	35	835	716	14680	12940	450–500, into early sixth?
	WT5	44	198	194	4697	4675	450–500, into early sixth?
2012	WT6	118	22	22	381	381	Early Byzantine
	WT7	65	2	2	275	275	early/first half sixth?
		85	3001	2969	32748	32461	600–625/650
		90	46	46	645	645	early/first half sixth?
		91	443	421	8575	8259	500–525/550
		95	57	55	1903	1883	early/first half sixth?
		99	966	943	25589	24873	500–525/550
		105+105A	594	583	12568	12543	500–525/550
		106	516	506	10842	10676	500–525/550
		107	339	315	6829	6526	475–525/550? (to 575/600?)
		115	892	880	21825	21517	500–525/550 (to 575/600?)
		116+116A	212	208	5698	5662	475–550?
		117	65	65	1470	1470	Early Byzantine
		119	49	46	1381	1360	Early Byzantine
		120	21	21	328	328	Early Byzantine
		122	55	47	1113	1080	Early Byzantine
		125	481	464	7906	7619	475–525/550
		133	60	52	788	703	early/first half sixth?
		138	113	105	1815	1720	Later sixth into seventh
		139	86	84	1554	1524	550–625/650
		141	10	8	314	184	Early Byzantine
		142	142	141	4577	4573	Early Byzantine
	WT8	111	74	71	1814	1789	450–500/525
		114+114A	360	239	9603	7641	(First half?) fifth century
	WT9	132	6	6	80	80	Early Byzantine
	WT10	112	95	95	3074	3074	475–525/550
	Total		13551	13044	283163	274628	

Main Ceramic Dating Criteria

CRSW/LRD H2, H3, H8, H11; einhKan; LRA1 and LRA4 variants; Sinopean <i>pâte claire</i>
CRSW/LRD, including well preserved H9; PhLRC H10A; LRA1 and LRA4 variants; late LRA5; Sinopean <i>pâte claire</i>
Late version of CRSW H11
Hayes 9C
Late version of CRSW H11; LRA1B(2?)
Early Byzantine cooking pots (cf. Polis West excavations 2016) and a pithos: perhaps intrusive?
CRSW/LRD H1, H8A; ARSW H68?; LRA1A, including Pieri's transitional type?
Early and late CRSW H11; LRA1B(2?)
Spatheion 3; PhLRC H3F, H3H; Cypriot LRD H11; various regional wares, including einhKan
CRSW/LRD H1, H11; PhLRC pre-500; ARSW H71A, Fabric D1; LRA1A; Agora M273; LRA4A2/B1; quite some LRA3; Ras al-Bassit mortarium; various regional wares
CRSW/LRD H1 and H11; Meyza H1/3C; LRA1A; LRA3 hollow foot; LRA4A2; LR Aegean Micaceous
CRSW/LRD H1; Cypriot LRD H11; LRA1A; einhKan
Well-preserved carinated pan (lyckaol)
Tunisian amphora: join with body sherd from 90, other fragments in 91, 95 and 99
ARSW H107, various CRSW/LRD H9 and H10
einhKan; Tunisian amphora, which also occurs in 91, 95 and 99; LRA1 that also occurs in 91
CRSW/LRD H2, H7, H11; PhLRC H1D?, H3B?; einhKan; LRA1B; LRA4B1; micaceous amphora (West Cilicia?) that also occurs in 105; Tunisian amphora that also occurs in 90, 95 and 99; LRA1 that also occurs in 90
Well-preserved CRSW/LRD H11 (also H1); Tunisian amphora, other fragments in 65, 90-91 and 99
CRSW/LRD H2, H7, H11; einhKan; LRA4A1-A2, A1-B2, B1-B2, B2-B3; Samos Cistern Type; LRA1B; Pontic carrot-type amphorae; pale green LRA1 (fragments also occur in 105-7, 115, 125, 129, 133, 139); Tunisian amphora, which also occurs in 90-91 and 95
CRSW/LRD H2, H11; PhLRC H3D/(F), H3F; LRA1 (Pieri P2?); einhKan; Sinopean <i>pâte claire</i> ; presumed joining fragments with 106: LRA1 (MNI=2; 1xPieri P2?), micaceous amphora (West Cilicia?); CRSW/LRD H2 joins to fragment from 106; pale green LRA1 (fragments also occurs in 99, 106-7, 115, 125, 129, 133, 139)
CRSW H2, H11; LRA4B1, B1-B2, B1-B3; einhKan; presumed joins with fabric if not vessel from 105: pan, tableware, LRA1 (MNI=2; 1xPieri P2?), micaceous amphora (West Cilicia?); CRSW/LRD H2 joins to fragment from 105; pale green LRA1 (fragments also occur in 99, 105, 107, 115, 125, 129, 133, 139)
CRSW/LRD H2, H11; LRA4B1-B2; Samos Cistern Type, possibly the same vessel as in 115 and 125; pale green LRA1 (fragments also occur in 99, 105-6, 115, 125, 129, 133, 139)
CRSW/LRD H1, H2, H11; PhLRC H3F; LRA1B1; LRA4A1-B2, B1-B2, B1-B3; LRA3 Pieri 2005, fig. 59d; Samos Cistern Type joins to fragments from 125, and possibly 107
CRSW/LRD H2, H7, H11; PhLRC H2A; einhKan; oinophoros fragments, possibly from the same vessel as in 117; bowl fragment, possibly from the same vessel as in 142 (knife-cut)
CRSW/LRD H11; oinophoros fragments, possibly from the same vessel as that in 117
Nothing very diagnostic
Various LR amphorae, otherwise few diagnostic fragments
CRSW/LRD H2, H11; einhKan
CRSW/LRD H1, H2, H11; PhLRC H3H; einhKan; Samos Cistern Type; Pontic carrot amphorae; Spatheion 1?; pale green LRA1 (fragments also occur in 99, 105-7, 115, 129, 133, 139); Samos Cistern Type joins to fragments from 115, and possibly 107
Carrot amphora (Sinope?); einhKan; pale green LRA1 (fragments also occur in e.g. 99, 105-7, 115, 125, 129, 139)
CRSW/LRD H2, H9B, H11; einhKan
CRSW/LRD H9-10, H11; einhKan; pale green LRA1 (fragments also occur in e.g. 99, 105-7, 115, 125, 129, 133)
CRSW/LRD H7; einhKan
CRSW/LRD H2, H11; einhKan; Samos Cistern Type; bowl fragment, possibly the same vessel as in 142 (knife-cut)
CRSW/LRD; LRA1; einhKan; Agora M273 (similar/same fragments in 112, 114)
ARSW Fabric C3-5?; ARSW H50(B?); carrot amphora (Sinopean?); Agora M273 (similar/same fragments in 111-2); LRA1A; 114A: well-preserved Sinopean carrot-type amphora; well-preserved einhKan; well-preserved wide-mouthed jug
CRSW H2; Form 4 (lyckaol)
CRSW/LRD H11; einhKan; LRA1; LRA4B1; Agora M273 (similar/same fragments in 111, 114)

