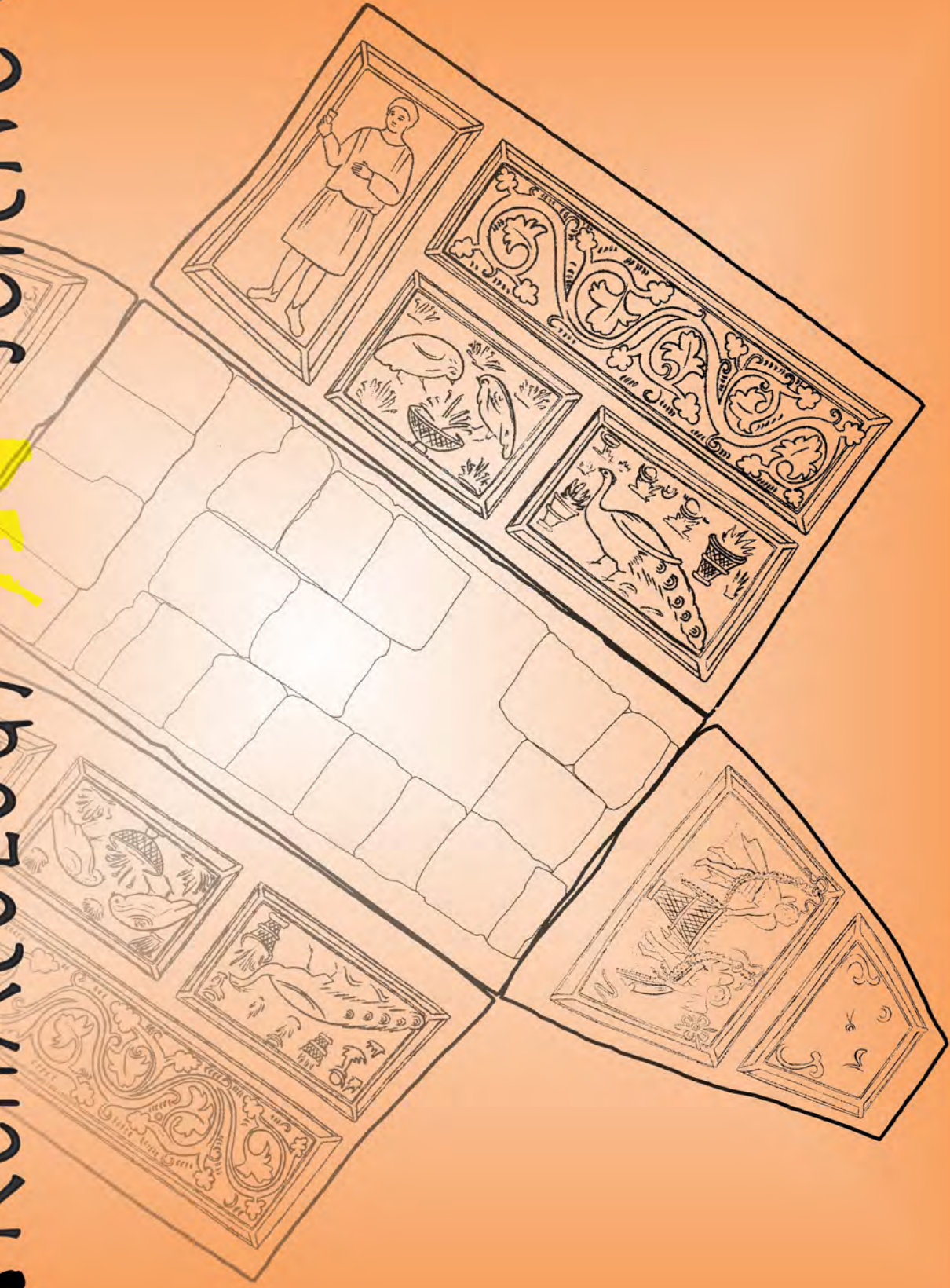


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urednika i osnivača dr Miomira Koraća*

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*To the Serbo-Turkish friendship
and cooperation in archaeology.*

IRON AGE AND HELLENISTIC CERAMICS FROM SOUTHWESTERN PAPHLAGONIA

ABSTRACT

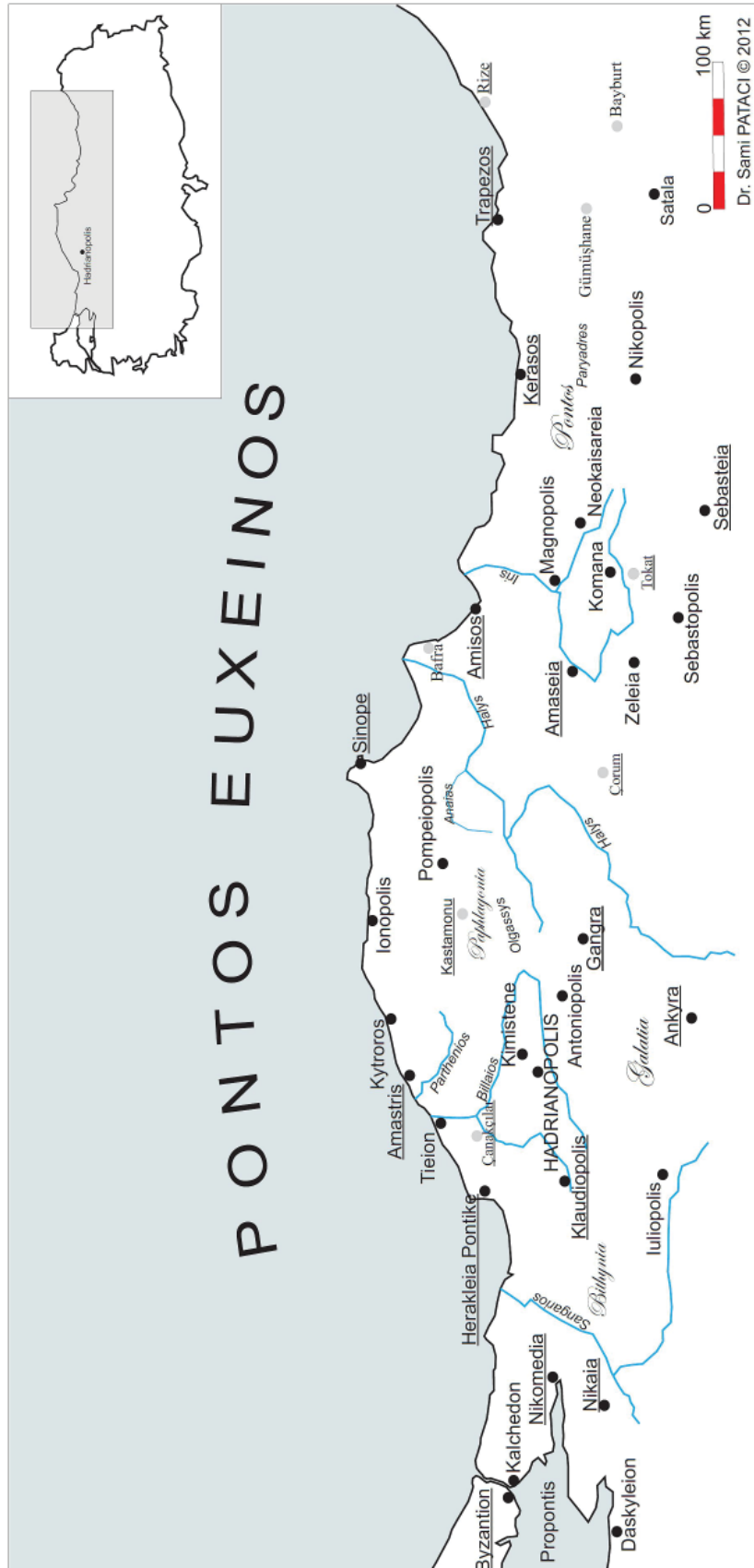
Paphlagonia was an ancient region on the Black Sea coast of north central Anatolia, bordered by Bithynia to the west, Pontus to the east and Galatia to the south. Between 2005 and 2008 an archaeological team from the Dokuz Eylül University in Izmir carried out archaeological field surveys and excavations in the southwestern part of Paphlagonia. In this extensive report pottery finds from the Iron Age and Hellenistic periods discovered during the fieldwork will be presented in detail. It includes a typological list of pottery sherds that were collected mostly from the surface. For the periods concerned there is more information from Kimistene, a hilltop site in southwestern Paphlagonia, than from other sites. This study is the first detailed Hellenistic pottery report of Turkish Black Sea area.

KEY WORDS: PAPHLAGONIA, KIMISTENE, HADRIANOPOLIS, BLACK SEA, ASIA MINOR, TURKEY, IRON AGE, PHRYGIAN, HELLENISTIC.

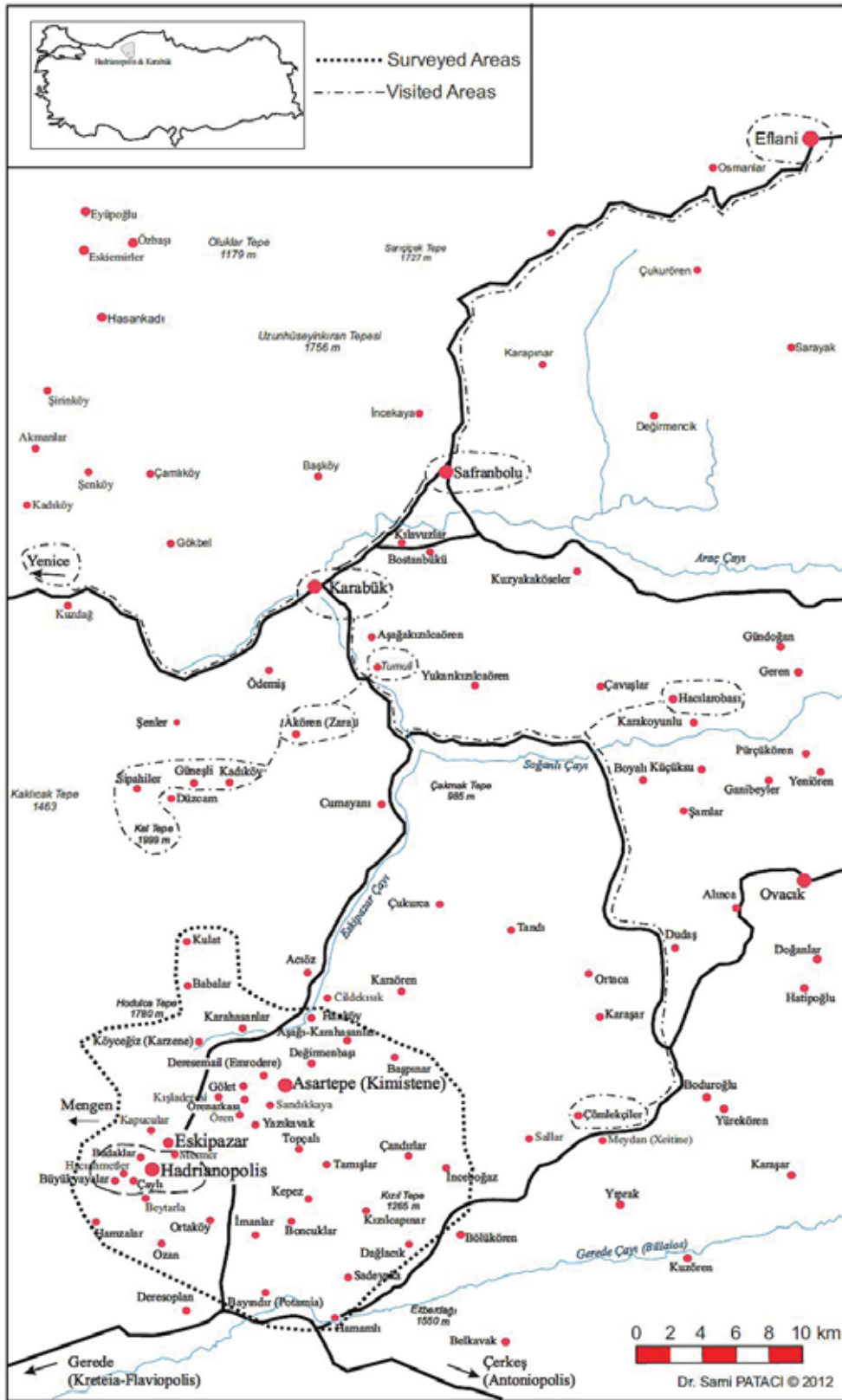
Paphlagonia was an ancient region on the Black Sea coast of north central Anatolia, bordered by Bithynia to the west, Pontus to the east, and Galatia to the south (map 1). The archaeology of Paphlagonia has been studied in a very uneven manner: the south coast of the Black Sea has hardly been touched by comparison with the century and more of sustained excavations and surveys on the other coastlines. Inevitably, the archaeological picture of these coasts in antiquity looks strangely unbalanced, even though our literary texts offer moments of insight into the Classical Antiquity of the Turkish Black Sea coast, spread across centuries and driven by Xenophon's Anabasis, Strabo's

Geography and Arrian's Periplus. Centuries later, the whole Turkish coast of the Black Sea is a live archaeological region, and the ongoing discoveries help shed more light on the facts of the past and on the incredible prosperity of this region in antiquity.

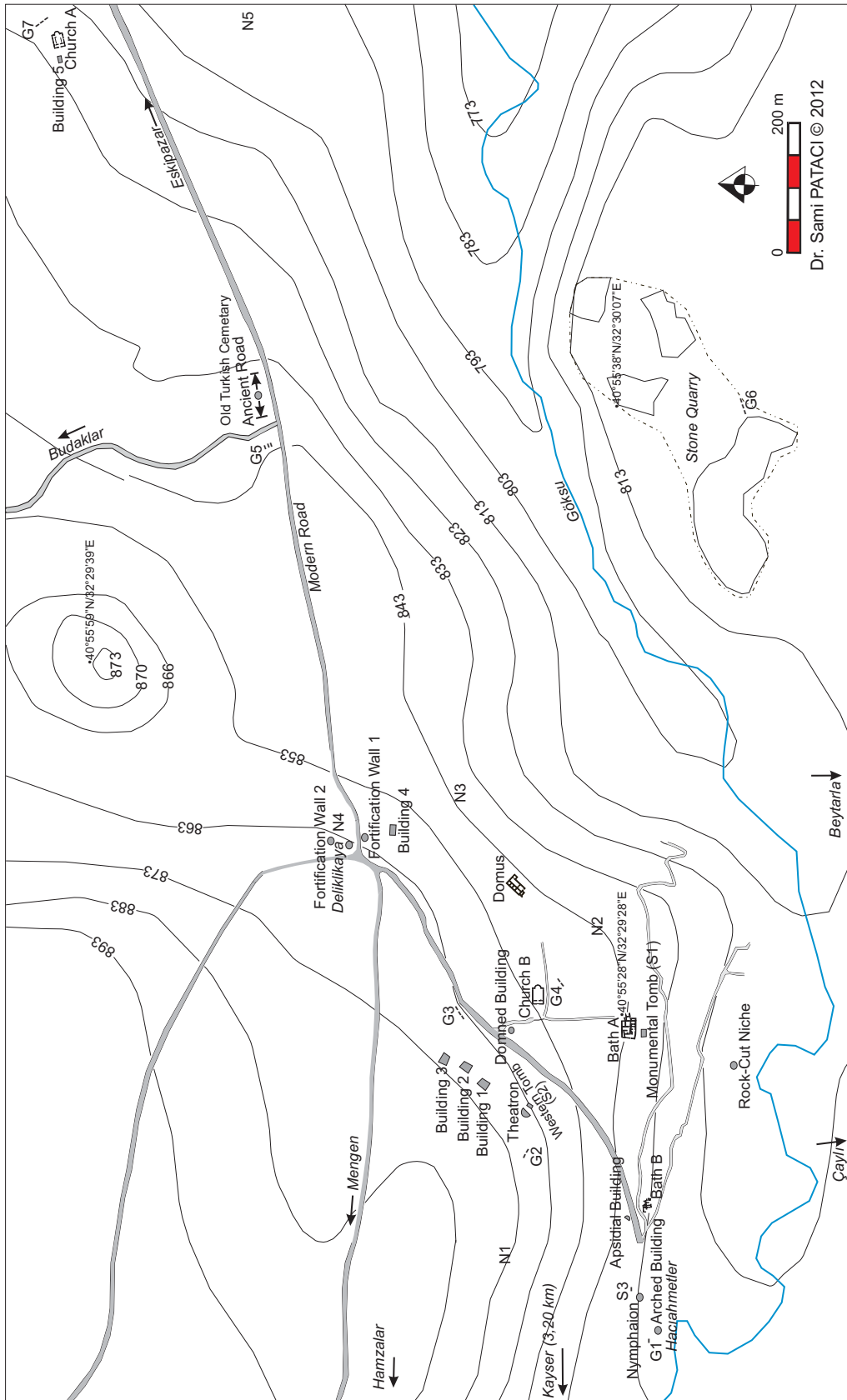
Between 2005 and 2008 an archaeological team from the Dokuz Eylül University in Izmir carried out archaeological field surveys (map 2) and excavations in the southwestern part of Paphlagonia, focusing on the site of Hadrianopolis (**map 3**) near the town of Eskipazar in the Turkish Province of Karabük and on its surrounding area, on its so-called *chora* (Lafli/Christof 2012a, 28-



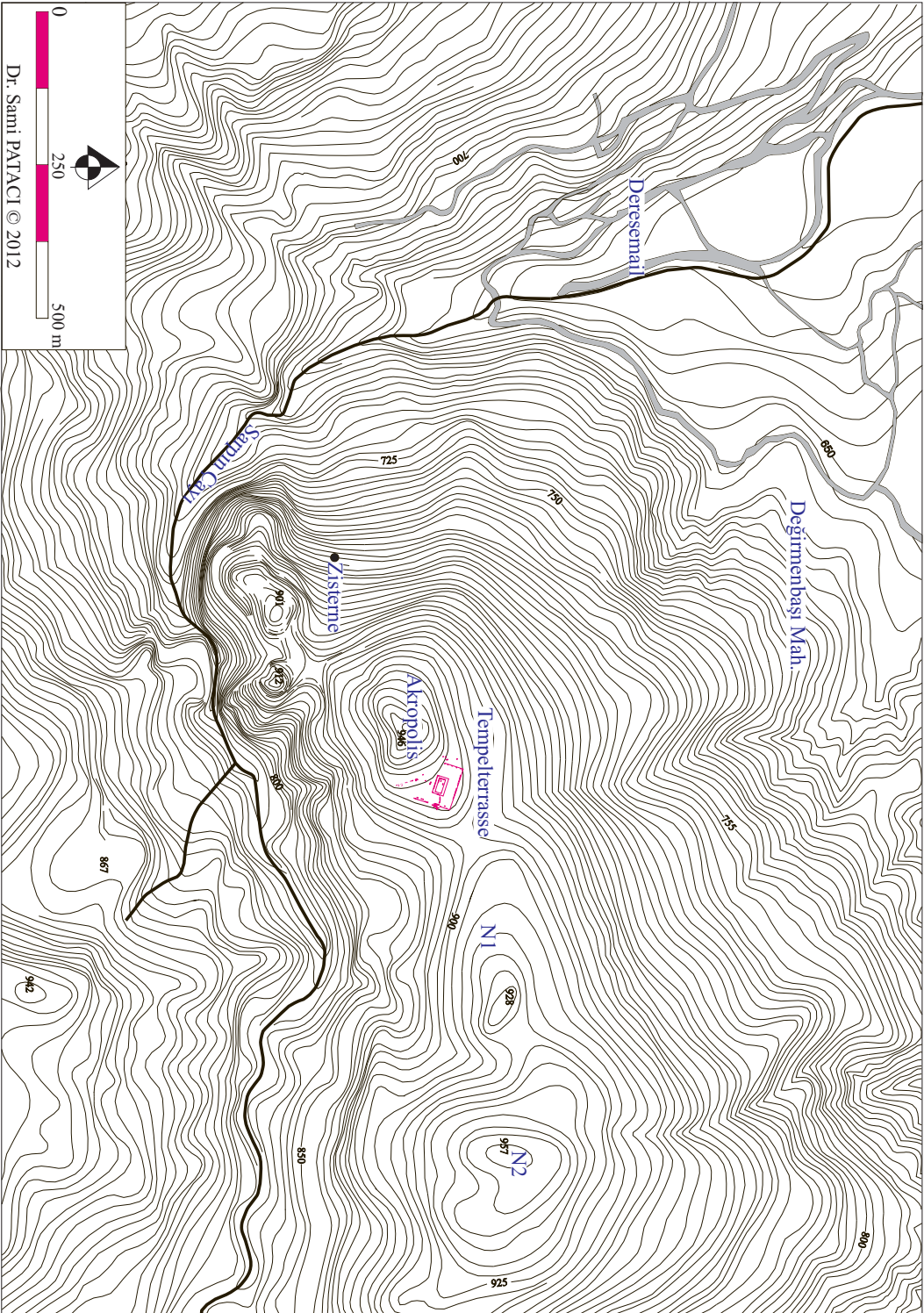
Map 1: Map of Paphlagonia.



Map 2: Map of the surveyed areas in southwestern Paphlagonia in 2005.



Map 3: City plan of Hadrianopolis in 2008.



Map 4: Plan of Kimistene in 2008.



Fig. 1: Acropolis of Kimistene from the north.

31 and Fünfschilling/Laflı 2012, 5). During these field campaigns it has been shown that southwestern Paphlagonia was a transitional landscape between Paphlagonia, Galatia and Bithynia that was settled without interruption from the Bronze Age until the 8th cent. A.D. The earliest pottery from southwestern Paphlagonia originates from the *chora* of Hadrianopolis and not from the site of Hadrianopolis itself. In this report pottery finds from the Iron Age and Hellenistic period discovered during the fieldwork will be presented in detail (for a preliminary Iron Age and Hellenistic pottery report of southwestern Paphlagonia: Laflı/Kan Şahin in press).

Almost no historical source exists for understanding the situation of southwestern Paphlagonia during the Iron Age. Regarding the Iron Age of the hinterland of Paphlagonia, so-called Inner Paphlagonia, the only systematic archaeological field work carried out to date was led by R.

J. Matthews of the British Institute of Archaeology at Ankara between 1997 and 2001. The Hittite world in central and northern Anatolia collapsed in 1180 B.C. and after the Hittites, the first known people in this region are the Phrygians, whose capital at Gordion is not far to the south-west of Paphlagonia. According to Matthews's survey the Middle Iron Age has been dated to 950-550 B.C. and the Late Iron Age to 550-330 B.C. The British survey showed that the only Iron Age site in the area of Eskipazar was İnceboğaz Tepesi which is indicated as a fortified site (Matthews 2009, 151, table 5.2; map of distributions of Iron Age sites in Inner Paphlagonia: Matthews 2009, 150, fig. 5.1.). In our archaeological field surveys in 2005 we examined Kimistene (**map 4**), a hilltop site c. 12 km northeast of Hadrianopolis, near the village of Dereemail, and collected Iron Age sherds there which will be presented below. Kimistene is located on a mountain chain, called Asartepe



Fig. 2: Kepez from the south.

by the locals, and it consists of four main peaks: *Acropolis* (**fig. 1**), cistern, and two *necropoleis*. According to Matthews, many of the hilltop sites may have been constructed in the Late Iron Age (Hellenistic) period and re-used in the Late Byzantine period.