TABLE 3 Summary table comparing amphorae data between deposits that are dated respectively to ca. 450-550 and ca. 550-650 (© Philip Bes/ÖAW-ÖAI).

	Region	Typological Category	450–550		
			Count n	Count %	
EastMed	Cilicia Pedias/Cyprus	LRA1	694	39,2	
	Gaza-Negev	LRA4	235	13,3	
	Caesarea-Akko	LRA5	22	1,2	
		LRA5/Agora M334	11	0,6	
	Akko region	Agora M334	5	0,3	
	Scythopolis	LRA6	5	0,3	
	Southern Levant	-	2	0,1	
	Aegean	Agora M273	8	0,5	
		LRA2	6	0,3	
		Agora M273/Samos Cistern Type	9	0,5	
		Samos Cistern Type	11	0,6	
	Cretan	-	27	1,5	
	Maeander	LRA3	64	3,6	
		-	23	1,3	
	Maeander/Southwest Turkey	-	1	0,1	
	Egypt	LRA7	7	0,4	
	EastMed	-	28	1,6	
Black Sea	Sinope	C Snp I–III	4	0,2	
		C Snp II–III	4	0,2	
		D Snp I–III	2	0,1	
	Sinope(?)	-	3	0,2	
	Herakleia Pontike(?)	C Snp III–1 similis	1	0,1	
		C Snp III–2	2	0,1	
		C Snp II–III	3	0,2	
	Pontic	C Snp II–III	1	0,1	
WestMed	Pontic(?)	-	13	0,7	
	Southern Italy/Sicily	Keay 52	1	0,1	
	Tunisia	Spatheion 1	1	0,1	
	Tunisia/Tripolitania	-	32	1,8	
	WestMed	-	1	0,1	
	Unidentified	-	543	30,7	
		Total	1769	100,0	

	450–550		550–650				450–550	550–650
	Weight n	Weight %	Count n	Count %	Weight n	Weight %	Count %	Count %
	19603	40,0	589	43,0	14934	47,2	39,2	43,0
	6420	13,1	132	9,6	4574	14,5	13,3	9,6
	273	0,6	125	9,1	2577	8,1	1,2	9,1
	201	0,4	2	0,1	13	0,0	0,6	0,1
	139	0,3	42	3,1	659	2,1	0,3	3,1
	50	0,1	-	-	-	-	0,3	-
	80	0,2	-	-	-	-	0,1	-
	580	1,2	-	-	-	-	0,5	-
	770	1,6	2	0,1	60	0,2	0,3	0,1
	624	1,3	3	0,2	150	0,5	0,5	0,2
	539	1,1	1	0,1	6	0,0	0,6	0,1
	742	1,5	1	0,1	15	0,0	1,5	0,1
	783	1,6	41	3,0	593	1,9	3,6	3,0
	460	0,9	5	0,4	57	0,2	1,3	0,4
	15	0,0	-	-	-	-	0,1	-
	140	0,3	4	0,3	197	0,6	0,4	0,3
	604	1,2	42	3,1	754	2,4	1,6	3,1
	210	0,4	-	-	-	-	0,2	-
	1625	3,3	-	-	-	-	0,2	-
	55	0,1	4	0,3	325	1,0	0,1	0,3
	135	0,3	2	0,1	170	0,5	0,2	0,1
	910	1,9	-	-	-	-	0,1	-
	15	0,0	-	-	-	-	0,1	-
	185	0,4	-	-	-	-	0,2	-
	60	0,1	-	-	-	-	0,1	-
	329	0,7	1	0,1	15	0,0	0,7	0,1
	35	0,1	1	0,1	65	0,2	0,1	0,1
	130	0,3	6	0,4	85	0,3	0,1	0,4
	1312	2,7	5	0,4	254	0,8	1,8	0,4
	120	0,2	-	-	-	-	0,1	-
	11828	24,2	361	26,4	6145	19,4	30,7	26,4
	48972	100,0	1369	100,0	31648	100,0	100,0	100,0