At the end of 4th century B.C. Paphlagonia passed under the control of the Macedonian kings, and after the death of Alexander the Great it was assigned, together with Cappadocia and Mysia, to Eumenes. However, it continued to be governed by native princes until it was absorbed by the encroaching power of Pontus. The rulers of that dynasty became masters of the greater part of Paphlagonia as early as the reign of Mithridates Ctistes (302–266 B.C.), but it was not until 183 B.C. that Pharnaces brought the Greek city of Sinope under their control. From that time, the whole province was incorporated into the kingdom of Pontus until the fall of Mithridates in 65

B.C. Hellenistic immigrants to the region included the Celtic Galatians who flooded into Anatolia in the 3rd century B.C. In the surveys carried out by Matthews's team there is at least one hill-top fortified site in the south of the survey area that is probably Galatian in date.

The Hellenistic economy of the coastline of Paphlagonia and Pontus was based on agricultural and industrial activities, and especially on wine and oil production and their international trade. Parallel to the intensive wine and oil production, technologically proficient transport *amphorae* were produced beginning at the latest in the Late Classical period and continuing into the Middle Byzantine period. Sinope, Heracleia Pontica and Amastris, all in Paphlagonian territories, thus became famous during Hellenistic and Roman times for their wine production and trade.

According to D. Magie, however, Hellenistic Inner Paphlagonia had a rural character with



Fig. 3: Illegally excavated area at the temple's podium on the Acropolis of Kimistene in 2005.

a rural type of living (Magie 1950, 188). Almost no Hellenistic cities are known in southwestern Paphlagonia. At the same time one should stress the fact that Inner Paphlagonia (southwestern Paphlagonia) was never a heavily urbanized area (cf. map of Hellenistic Inner Paphlagonia: Matthews/Metcalf/Cottica 2009, 178, fig. 6.6), and Hellenistic sites are also very rare. The only Hellenistic site in the area that was discovered during the course of Matthews's surveys is PS 066, which is a cemetery site. This is perhaps due to the abandonment of rural settlements (Matthews/Metcalf/Cottica 2009, 177). The sole evidence for Hellenistic settlement in the region is the *tumuli*, the date of which is rather problematic (Laflı/Christof 2012b; as well as *tumuli* in the region: Matthews 2009, 157-158, table 5.4 and 159, fig. 5.8). Other parts of Paphlagonia, especially "Outer" Paphlagonia are better represented during the Hellenistic period, but their ceramic evidence has not been

published to any great extent. A further problem is that we cannot be certain if southwestern Paphlagonia was incorporated with the wider Hellenistic world by a network of roads.

In our 2005 survey in southwestern Paphlagonia we collected Hellenistic sherds from two major sites: Kimistene and Kepez (**fig. 2**). The function of Kimistene in the Hellenistic period is unclear (for Hellenistic Kimistene: Matthews/Metcalf/Cottica 2009, 174-177; for Kimistene: Laflı/Christof 2011). At this site traces of foundations of a Roman temple (of Zeus Kimistenos?), located on the northern artificial edge of its *Acropolis* and on the southwestern flank of the site should have been built during the 3rd century A.D. and should have been in use until the 4th cent. A.D. This temple is an indication of some unknown religious activities at a hilltop sanctuary (cf. hilltop sanctuaries in Paphlagonia: Matthews/Metcalf/Cottica 2009, 174-177.). As understood



Fig. 4: Illegally excavated area at the temple's terrace in 2005.

from the illegal trenches (figs. 3-4) opened up in its *temenos*, the foundations of this temple lay in the Iron Age/Hellenistic fill where we have found numerous sherds of Iron Age grey ware, especially open forms, but no painted ware or Hellenistic and Roman pottery. In the illegal excavation trench we documented at least three settlement layers of 2 m in height, going deeper than the foundation level of the Roman temple. This is perhaps an indication that this area was a cultic area much earlier than the arrival of the Romans. According to some scholars, Kimistene was a base for the Pontic operations of Mithridates Ctistes as he founded and expanded his kingdom in the years around 300 B.C. (Matthews/Metcalf/Cottica 2009, 177.). During our survey we were not able to discover any architectural indication for such a Hellenistic fortification. The existing fortification on the *Acropolis* of Kimistene is dateable to the Middle Byzantine period. Kepez is a

cemetery site with two rock-cut graves and two cisterns. It is c. 8 km southeast of Kimistene and it also located in a cliffy area.

Very few pottery earlier than the 1st cent. B.C. was found in Hadrianopolis, with the exception of a few prehistoric sherds. The first historical sign of this city is that the Caesereia Hadrianopolis region appears to have been annexed to Bithynia already in 63 B.C. (Mitchell 1993, 92-93) The archaeological evidence currently suggests that Hadrianopolis was a *kata komas polis* in the 1st cent. B.C., and it would thus not have had a highly developed urban centre. It was probably only founded in the second quarter of the 1st century B.C. We do not know about the situation at Gangra in the Late Hellenistic period either.

The termination of the 1st century B.C. in the course of Paphlagonian history has a problematic nature as the Romans succeeded in incorporating the region fully into their empire by the end



Fig. 5: A Hellenistic painted jug from the Museum of Çankırı.

of the first century B.C. (Matthews/Metcalf/Cottica 2009, 174). It is, therefore, not easy to classify this period either as “Late Hellenistic” or “Early Roman”.

Few Hellenistic ceramics have been published from Paphlagonia (Laflı 2006); on the coastline pottery studies are almost exclusively devoted to *amphorae*. Excavations in the region, such as at Pompeiopolis in eastern Paphlagonia, and Sinope and Tieion on the coast have so far provided little Hellenistic ceramic evidence. Very few sherds were published in the survey reports of the hinterland region.

During the four seasons of field research carried out between 2005 and 2008 in southwestern Paphlagonia a wide range of ceramics was collected from field surveys and excavations; a total of c. 1525 fragments was examined. From these,

36 are classified as “Pre-Iron Age”, 92 as “Iron Age” (30 of which are Iron Age coarse ware) and 458 as “Hellenistic” (47 of which are Hellenistic coarse ware), including Late Hellenistic grey ware and brown slipped ware. In this article survey finds in particular will be examined, because most of the Hellenistic material was found in the course of 2005 field survey. A major problem is that Iron Age and Hellenistic coarse wares are difficult to distinguish in this landscape.

Through the quantification of material and examination of clay there is a strong evidence to assume that the great majority of these vessels were manufactured in southwestern Paphlagonia. The local origin of the material, however, has not been proven by mineralogical analysis of the clay.

In our pottery study we have classified all the sherds earlier than the Roman period into a “Pre-Roman” category, forming 12 main groups from pre-Iron Age, Iron Age, Hellenistic and Late Hellenistic periods. Most of these pre-Roman groups are from Kimistene. Definable wares of these four periods are as follows: Pre-Iron Age sherds (from *höyük*s in the area), Iron Age grey ware, Iron Age painted ware, Iron Age coarse ware, Pontic *skyphos* fragment of northern Black Sea origin (4th cent. B.C.), Hellenistic painted ware, Hellenistic relief ware, Hellenistic burnished ware, red-painted Kepez group, Late Hellenistic-Early Roman grey ware, Late Hellenistic-Early Roman brown-slipped ware and Hellenistic coarse ware. Finds in local museums such as those in the Museum of Çankırı, which are mostly from graves in the area, have also been considered for our study (fig. 5).

CATALOGUE: I. PRE-IRON AGE POTTERY (PL. 1, NOS. 1-20)

In the area surrounding Hadrianopolis, especially in the southern part of Eskipazar, there are some *höyük* sites on the plain where we have collected Chalcolithic and Bronze Age sherds. A few prehistoric sherds were also found in Hadrianopolis. These few pieces show a very different character to later Iron Age sherds. They have a coarse character without any distinctive forms and they were used for daily kitchen functions. Their characteristics are similar to those of pottery in Central Anatolia.

Our surveys were not able to provide a detailed and full presentation of the Pre-Iron Age material in Paphlagonia. Some general conclusions, however, can still be made. No Palaeolithic or Neolithic material was recognized among the finds, and this is more or less consistent with the rest of the northern Anatolia: this may be due to the mountainous character of the north and its relatively harsher climatic conditions. Two *höyük* sites in our survey region in Eskipazar, Tamişlar as well as Kutlukuyu Höyük near Ortaköy (Kuzupınar District), might be interpreted as small villages, hamlets, or isolated farmsteads.

19 of 36 sherds belong to open and 17 to closed forms; dimensions of forms should be very large. Their clay is yellowish red (5YR 5/6-4/6), reddish brown (5YR 4/4-5/4), brown (7.5YR 5/4-4/4-4/3, 10YR 5/3), red (2.5YR 4/6-5/6), very dark grey (7.5YR 3/1, 10YR 3/1, 2.5Y 3/1), light brown (7.5YR 6/4), reddish yellow (5YR 6/6), greyish brown (10YR 5/2), black (10YR 2/1), light yellowish brown (10YR 6/4), dark brown (7.5YR 3/2) and grey (10YR 5/1). Because of the low firing technique, there are some multicoloured samples in black (Gley 1 2.5/N, 7.5YR 2.5/1) and grey (7.5YR 3/1, 5YR 3/1, Gley 1 3/N). Most of them were underfired.

Stone, sand, lime, grit and mica are the main inclusions. Most of them have a thick wall

and were made on a slow wheel. Most of them are unslipped. Their surfaces were shaped with hands roughly. The determined slip colours are red (2.5YR 5/6-4/6-5/8, 10R 4/6), brown (7.5YR 4/3-5/4-4/2-5/2, 5/3-4/4, 10YR 5/3), reddish brown (2.5YR 4/4, 5YR 4/4-4/3-5/4), black (Gley 1 2.5/N), yellowish red (5YR 5/6), light brown (7.5YR 6/3-6/4), very dark grey (7.5YR 3/1, 10YR 3/1), pale brown (10YR 6/3), reddish yellow (5YR 7/6), dark reddish grey (5YR 4/2) and dark greyish brown (10YR 4/2). Same slip technique has been determined at a hollow bowl from the Mount II of İkiştepe (Alkım, Alkım and Bilgi 2003, 66, pl. CXXXIII, no. 205) which is an Early Bronze Age vessel.

On few sherds there is some external ornamentation. Decoration is observed on the body. Stamped, grooved and ridge decoration are the only patterns, as seen on nos. 9 and 19 with grooved decoration. On no. 16 there is a two-rowed ridge decoration. Parallels to no. 16 are known from Gence Höyük near the village of Bezirhane in the Gölbaşı District of Ankara Province; they are dated to Middle Bronze Age (Omura 2007, 48, fig. 47:12). Similar ones are a Middle Bronze Age sherd from Höyük-Durupınar in Ankara (Omura 2006, 70, fig. 82:11); and a Late Bronze Age sherd from Külhöyük, in Ankara (Omura 2007, 49, fig. 62:13).

OPEN FORMS (pl. 1, nos. 1-4) / Rim Fragments (pl. 1, nos. 1-2)

An open form with a thickened and rounded slightly outcurved rim. There are some burning traces on its exterior surface. Both external and interior surfaces were burnished.

1. (No. 1212): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 1/1 and pl. 26/1.**

Max. h 3.4 cm., d of rim 23.0 cm., max. w 7.9

cm., max. th 0.9 cm.

Brown (10YR 5/3) slip on exterior, yellowish red (5YR 5/6) slip on interior. All of the surface is burnished. Hard, non-porous, yellowish red (5YR 5/6) and brown (10YR 5/3) fabric with frequent sand and tiny lime inclusions.

2. (No. 723): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, surface find, found in 2005. **pl. 1/2 and pl. 26/2.**

Max. h 5.7 cm., max. w 5.5 cm., max. th 1.0 cm.

Pale brown (10YR 6/3) and dark grey (10YR 4/1) slip on exterior and interior rim, brown (7.5YR 5/2) slip on lower interior. Exterior surface is burnished. Hard, very sparsely porous, fired to brown (7.5YR 4/3) and dark grey (Gley 1 4/N) fabric with frequent lime and sand inclusions.

Parallels: Özdoğan/Marro/Tibet 1999, 223, 225, drawing 1:6, drawing 2: Eylekderesi (1-2) and Gavurevleri (4).

Base Fragments of Open Forms (pl. 1, nos. 3-4)

Two fragments in plain and low base form.

3. (No. 1296): Base fragment; Kimistene, *Acropolis*, temple slope, illegal excavation area, found in 2005. **pl. 1/3 and pl. 26/3.**

Max. h 4.0 cm., max. w 7.8 cm., max. th 1.3 cm.

Black (Gley 1 2.5/N) slip on exterior; light brown (7.5YR 6/3) slip on interior. Average hardness; very sparsely porous, light brown (7.5YR 6/4) and black (Gley 1 2.5/N) fabric with frequent lime and large grit inclusions.

4. (No. 663): Base fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 1/4 and pl. 26/4.**

Max. h 1.7 cm., d of base 10.4 cm., max. w 5.2 cm., max. th 1.1 cm.

Red (2.5YR 4/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Average hardness; non-porous, red (2.5YR 4/6) and black (7.5YR 2.5/1) fabric with frequent lime and large grit inclusions.

Body Fragments of Open Forms (pl. 26, nos. 5-19)

Some pieces (nos. 6, 12 and 18) were polished on the exterior. In some fragments the interior face is flattened.

5. (No. 675): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/5.**

Max. h 2.2 cm., max. w 2.6 cm., max. th 0.9 cm.

Red (10R 4/6) slip on exterior; red (2.5YR 4/6) slip on interior. Average hardness; very sparsely porous, red (2.5YR 4/6) and very dark grey (7.5YR 3/1) fabric with frequent lime inclusions.

6. (No. 730): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 26/6.**

Max. h 2.5 cm., max. w 2.4 cm., max. th 0.7 cm.

Dark reddish grey (5YR 4/2) slip on exterior; very dark grey (7.5YR 3/1) slip on interior. Exterior surface is burnished. Average hardness; non-porous, fine, reddish brown (5YR 4/4) fabric with some micaceous inclusions.

7. (No. 1357): Body fragment; Kimistene, *Acropolis*, eastern slope, found in 2005. **pl. 26/7.**

Max. h 3.0 cm., max. w 3.9 cm., max. th 1.2 cm.

Reddish brown (2.5YR 4/4) slip on exterior

and brown (7.5YR 4/3) slip on interior. Average hardness; very sparsely porous, fired to reddish brown (5YR 4/4) and very dark grey (7.5YR 3/1) fabric with frequent lime and some micaceous inclusions.

8. (No. 678): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/8.**

Max. h 3.5 cm., max. w 4.1 cm., max. th 1.0 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; non-porous, fired to yellowish red (5YR 5/6) fabric with frequent lime inclusions.

9. (No. 662): Body fragment; Kimistene, *Acropolis*, eastern slope, found in 2005. **pl. 26/9.**

Max. h 4.5 cm., max. w 4.0 cm., max. th 1.1 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; non-porous reddish yellow (5YR 6/6) and black (7.5YR 2.5/1) fabric with some lime inclusions.

10. (No. 483): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 26/10.**

Max. h 3.4 cm., max. w 5.1 cm., max. th 0.9 cm.

Brown (7.5YR 4/3) slip on exterior; reddish brown (5YR 4/4) slip on interior. All of the surface is burnished. Hard, non-porous reddish yellow (5YR 6/6) and very dark grey (Gley 1 3/N) fabric with frequent lime and medium grit inclusions.

11. (No. 660): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/11.**

Max. h 3.2 cm., max. w 4.5 cm., max. th 1.5 cm.

Yellowish red (5YR 5/6) slip on exterior and interior. Average hardness; very sparsely porous, brown (7.5YR 4/3) fabric with frequent lime and grit inclusions.

12. (No. 1348): Body fragment; Kimistene, *Acropolis*, eastern slope, found in 2005. **pl. 26/12.**

Max. h 4.5 cm., max. w 4.0 cm., max. th 1.2 cm.

Reddish brown (5YR 4/4) slip on exterior and brown (7.5YR 5/4) slip on interior. Exterior surface is burnished. Average hardness; non-porous, fine, brown (7.5YR 5/4) fabric with some tiny lime and sand inclusions.

13. (No. 1340): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/13.**

Max. h 4.5 cm., max. w 3.6 cm., max. th 1.1 cm.

Red (2.5YR 4/6) slip on exterior and red (2.5YR 5/6) slip on interior. Average hardness; non-porous, red (2.5YR 5/6) and black (7.5YR 2.5/1) fabric with frequent lime inclusions.

14. (No. 674): Body fragment; Kimistene, *Acropolis*, eastern slope, found in 2005. **pl. 26/14.**

Max. h 4.7 cm., max. w 3.4 cm., max. th 1.1 cm.

Red (2.5YR 5/8) slip on exterior and interior. Average hardness; very sparsely porous, fine, reddish brown (5YR 5/4) fabric with frequent lime and sand inclusions.

15. (No. 622): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 26/15.**

Max. h 5.5 cm., max. w 4.7 cm., max. th 1.4 cm.

Reddish brown (5YR 4/4) slip on exterior and red (2.5YR 5/6) slip on interior. Soft, non-po-

rous, fine, yellowish red (5YR 4/6) fabric with frequent tiny lime and large grit inclusions.

16. (No. 626): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 26/16.**

Max. h 4.8 cm., max. w 6.7 cm., max. th 1.3 cm.

Reddish brown (2.5YR 4/4) slip on exterior; brown (7.5YR 4/3) slip on interior. Soft, very sparsely porous, reddish brown (5YR 4/4) and very dark grey (7.5YR 3/1) fabric with frequent lime and large grit inclusions.

17. (No. 659): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/17.**

Max. h 8.1 cm., max. w 4.4 cm., max. th 1.7 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior; brown (7.5YR 5/4) slip on interior. Average hardness; non-porous, fine, reddish brown (5YR 4/4) fabric with frequent tiny lime and large grit inclusions.

18. (No. 658): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/18.**

Max. h 7.5 cm., max. w 7.3 cm., max. th 1.4 cm.

Reddish brown (5YR 4/3) slip on exterior; brown (7.5YR 5/4) slip on interior. Exterior surface is burnished. Average hardness; non-porous, fine, brown (7.5YR 4/4) fabric with frequent tiny lime and some sand inclusions.

19. (No. 687): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 26/19.**

Max. h 8.3 cm., max. w 7.4 cm., max. th 1.1 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; non-porous, fired to reddish yellow (5YR 6/6) and light yellowish

brown (10YR 6/4) fabric with frequent large grit inclusions.

CLOSED FORMS (pl. 1, no. 20)

Most of these forms could be cooking wares.

Rim Fragment of a Closed Form (pl. 1, no. 20)

20. (No. 1115): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 1/20 and pl. 27/20.**

Max. h 5.0 cm., max. w 4.4 cm., max. th 1.1 cm.

Black (Gley 1 2.5/N) slip on exterior; black (Gley 1 2.5/N) unslipped surface on interior. Exterior surface is burnished. Average hardness; very sparsely porous, fine, black (10YR 2/1) fabric with frequent large grit and some lime inclusions.

Body Fragments of Closed Forms (pls. 27-28, nos. 21-35)

Some sherds (nos. 23, 25-26, 29, 33 and 34) were polished on the exterior. On some fragments the interior face is flattened.

21. (No. 861): Body fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit at the altar, found in 2005. **pl. 27/21.**

Max. h 3.0 cm., max. w 3.2 cm., max. th 1.0 cm.

Brown (7.5YR 4/2) slip on exterior; pale brown (10YR 6/3) unslipped surface on interior. Exterior surface is burnished. Average hardness; non-porous, brown (10YR 5/3) and very dark grey (Gley 1 3/N) fabric with some sand, minor grit and lime inclusions.

22. (No. 1335): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/22.**

Max. h 4.4 cm., max. w 4.5 cm., max. th 1.3 cm.

Red (2.5YR 4/6) slip on exterior; grey (10YR 5/1) unslipped surface on interior. Average hardness; non-porous, yellowish red (5YR 5/6) and very dark grey (7.5YR 3/1) fabric with some lime and sand inclusions.

23. (No. 700): Body fragment; Kimistene, *Acropolis*, temple slope, eastern part, found in 2005. **pl. 27/23.**

Max. h 4.3 cm., max. w 4.0 cm., max. th 1.2 cm.

Light brown (7.5YR 6/4) slip on exterior; reddish yellow (7.5YR 6/6) unslipped surface on interior. Hard, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime inclusions.

24. (No. 722): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 27/24.**

Max. h 4.6 cm., max. w 5.0 cm., max. th 1.3 cm.

Very dark grey (Gley 1 3/N) unslipped surface on exterior; pale brown (10YR 6/3) slip on interior. Average hardness; non-porous, greyish brown (10YR 5/2) some sand, large grit and lime inclusions.

25. (No. 485): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 27/25.**

Max. h 4.5 cm., max. w 5.3 cm., max. th 1.2 cm.

Brown (7.5YR 4/3) slip on exterior; brown (7.5YR 5/4) unslipped surface on interior. Exterior surface is burnished. Soft, non-porous,

fine, brown (7.5YR 4/3) fabric with frequent tiny lime inclusions.

26. (No. 706): Body fragment; Kimistene, *Acropolis*, temple slope, eastern part, found in 2005. **pl. 27/26.**

Max. h 4.8 cm., max. w 5.2 cm., max. th 1.3 cm.

Brown (7.5YR 4/4) slip on exterior; light yellowish brown (10YR 6/4) unslipped surface on interior. Exterior surface is burnished. Soft, non-porous, fine, yellowish red (5YR 5/6) fabric with frequent medium grit and lime inclusions.

27. (No. 679): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/27.**

Max. h 5.7 cm., max. w 4.5 cm., max. th 2.1 cm.

Reddish brown (2.5YR 4/4) slip on exterior; brown (7.5YR 5/4) unslipped surface on interior. Soft, non-porous, reddish brown (5YR 4/4) and very dark grey (5YR 3/1) fabric with frequent tiny lime and medium grit inclusions.

28. (No. 719): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 27/28.**

Max. h 6.3 cm., max. w 4.4 cm., max. th 1.0 cm.

Brown (7.5YR 5/3) slip on exterior; dark grey (Gley 1 4/N) unslipped surface on interior. Average hardness; very sparsely porous, very dark grey (2.5Y 3/1) fabric with some sand and lime inclusions.

29. (No. 1294): Body fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, found in 2005. **pl. 27/29.**

Max. h 5.5 cm., max. w 5.5 cm., max. th 1.3 cm.

Black (Gley 1 2.5/N) slip on exterior; light brown (7.5YR 6/4) unslipped surface on in-

terior. Exterior surface is burnished. Average hardness; very sparsely porous, fired to light brown (7.5YR 6/4) and black (Gley 1 2.5/N) fabric with infrequent tiny lime and medium grit inclusions.

30. (No. 672): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/30.**

Max. h 5.3 cm., max. w 6.3 cm., max. th 1.6 cm.

Reddish brown (2.5YR 4/4) slip on exterior; yellowish red (5YR 5/6) unslipped surface on interior. Average hardness; sparsely porous, fired to yellowish red (5YR 4/6) and yellowish brown (10YR 5/4) fabric with frequent tiny lime, some large grit and sand inclusions.

31. (No. 670): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/31.**

Max. h 5.8 cm., max. w 5.5 cm., max. th 1.1 cm.

Red (10R 4/6) slip on exterior; grey (7.5YR 5/1) unslipped surface on interior. Average hardness; very sparsely porous, fired to very dark grey (10YR 3/1) fabric with frequent lime and medium grit inclusions.

32. (No. 664): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/32.**

Max. h 6.7 cm., max. w 5.5 cm., max. th 1.0 cm.

Red (2.5YR 4/6) slip on exterior; brown (7.5YR 5/4) unslipped surface on interior. Soft, non-porous dark brown (7.5YR 3/2) fabric with some medium grit and lime inclusions.

33. (No. 725): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in

2005. **pl. 27/33.**

Max. h 6.5 cm., max. w 5.2 cm., max. th 0.9 cm.

Dark greyish brown (10YR 4/2) slip on exterior; brown (7.5YR 5/4) unslipped surface on interior. Exterior surface is burnished. Soft, non-porous, fired to very dark grey (7.5YR 3/1) fabric with frequent large grit, micaceous and lime inclusions.

34. (No. 973): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 27/34.**

Max. h 6.0 cm., max. w 8.0 cm., max. th 1.0 cm.

Very dark grey (10YR 3/1) slip on exterior; brown (7.5YR 5/3) unslipped surface on interior. Exterior surface is burnished. Hard, very sparsely porous, grey (10YR 5/1) fabric with some sand and lime, rare micaceous inclusions.

35. (No. 1119): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 28/35.**

Max. h 8.1 cm., max. w 7.8 cm., max. th 1.4 cm.

Reddish brown (5YR 5/4) slip on exterior; brown (7.5YR 4/3) unslipped surface on interior. Soft, non-porous, fired to very dark grey (7.5YR 3/1) fabric with frequent large grit, micaceous and lime inclusions.

36. (No. 630): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 28/36.**

Max. h 6.9 cm., max. w 10.0 cm., max. th 1.3 cm.

Red (10R 4/6) slip on exterior; light yellowish brown (10YR 6/4) unslipped surface on interior. Hard, non-porous, fired to red (2.5YR 4/6) and black (7.5YR 2.5/1) fabric with some large grit and tiny lime inclusions.

II. IRON AGE GREY WARE (pls. 1-2, nos. 37-56)

Iron Age grey ware is often associated with a Phrygian presence in Central Anatolia. The major concentration of “Phrygian” grey ware is west-central Anatolia. This fabric endures through the Middle and Late Iron Ages and into the Hellenistic and even Roman periods. A sample of grey vessels from the new excavations at Gordion has been subjected to chemical analyses, which confirmed that the same clay was used for virtually all of the vessels in the Iron Age corpus, and perhaps this situation did not change in the Hellenistic period (Stewart 2010, 147; Henrickson 2005, 125).

Grey ware is the most distinctive Iron Age group among the southwestern Paphlagonian finds. Matthews’s surveys produced numerous examples of grey ware from Inner Paphlagonia, for instance from PS 178, Höyük Tepesi, in the Eldivan Plain (Matthews 2009, 153, fig. 5.3, no. 5, site PS 178 and 155, fig. 5.5, PS 052-Kızılca Tepe). The presence of this ware in Inner Paphlagonia was interpreted by Matthews as it generates the northern limits of the distribution of Phrygian heritage (Matthews 2009, 154.).

Its clay is mostly dark grey (7.5YR 4/1, 10YR 4/1, 2.5Y 4/1, Gley 1 4/N), grey (2.5Y 5/1-6/1, Gley 1 5/N-6/N), black (2.5Y 2.5/1, 10YR 2/1, Gley 1 2.5/N) and very dark grey (2.5Y 3/1, Gley 1 3/N). Grey fabric and polished black slip are both firmly in the Phrygian ceramic tradition (Stewart 2010, 210).

Lime, mica, sand and grit were used as inclusions in minor proportions, in some samples at a dimension of 10-20 mm. It has a hard and non-porous clay with a very dark grey (2.5Y 3/1, Gley 1 3/N), dark grey (10YR 4/1, 2.5Y 4/1), black (Gley 1 2.5/N), grey (2.5Y 5/1-6/1, Gley 1 5/N), light grey (5YR 7/1) slip. In some fragments their surface is polished. Their thickness differs between 4 and 10 mm. On samples nos. 37-38, 40, 51, 57 and 63 polishing provided a metallic sheen

on the surface. Almost no ornamentation has been applied.

Functionally they should be serving vessels, but they could also be associated with some religious purposes and used as ritual vessels. This specific type of ware bears no decoration; their grey or blackish fabric is fine, with minute mineral inclusions in medium sizes, and a burnished soapy texture to the surface, often with a “silvery sheen”. One major vessel form is a bowl of *c.* 20 cm diameter which is clearly an imitation of metallic forms.

In 2005 around 37 fragments were collected, 15 of which belonged to open and 22 to closed forms. Most of the sherds are from the hill-top sanctuary at Kimistene: 22 fragments from the illegally excavated area in the temenos of Kimistene, 3 of them from the *Acropolis*, 7 from the southern slope, 2 from the western slope, 1 from the northwestern slope, 1 from the eastern slope, and 1 from the Cistern. Sherds found in the illegal pit in the temenos could be indications of a fire that occurred in the stratified levels beneath the temple’s podium.

The date of Iron Age grey ware should be Late Middle Iron Age and Late Iron Age, i.e. from the beginning of the 7th to mid 4th centuries B.C. G. D. Tetova’s analysis of the material at Gordion reveals that the Early Phrygian ceramic tradition continued well into the 4th century B.C., with about 90% of the vessel forms based on prototypes established in the 9th century or earlier (Stewart 2010, 49-50; Toteva 2007, 53, 59.). Thus the forms remain unchanged for many centuries. That is the reason why grey ware from southwestern Paphlagonia is difficult to date through analogy with some other sites. Radiocarbon dates at Boğazköy put the Büyükkaya-Stufe into the 9th century B.C., while the Büyükkale IIA-b levels appear to date to the 8th century B.C. and have material comparable to that from Maşat III-II, Kültepe Iron Age and Kaman-Kalehöyük IIC-a (Matthews 2009, 153; and Genz 2004a: table 6).

It is interesting to note that the whole-mouth jars and craters found in Matthews's surveys were not recovered at Kimistene.

OPEN FORMS (pls. 1-2, nos. 37-47)

Most of them were polished in their interior surface.

Rim Fragments of Open Forms (pls. 1-2, nos. 37-46)

Most of them have straight walls with out-curved rims. Whole surfaces of nos. 37-38, 40, 42-43, and 45, interior surface of no. 44 and exterior surface of nos. 46 and 57 are polished.

37. (No. 745): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 1/37 and pl. 28/37.**

Max. h 1.4 cm., max. w 2.1 cm., max. th 0.5 cm.

Very dark grey (Gley 1 3/N) slip on all of surface. Exterior and interior surface are burnished. Average hardness; thin paste, non-porous, fine, dark grey (Gley 1 4/N) fabric with frequent tiny lime inclusions.

38. (No. 746): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 1/38 and pl. 28/38.**

Max. h 1.7 cm., max. w 2.9 cm., max. th 0.4 cm.

Very dark grey (Gley 1 3/N) slip on exterior, grey (Gley 1 5/N) slip on interior. Exterior and interior surface are burnished. Average hardness; thin paste, non-porous, fine, grey (Gley 1 5/N) fabric with some tiny lime inclusions.

39. (No. 717): Rim fragment; Kimistene,

Acropolis, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 28/39.**

Max. h 2.1 cm., max. w 2.7 cm., max. th 0.8 cm.

Very dark grey (Gley 1 3/N) slip on exterior and interior, hard, very sparsely porous, fine, black (10YR 2/1) fabric with frequent tiny lime and some sand inclusions.

40. (No. 860): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 1/40 and pl. 28/40.**

Max. h 3.8 cm., max. w 3.5 cm., max. th 0.5 cm.

Very dark grey (Gley 1 3/N) slip on all of surface. Exterior and interior surface are burnished. Average hardness; non-porous, fired to very dark grey (2.5Y 3/1) fabric with tiny lime and rare micaceous inclusions.

41. (No. 1310): Rim fragment; Kimistene, *Acropolis*, southern slope, found in 2005. **pl. 1/41 and pl. 28/41.**

Max. h 1.2 cm., d of rim 10.4 cm., max. w 4.3 cm., max. th 0.5 cm.

Light grey (5YR 7/1) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fired to reddish grey (5YR 5/2) and dark grey (7.5YR 4/1) fabric with some tiny lime inclusions.

42. (No. 1210): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 1/42 and pl. 28/42.**

Max. h 3.8 cm., d of rim 26.6 cm., max. w 6.0 cm., max. th 1.2 cm.

Very dark grey (Gley 1 3/N) slip on exterior and interior, hard, non-porous, fine, dark grey (Gley 1 4/N) fabric with frequent tiny lime inclusions.

Parallel: Matthews 2009, 162, fig. 5.14/10

(from PS 015). Its paste is pale brown (10 YR 6/3) and its exterior is burnished.

43. (No. 1118): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 1/43 and pl. 28/43.**

Max. h 2.7 cm., d of rim 15.0 cm., max. w 3.5 cm., max. th 0.9 cm.

Black (Gley 1 2.5/N) slip on all of surface. Exterior and interior surface are burnished. Hard, non-porous, fine, black (10YR 2/1) fabric with frequent lime inclusions.

Parallel: Özdoğan/Marro/Tibet 1999, 223, Gavurevleri drawing 5/3 [from the Village Yazıcımeydanı (Meydanköy), Gavurevleri-Höyük, Gavurevleri/Ortaboy Höyük in Province Kastamonu].

44. (No. 884): Rim fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 1/44 and pl. 28/44.**

Max. h 2.8 cm., d of rim 33.6 cm., max. w 6.1 cm., max. th 1.1 cm.

Light brownish grey (2.5Y 6/2) unslipped surface on exterior, dark grey (2.5Y 4/1) abrasion slip interior rim. Interior surface is burnished. Hard, very sparsely porous, fine, grey (Gley 1 6/N) fabric with occasional sand inclusions. Parallels: Matthews 2009, 153, 168, fig. 5.17/6 (from the site PS178); Özdoğan/Marro/Tibet 1997, 309, drawing 6 (from the Village Samanlıören, Yüklütepe, Yamaç Settlement in Taşköprü); and Omura 2008, 51, fig. 106/5 (from Deveceğidi, in District Çelebi, Village Karabucak, Province Kırşehir; Late Iron Age).

45. (No. 737): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 2/45 and pl. 28/45.**

Max. h 2.5 cm., d of rim 36.8 cm., max. w 5.6 cm., max. th 1.3 cm.

Very dark grey (Gley 1 3/N) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fine, grey (2.5Y 5/1) fabric with some large grit inclusions.

46. (No. 393): Rim fragment; Kimistene, *Acropolis*, temple terrace, northwestern slope, found in 2005. **pl. 2/46 and pl. 28/46.**

Max. h 4.2 cm., d of rim 23.4 cm., max. w 8.2 cm., max. th 1.1 cm.

Black (Gley 1 2.5/N) slip on exterior, grey (2.5Y 5/1) slip on interior. Exterior surface is burnished. Hard, very sparsely porous, fired to grey (2.5Y 5/1) and black (2.5Y 2.5/1) fabric with some tiny lime and sand inclusions.

Base Fragment of an Open Form (pl. 2, no. 47)

This group contains rounded flat bases.

47. (No. 1359): Base fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 2/47 and pl. 28/47.**

Max. h 2.6 cm., d of base 8.2 cm., max. w 7.8 cm., max. th 0.8 cm.

Reddish brown (2.5YR 4/4) slip on exterior, brown (7.5YR 4/4) slip on interior. All of surface is burnished. Hard, very sparsely porous, grey (Gley 1 5/N) fabric with frequent lime and micaceous inclusions.

Body Fragments of Open Forms (pl. 28, nos. 48-51)

48. (No. 716): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 28/48.**

Max. h 2.3 cm., max. w 1.7 cm., max. th 1.0 cm.

Very dark grey (Gley 1 3/N) slip on all of surface. Exterior surface is burnished. Average

hardness; non-porous dark grey (10YR 4/1) fabric with some tiny lime, sand and medium grit inclusions.

49. (No. 743): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 28/49.**

Max. h 3.3 cm., max. w 2.7 cm., max. th 0.7 cm.

Very dark grey (2.5Y 3/1) slip on exterior and interior. All of the surface is burnished. Average hardness; very sparsely porous, fine, very dark grey (Gley 1 3/N) fabric with some tiny lime inclusions.

50. (No. 721): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 28/50.**

Max. h 2.8 cm., max. w 3.6 cm., max. th 0.9 cm.

Black (Gley 1 2.5/N) slip on all over the surface. Exterior surface is burnished. Average hardness; non-porous, black (2.5Y 2.5/1) fabric with frequent tiny lime, sand and medium grit inclusions.

51. (No. 891): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, found in 2005. **pl. 28/51.**

Max. h 4.0 cm., max. w 4.7 cm., max. th 1.1 cm.

Dark grey (2.5Y 4/1) slip on exterior and interior. All over the surface is burnished. Hard, non-porous, dark grey (Gley 1 4/N) fabric with some tiny lime and rare micaceous inclusions.

CLOSED FORMS (pl. 2, nos. 52-56) /
Rim Fragments of Closed Forms (pl. 2, nos. 52-55)

Most of them belong to the wider forms with folded rim.

52. (No. 1247): Rim fragment; Kimistene, western slope of the *temenos*; found in 2005. **pl. 2/52 and pl. 29/52.**

Max. h 3.2 cm., d of rim 10.0 cm., max. w 5.3 cm., max. th 0.8 cm.

Dark grey (Gley 1 4/N) slip on exterior; grey (2.5Y 5/1) unslipped surface on interior. Hard, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with some sand inclusions.

Parallel: Omura 1996, 245, 260, fig. 2, 1 (from Karakaya Höyük in Kaman County, Province Kırşehir).

53. (No. 1219): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 2/53 and pl. 29/53.**

Max. h 2.2 cm., d of rim 14.4 cm., max. w 3.8 cm., max. th 0.8 cm.

Very dark grey (2.5Y 3/1) unslipped surface on exterior and interior. Soft, non-porous, black (2.5Y 2.5/1) fabric with frequent lime and sand inclusions.

Parallel: Omura 1996, 247, 263, fig. 5, 1 (from Boz Höyük in Polatlı County, Province Ankara).

54. (No. 1116): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 2/54 and pl. 29/54.**

Max. h 3.6 cm., d of rim 29.6 cm., max. w 6.7 cm., max. th 0.9 cm.

Grey (2.5Y 5/1) unslipped surface on exterior; grey (2.5Y 6/1) unslipped surface on interior. Soft, non-porous, fine, dark grey (2.5Y 4/1) fabric with occasional sand and tiny lime inclusions.

55. (No. 927): Rim fragment; Kimistene, *Acropolis*, found 2005. **pl. 2/55 and pl. 29/55.**

Max. h 3.2 cm., d of rim 24.0 cm., max. w 5.6

cm., max. th 0.6 cm.

Dark grey (2.5Y 4/1) slip on exterior and interior. Soft, very sparsely porous, reddish brown (5YR 4/3) and dark grey (2.5Y 4/1) fabric with rare micaceous and large grit inclusions.

Base Fragment of a Closed Form (pl. 2, no. 56)

56. (No. 720): Base fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium. **pl. 2/56 and pl. 29/56.**

Max. h 1.3 cm., d of rim 20.0 cm., max. w 5.9 cm., max. th 0.8 cm.

Very dark grey (Gley 1 3/N) slip on exterior; dark grey (10YR 4/1) unslipped surface on interior. Average hardness; very sparsely porous, reddish brown (5YR 4/4) and very dark grey (2.5Y 3/1) fabric with frequent lime and rare grog inclusions.

Body Fragments of Closed Forms (pl. 29, nos. 57-73)

The exterior surface of nos. 57, 59, 63, 65, 67 and 69-73 were polished.

57. (No. 732): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/57.**

Max. h 2.4 cm., max. w 2.0 cm., max. th 0.6 cm.

Black (Gley 1 2.5/N) slip on exterior; grey (Gley 1 6/N) unslipped surface on interior. Exterior surface is burnished. Hard, very sparsely porous, fine, grey (Gley 1 5/N) fabric with some lime inclusions.

58. (No. 769): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in

2005. **pl. 29/58.**

Max. h 2.0 cm., max. w 2.0 cm., max. th 0.7 cm.

Very dark grey (Gley 1 3/N) unslipped surface on exterior; reddish brown (5YR 5/4) unslipped surface on interior. Average hardness; very sparsely porous, fired to dark reddish grey (5YR 4/2) and very dark grey (Gley 1 3/N) fabric with frequent tiny lime and sand inclusions.

59. (No. 1333): Body fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 29/59.**

Max. h 2.3 cm., max. w 2.1 cm., max. th 0.9 cm.

Very dark grey (Gley 1 3/N) slip on exterior; dark grey (Gley 1 4/N) unslipped surface on interior. Exterior surface is burnished. Average hardness; very sparsely porous, fine, dark grey (Gley 1 4/N) fabric with frequent large grit and some lime inclusions.

60. (No. 762): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/60.**

Max. h 1.6 cm., max. w 2.8 cm., max. th 0.7 cm.

Dark grey (2.5Y 4/1) slip on exterior; black (Gley 1 2.5/N) unslipped surface on interior. Soft, non-porous, fine, black (2.5Y 2.5/1) fabric with some minor grit inclusions.

61. (No. 753): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/61.**

Max. h 2.8 cm., max. w 3.2 cm., max. th 0.9 cm.

Very dark grey (2.5Y 3/1) slip on exterior; dark grey (2.5Y 4/1) slip on interior. Average hardness; non-porous, black (2.5Y 2.5/1)

fabric with some lime and medium grit inclusions.

62. (No. 646): Body fragment; Kimistene, *Acropolis*, western slope, found in 2005. **pl. 29/62.**

Max. h 2.3 cm., max. w 2.8 cm., max. th 0.9 cm.

Dark grey (Gley 1 4/1) unslipped surface on exterior and interior. Hard, non-porous, fine, dark grey (Gley 1 4/N) fabric with no visible inclusions.

63. (No. 866): Rim fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, found in 2005. **pl. 29/63.**

Max. h 2.9 cm., max. w 3.5 cm., max. th 1.2 cm.

Black (Gley 1 2.5/N) slip on exterior; very dark grey (Gley 1 3/N) unslipped surface on interior. Exterior surface is burnished. Average hardness; very sparsely porous, fine, black (Gley 1 2.5/N) fabric with frequent tiny lime and some large grit inclusions.

64. (No. 754): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/64.**

Max. h 3.9 cm., max. w 3.1 cm., max. th 1.0 cm.

Very dark grey (Gley 1 3/N) unslipped surface on exterior and interior, Average hardness; non-porous, fine, very dark greyish brown (10YR 3/2) fabric with some sand and micaeous inclusions.

65. (No. 735): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/65.**

Max. h 3.9 cm., max. w 3.9 cm., max. th 0.5 cm.

Very dark grey (Gley 1 3/N) slip on exterior; light grey (2.5Y 7/1) unslipped surface on interior. Exterior surface is burnished. Average hardness; very sparsely porous, grey (2.5Y 5/1) fabric with frequent sand inclusions.

66. (No. 728): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/66.**

Max. h 4.1 cm., max. w 3.3 cm., max. th 1.1 cm.

Grey (2.5Y 6/1) slip on exterior; grey (2.5Y 5/1) unslipped surface on interior. Hard, non-porous, dark greyish brown (2.5Y 4/2) and grey (2.5Y 6/1) fabric with frequent lime inclusions.

67. (No. 1414): Body fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, layer no. 3, found in 2005. **pl. 29/67.**

Max. h 5.3 cm., max. w 4.8 cm., max. th 0.6 cm.

Very dark grey (Gley 1 3/N) slip on exterior; grey (2.5Y 5/1) unslipped surface on interior. Exterior surface is burnished. Average hardness; non-porous, fine, very dark grey (2.5Y 3/1) fabric with frequent sand and rare mica inclusions.

68. (No. 734): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/68.**

Max. h 4.2 cm., max. w 5.2 cm., max. th 1.0 cm.

Very dark grey (2.5Y 3/1) unslipped surface on exterior; dark grey (Gley 1 4/N) unslipped surface on interior. Average hardness; very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with frequent mica and tiny lime inclusions.

69. (No. 494): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 29/69.**

Max. h 4.0 cm., max. w 6.1 cm., max. th 0.7 cm.

Very dark grey (Gley 1 3/N) slip on exterior, grey (2.5Y 5/1) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fired to dark grey (2.5Y 4/1) and brown (7.5YR 5/4) fabric with frequent tiny lime, sand and rare micaceous inclusions.

70. (No. 699): Body fragment; Kimistene, *Acropolis*, temple slope, first eastern slope, found in 2005. **pl. 29/70.**

Max. h 6.7 cm., max. w 6.6 cm., max. th 0.7 cm.

Dark grey (2.5Y 4/1) slip on exterior; greyish brown (10YR 5/2) unslipped surface on interior. Exterior surface is burnished. Hard, very sparsely porous, greyish brown (10YR 5/2) and grey (2.5Y 5/1) fabric with frequent sand inclusions.

71. (No. 714): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/71.**

Max. h 6.0 cm., max. w 6.8 cm., max. th 1.1 cm.

Very dark grey (Gley 1 3/N) slip on exterior; dark grey (2.5Y 4/1) unslipped surface on interior. Exterior surface is burnished. Average hardness; non-porous, fine, dark grey (2.5Y 4/1) fabric with frequent tiny lime inclusions.

72. (No. 736): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/72.**

Max. h 6.6 cm., max. w 6.3 cm., max. th 1.1 cm.

Grey (2.5Y 5/1) slip on exterior; grey (10YR 5/1) unslipped surface on interior. Exterior surface is burnished. Average hardness; non-porous, brown (7.5YR 4/3) and very dark grey (2.5Y 3/1) fabric with frequent micaceous and occasional lime inclusions.

73. (No. 713): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 29/73.**

Max. h 8.5 cm., max. w 11.5 cm., max. th 0.9 cm.

Very dark grey (2.5Y 3/1) slip on exterior; very dark grey (10YR 3/1) unslipped surface on interior. Exterior surface is burnished. Average hardness; very sparsely porous, fine, dark grey (10YR 4/1) fabric with frequent sand, lime and large grit inclusions.

III. IRON AGE PAINTED WARE (pls. 2-3, nos. 74-98)

The Iron Age painted wares characterise Middle and Late Iron Age surface assemblages from surveyed sites to the south and southeast of Inner Paphlagonia, as at Gordion, Pazarlı, Kaman Kalehöyük, Çadır Höyük, sites in Tokat and Sivas in Central Anatolia whereas looking northwards, the Late Iron Age painted pottery of İkiztepe near the Black Sea coast finds no clear parallels in the Paphlagonia survey material. Also in the surveys at Kastamonu no Iron Age painted ware were recorded. The small-scale excavations at Sinope brought to light a number of examples of local Anatolian Iron Age pottery (Akurgal, Budde 1956: 49, pl. 3), which, in some literature, has been wrongly named 'Phrygian pottery'. It is remarkable that no such pottery sherds have been found during the intensive surveys of the hinterland of Sinope (Summerer 2007, 30; Doonan 2004: 88).

During the Iron Age brown-on-buff decoration is most common (Kealhofer *et al.* 2010, 84). Brown-on-buff styles include a range of decorative elements: hatched triangles, wavy lines, bands, concentric circles, geometric shapes, pendants and combinations of these (Kealhofer *et al.* 2010, 84).

In southwestern Paphlagonia this group has a heterogenous nature; their chronological and ethnic classification is very difficult. The sole distinctive characteristic is their painted (mostly geometric) decoration of two or three colours. 25 sherds were collected, 12 of which belong to open and 13 to closed forms. Open forms could be assigned to a bowl form.

Generally, closed forms have thick walls, and open forms have thin walls. Their paste differs from reddish yellow (5YR 6/6-6/8-7/6-7/8, 7.5YR 6/6-7/6), light brown (7.5YR 6/4), light red (2.5YR 6/6-6/8), light yellowish brown (10YR 6/4), brown (7.5YR 5/2), dark greyish brown (10YR 4/2), very pale brown (10YR 7/3), red (2.5YR 5/6), pink (5YR 7/4). Lime, sand, grog and micaceous inclusions are not visible on the surface. The paste is hard and of good quality with soapy slip in very pale brown (10YR 8.5/2-8/2-8/3- 8/4-7/3-7/4), pink (7.5YR 7/4-7/3-8/4), reddish yellow (5YR 7/8-7/6, 7.5YR 7/6), pale brown (10YR 6/3), white (10YR 8/1, 7.5YR 8/1), reddish brown (5YR 5/4), red (2.5YR 4/6) and strong brown (7.5YR 5/8) colours at the interior or exterior surfaces. Non-slipped surfaces are pink (7.5YR 7/4), reddish yellow (5YR 6/6-7/6, 7.5YR 7/6-6/6), light brown (7.5YR 6/4) and light red (2.5YR 6/6). Fine and non-porous clay is well-fired with lime, sand, grog and mica inclusions. Black, brown or a very dark grey painted decoration was applied to mostly light or unslipped surfaces. Colour of decoration changes from red (10R 4/6, 2.5YR 5/6), reddish brown (2.5YR 4/3-4/4-5/4, 5YR 4/3), dark reddish grey (2.5YR 3/1, 5YR 4/2), very dark grey (5YR 3/1, 7.5YR 3/1, 10YR 3/1), weak red (10R 5/4-4/2-

4/3, 2.5YR 4/2), brown (7.5YR 4/2-4/3-4/4), reddish black (2.5YR 2.5/1), dark reddish brown (5YR 2.5/2), light red (2.5YR 6/6), yellowish red (5YR 4/6-5/6), strong brown (7.5YR 5/6), dark brown (7.5YR 3/2), dark greyish brown (10YR 4/2), to black (7.5YR 2.5/1).

On closed vessels decoration was applied to the belly and shoulder, in open vessels to their base. Painted decoration consists of mostly linear ornamentation; no figures or scenes were noted, as at Alişar IV. The most distinctive decorative pattern is the triangular hatch. Other decoration patterns are concentric circles, horizontal and vertical lines as well as combed triangles (for triangular hatches: Polat 1993, 43, fig. 14; 45, fig. 15; 51, fig. 18; Dönmez 2011, 127, fig. 29; and Bilgi 1999, 156, fig. 11.). In most cases decoration was made without any care. The painting style, colors, and decorative patterns are similar to those of Phrygian pottery. In the Museum of Çankırı there are some vessels with similar forms and decoration.

10 fragments were found on the southern slopes of the *Acropolis* at Kimistene, 7 from Kepez 4 from the Cistern, 1 from southeastern slope, 1 from western slope, and at the temple's terrace on the *Acropolis* of Kimistene. It is noteworthy that no painted sherds were found in the temple's *temenos* at Kimistene. Similar examples were found in the British survey (Matthews 2009, 153, fig. 5.2, no. 5, site PS 156; and 166, fig. 5.16, nos. 6-7, site PS 170). They resemble the finds from Kimistene in terms of outer slip, surface treatment, paste color and decorative patterns.

A large number of ceramic imports would not be expected in Paphlagonia during the Iron Age; this highlights the importance of reproduction and emulation by local Iron Age producers.

Late Iron Age; i.e. 6th-4th cent. B.C.

OPEN FORMS (pls. 2-3, nos. 74-85) / **Rim Fragments of a Bowl Form** (pls. 2-3, nos. 74-80)

It consists of rim fragments of straight walled, incurved and slightly outcurved bowls.

74. (No. 488): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 2/74 and pl. 30/74.**

Max. h 2.1 cm., max. w 2.4 cm., max. th 0.4 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Decoration: Red (2.5YR 5/6) band on exterior rim; its below part bounded with very dark grey (10YR 3/1) thin horizontal band. Traces of same paint at elsewhere on the exterior. Hard, thin paste, very sparsely porous; fine, reddish yellow (5YR 7/8) fabric with no visible inclusions.

75. (No. 487): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 2/75 and pl. 30/75.**

Max. h 2.6 cm., max. w 2.6 cm., max. th 0.3 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (5YR 7/8) slip on interior. Decoration: Red (2.5YR 5/6) band on exterior rim. It is bounded with very dark grey (2.5YR 3/1) thin horizontal band on exterior. Immediately below are two semicircles; between them straight and wavy lines. Decoration painted with red (2.5YR 5/6) and dark reddish grey (2.5YR 3/1). Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with no visible inclusions.

Parallel: Özsait/Özsait 1996, 365, 381, pl. I, no, 18, 21 (from Şeref Höyük).

76. (No. 1084): Rim fragment; Kepez, found in 2005. **pl. 2/76 and pl. 30/76.**

Max. h 3.1 cm., max. w 1.6 cm., max. th 0.4 cm.

Very pale brown (10YR 8/4) slip on exterior. Interior surface slipped very pale brown (10YR 7/4). Decoration: Weak red (10R 5/4) band on exterior rim, its below part bounded with very dark grey (7.5YR 3/1), thin horizontal band on exterior. Immediately below two weak red (10R 5/4) circles are side by side. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with some lime inclusions.

77. (No. 1098): Rim of a bowl; Kepez, found in 2005. **pl. 2/77 and pl. 30/77.**

Max. h 2.7 cm., max. w 2.5 cm., max. th 0.5 cm.

Very pale brown (10YR 8.5/2) slip on exterior; very pale brown (10YR 7/3) slip on interior. Reddish brown (5YR 4/3) decoration on exterior rim. Vertical and horizontal lines in dark reddish brown (5YR 2.5/2) as decoration patterns. Average hardness; thin paste, very sparsely porous, dark greyish brown (10YR 4/2) fabric with some tiny lime inclusions.

78. (No. 1089): Rim fragment of a bowl; Kepez, found 2005. **pl. 2/78 and pl. 30/78.**

Max. h 2.6 cm., d of rim 14.4 cm., max. w 3.1 cm., max. th 0.3 cm.

Very pale brown (10YR 7/4) slip on exterior; very pale brown (10YR 7/3) slip on interior. Red (2.5YR 5/6) band on exterior rim; other part is very dark grey (7.5YR 3/1). A thin horizontal band and immediately below is the upper part of the two inner circles, side by side. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/3) fabric with no visible inclusions.

79. (No. 1097): Rim fragment; Kepez, found in 2005. **pl. 3/79 and pl. 30/79.**

Max. h 2.3 cm., d of rim 16.4 cm., max. w 2.8 cm., max. th 0.5 cm.

Very pale brown (10YR 8.5/2) slip on exterior;

red (2.5YR 4/6) slip on interior. Red (2.5YR 5/6) band on exterior rim. Horizontal and vertical lines in form of a square below the rim. Dark reddish grey (2.5YR 3/1) decoration on exterior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

80. (No. 1171): Rim fragment of an open vessel form; a surface find from the Cistern in Kepez, found in 2005. **pl. 3/80 and pl. 30/80.** Max. h 2.4 cm., d of rim 24.2 cm., max. w 5.4 cm., max. th 0.4 cm.

Very pale brown (10YR 8/2) slip on exterior; red (2.5YR 5/6) slip on interior. Reddish brown (2.5YR 5/4) band on exterior rim. Applique decoration on exterior rim. At lower part two red (2.5YR 5/6) lines. Average hardness; thin paste, very sparsely porous, fine, light yellowish brown (10YR 6/4) fabric with infrequent lime inclusions.

Parallel: Dönmez 2010b, 48, draw. 18, fig. 76 (from Oluz Höyük, dated to the Late Iron Age).

Body Fragments of Open Forms (pl. 3, no. 85)

Their typologies are difficult to judge.

81. (No. 654): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereşemail creek, found in 2005. **pl. 30/81.** Max. h 1.8 cm., max. w 1.7 cm., max. th 0.4 cm.

Pink (7.5YR 7/4) slip on exterior; reddish yellow (5YR 7/6) slip on interior. Reddish black (2.5YR 2.5/1) and light red (2.5YR 6/6) lines may belong to circle. Hard, non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

82. (No. 1065): Body fragment; Kepez, found in 2005. **pl. 30/82.**

Max. h 2.3 cm., max. w 1.9 cm., max. th 0.5 cm.

Very pale brown (10YR 8.5/2) slip on exterior; reddish brown (5YR 5/4) slip on interior. Reddish brown (5YR 4/3) and yellowish red (5YR 4/6) decoration on exterior surface. Average hardness; thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

83. (No. 803): Body fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 30/83.**

Max. h 2.0 cm., max. w 2.5 cm., max. th 0.5 cm.

White (7.5YR 8/1) slip on exterior; reddish yellow (7.5YR 7/6) slip on interior. Thin and straight line is with reddish brown (2.5YR 4/4) on interior surface. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

84. (No. 1033): Body fragment; Kepez, found in 2005. **pl. 30/84.**

Max. h 4.0 cm., max. w 2.6 cm., max. th 0.6 cm.

Very pale brown (10YR 8/2) slip on exterior; pink (7.5YR 7/4) slip on interior. Brown (7.5YR 4/4) and strong brown (7.5YR 5/6) ornaments on exterior surface. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

85. (No. 920): Body fragment of an open form; Kimistene, on southeastern slopes to the Cistern, surface find, found in 2005. **pl. 3/85 and pl. 30/85.**

Max. h 1.4 cm., max. w 3.9 cm., max. th 0.9 cm.

Reddish yellow (5YR 6/6) unslipped surface

on exterior; pink (7.5YR 7/4) slip on interior. Black (7.5YR 2.5/1) geometric ornaments on exterior surface. On interior face triangular with horizontal and vertical ornamentations. Hard, non-porous, thin paste, fired to reddish yellow (5YR 6/6) and light red (2.5YR 6/8) fabric with rare tiny lime inclusions.

CLOSED FORMS (pl. 3, nos. 86-98) / **A Rim Fragment** (pl. 3, no. 86)

A short necked closed form.

86. (No. 1446): Rim fragment; Kimistene, *Acropolis*, temple's terrace, found in 2005. **pl. 3/86 and pl. 30/86.**

Max. h 4.5 cm., d of rim 23.6 cm., max. w 6.2 cm., max. th 0.8 cm.

Pink (7.5YR 8/4) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Three bands and geometric ornaments in very dark grey (7.5YR 3/1) and yellowish red (5YR 5/6) paint on exterior. Hard, non-porous, thin paste, fine, reddish yellow (7.5YR 7/6) fabric with some tiny lime inclusions.

Parallel: Dönmez 2010a, 306, fig. 37 (from Oluz Höyük, dated to the Late Iron Age).

Handle Fragments of Closed Forms (pl. 3, nos. 87-88)

Vertical handles.

87. (No. 914): Handle fragment; Kimistene, *Acropolis*, on the southeastern slope, in a rugged area to Sarpın Çay, surface find, found in 2005. **pl. 3/87 and pl. 30/87.**

Max. h 3.2 cm., max. w 4.4 cm., max. th 1.8 cm.

Very pale brown (10YR 8/2) eroded slip all of surface. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 7/6) fabric with rare sand and lime inclusions.

88. (No. 1323): Handle fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 3/88 and pl. 30/88.**

Max. h 5.2 cm., max. w 5.4 cm., max. th 0.7 cm.

Th. of hand 1.7 cm., w of hand 2.9 cm.

Very pale brown (10YR 8.5/2) slip on exterior; white (10YR 8/1) slip on interior. Light brown (7.5YR 6/4) unslipped surface on interior handle. Dark reddish grey (5YR 4/2) and brown (7.5YR 4/2) geometric ornaments on exterior surface. Hard, sparsely porous, thin paste, fired to light brown (7.5YR 6/4) and brown (7.5YR 5/2) fabric with some micaeous, sand and rare lime inclusions.

Parallels: Dönmez 2010a, 290, 306, fig. 37 (from Oluz Höyük, Level 3, 5th-3rd cent. B.C.); Kealhofer *et al.* 2010, 83, Group 5, no. e (G5 Ç 3412).

Body Fragments of Closed Forms (pl. 3, nos. 89-98)

89. (No. 843): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 3/89 and pl. 30/89.**

Max. h 1.6 cm., max. w 1.5 cm., max. th 0.7 cm.

Pale brown (10YR 6/3) slip on exterior and interior. Reddish brown (2.5YR 4/3) geometric ornaments on exterior surface. Hard, non-porous, thin paste, fired to light brown (7.5YR 6/4) and light red (2.5YR 6/6) fabric with rare sand inclusions.

Parallels: Dönmez 2010a, 306, fig. 37 (from Oluz Höyük, dated to the Late Iron Age).

90. (No. 1330): Body fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 30/90.**

Max. h 2.1 cm., max. w 1.6 cm., max. th 0.4 cm.

Light red (2.5YR 6/6) unslipped surface on

exterior and interior. Horizontal and vertical lines on exterior surface. They are painted in weak red (10R 4/3). Hard, thin paste, non-porous, fine, light red (2.5YR 6/6) fabric with no visible inclusions.

91. (No. 1437): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 3/91 and pl. 30/91.**

Max. h 1.9 cm., max. w 3.1 cm., max. th 0.6 cm.

Pink (7.5YR 7/3) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Weak red (2.5YR 4/2) geometric decoration on exterior surface. Hard, thin paste, non-porous, fine, light red (2.5YR 6/6) fabric with rare grog and some sand inclusions.

92. (No. 550): Body fragment of a closed form; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 3/92 and pl. 30/92.**

Max. h 2.7 cm., max. w 3.3 cm., max. th 0.6 cm.

Strong brown (7.5YR 5/8) slip on exterior; reddish yellow (7.5YR 6/6) unslipped surface on interior. Brown (7.5YR 4/3) geometric ornaments on exterior slip. Hard, thin paste, very sparsely porous, fine, red (2.5YR 5/6) fabric with frequent tiny lime and some sand inclusions.

93. (No. 715): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 3/93 and pl. 30/93.**

Max. h 2.3 cm., max. w 4.0 cm., max. th 0.6 cm.

Very pale brown (10YR 8.5/2) cracked slip on exterior; very pale brown (10YR 8/2) slip on interior. Dark reddish grey (2.5YR 3/1) vertical lines on upper exterior. This decora-

tion bounded with two weak red (10R 4/2) and dark reddish grey (2.5YR 3/1) horizontal bands on exterior. At the lower part has brown (7.5YR 4/3) surface on exterior. Hard, thin paste, non-porous, fine, light yellowish brown (10YR 6/4) fabric with no visible inclusions.

94. (No. 886): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 30/94.**

Max. h 4.4 cm., max. w 4.6 cm., max. th 0.8 cm.

Pink (7.5YR 8/4) slip on exterior; light brown (7.5YR 6/3) unslipped surface on interior. Hard, non-porous, thin paste, fired to light brown (7.5YR 6/4) fabric with occasional sand inclusions.

95. (No. 440): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 30/95.**

Max. h 4.2 cm., max. w 5.6 cm., max. th 1.1 cm.

Pink (7.5YR 7/4) unslipped surface on exterior and interior. Some lines as decoration pattern. It is with very dark grey (5YR 3/1). Hard, thin paste, non-porous, fine, pink (5YR 7/4) fabric with rare tiny lime and sand inclusions.

96. (No. 1438): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 3/96 and pl. 30/96.**

Max. h 5.0 cm., max. w 4.0 cm., max. th 0.7 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Red (2.5YR 5/6) horizontal band and dark brown (7.5YR 3/2) geometric ornaments on exterior slip. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime and rare sand inclusions.

97. (No. 974): Body fragment; Kimistene, the surface find of the Cistern, eastern slope, found in 2005. **pl. 30/97.**

Max. h 5.2 cm., max. w 6.3 cm., max. th 1.3 cm.

Very pale brown (10YR 8/3) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Dark greyish brown (10YR 4/2) line on exterior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some tiny lime and rare sand inclusions.

98. (No. 1284): Body fragment of a closed form; Kimistene, on southeastern slopes to the Cistern, found in 2005. **pl. 3/98 and pl. 30/98.**

Max. h 6.2 cm., max. w 6.6 cm., max. th 1.0 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; pink (7.5YR 7/4) unslipped surface on interior. Very dark grey (5YR 3/1) geometric ornaments on exterior surface which is bounded with very dark grey (5YR 3/1) horizontal band. All of the surface of the lower part has a red (10R 4/6) paint. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with rare micaceous inclusions.

Parallels: Dönmez 2005b, 68, pl. 4/10=fig. 19 (from Köyiçi in Samsun); <http://oi.uchicago.edu/pdf/ar/01-10/08-09/08-09_AnnualReport.pdf>, fig. 20 (from Çadır Höyük; Middle Iron Ages).

IV. IRON AGE COARSE WARE (pl. 4, nos. 99-104)

This group consists of very small sherds, mostly (25 fragments) from an illegally excavated area under the temple's podium on the *Acropolis* of Kimistene. They belong to thick-walled forms with an extremely coarse fabric. The assemblage includes jugs, jars and cooking pots. 30 sherds in

total were collected, 5 of which belong to open and 25 to closed forms. The clay is reddish brown (5YR 4/3-5/4), reddish yellow (5YR 6/6-7/6, 7.5YR 7/6), pink (5YR 7/4, 7.5YR 7/4), brown (7.5YR 4/3-4/4-5/4-5/3), very pale brown (10YR 7/3-7/4), light brown (7.5YR 6/4), light brownish grey (10YR 6/2), yellowish red (5YR 5/6-4/6), red (2.5YR 5/6), light red (2.5YR 6/8). Most of them are badly fired; therefore their surfaces have grey (5YR 4/1, 7.5YR 4/1-3/1, 10YR 5/1-4/1, 2.5Y 3/1) or brown (10YR 5/2, 6/3, 7/4, 6/2) variations. Major inclusions are sand, micaceous, lime and plants. The clay is medium or very hard. Surfaces are not very porous.

Their slip is reddish yellow (5YR 6/6-6/8, 7.5YR 7/6-6/6), pale brown (10YR 6/3), brown (7.5YR 5/2-5/3-5/4), very pale brown (10YR 7/3), pink (7.5YR 7/4-8/3), light grey (10YR 7/2), light reddish brown (5YR 6/4) and grey (10YR 6/1). All of them are wheel-made, except for no. 111. Most of the surfaces have traces of burning.

Rim Fragment of an Open Form (pl. 4, no. 99)

99. (No. 742): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 4/99 and pl. 30/99.**

Max. h 2.5 cm., max. w 4.0 cm., max. th 1.0 cm.

Brown (7.5YR 5/3) slip on exterior rim; brown (7.5YR 5/2) slip on interior. Soft, non-porous, reddish brown (5YR 5/4) and dark grey (5YR 4/1) fabric with some sand and micaceous inclusions. Traces of burning on the exterior surface.

Body Fragments of Open Forms (pls. 30-31, nos. 100-103)

100. (No. 963): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 30/100.**

Max. h 1.7 cm., max. w 1.6 cm., max. th 1.0 cm.

Light grey (10YR 7/2) unslipped surface on exterior; pale brown (10YR 6/3) slip on interior. Average hardness; very sparsely porous, fine, light brownish grey (10YR 6/2) fabric with frequent tiny lime and medium grit inclusions.

101. (No. 766): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 30/101.**

Max. h 2.2 cm., max. w 2.1 cm., max. th 1.1 cm.

Grey (10YR 6/1) slip on exterior; brown (7.5YR 5/2) slip on interior. Average hardness; non-porous, reddish brown (5YR 4/3) and grey (10YR 5/1) fabric with frequent tiny lime and sand inclusions. Traces of burning on the exterior surface.

102. (No. 775): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 30/102.**

Max. h 3.3 cm., max. w 3.2 cm., max. th 1.1 cm.

Reddish yellow (5YR 7/6) unslipped surface on exterior; reddish yellow (7.5YR 7/6) slip on interior. Average hardness; sparsely porous, very pale brown (10YR 7/4) and reddish yellow (5YR 7/6) fabric with frequent some sand large grit inclusions.

103. (No. 757): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/103.**

Max. h 3.2 cm., max. w 3.4 cm., max. th 1.0 cm.

Light grey (10YR 7/2) slip on exterior; pale brown (10YR 6/3) slip on interior. Average

hardness; non-porous, dark grey (10YR 4/1) fabric with occasional lime and rare micaeous inclusions. Traces of burning on the exterior surface.

CLOSED FORMS (pl. 4, no. 104) / **Rim Fragments** (pl. 4, no. 104)

No. 104 is a outcurved rim form.

104. (No. 844): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 4/104 and pl. 31/104.**

Max. h 1.6 cm., d of rim 9.6 cm., max. w 3.1 cm., max. th 0.7 cm.

Brown (7.5YR 5/4) unslipped surface on exterior and interior. Soft, non-porous, fired to brown (7.5YR 4/4) and black (Gley 1 2.5/N) fabric with frequent lime and small grit inclusions.

105. (No. 740): Rim fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/105.**

Max. h 2.8 cm., max. w 3.9 cm., max. th 1.0 cm.

Pink (7.5YR 7/4) unslipped surface on exterior and interior. Hard, non-porous, fine, reddish yellow (7.5YR 7/6) fabric with frequent large grit inclusions.

Body Fragments of Closed Forms (pls. 31-32, nos. 106-128)

There are burning traces on interior surface at nos. 106 and 110-111, at exterior surface at nos. 107-108, 126 and on whole surface at no. 128. On nos. 117, 120-121 and 128 there are strong wheel-marks in the interior surface. On no. 122 exterior surface is extremely micaceous.

106. (No. 776): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/106.**

Max. h 1.8 cm., max. w 1.9 cm., max. th 0.8 cm.

Light brown (7.5YR 6/3) unslipped surface on exterior; brown (7.5YR 5/4) unslipped surface on interior. Average hardness; very sparsely porous, fine, reddish brown (5YR 4/3) fabric with frequent sand, medium grit and rare micaceous inclusions.

107. (No. 763): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/107.**

Max. h 2.8 cm., max. w 2.9 cm., max. th 0.9 cm.

Greyish brown (10YR 5/2) unslipped surface on exterior; brown (7.5YR 5/2) unslipped surface on interior. Average hardness; non-porous, fired to brown (7.5YR 4/3) fabric with frequent tiny lime, some medium grit and micaceous inclusions.

108. (No. 772): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/108.**

Max. h 2.6 cm., max. w 3.5 cm., max. th 0.8 cm.

Light brownish grey (2.5Y 6/2) unslipped surface on exterior; pale brown (10YR 6/3) unslipped surface on interior. Average hardness; very sparsely porous, fired to brown (7.5YR 5/4) and greyish brown (10YR 5/2) fabric with frequent medium grit inclusions.

109. (No. 792): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/109.**

Max. h 2.6 cm., max. w 4.6 cm., max. th 1.1 cm.

Reddish yellow (5YR 6/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, non-porous, fine, pink (7.5YR 7/4) fabric with frequent sand and rare micaceous inclusions.

110. (No. 768): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/110.**

Max. h 3.1 cm., max. w 3.4 cm., max. th 1.0 cm.

Brown (7.5YR 5/4) slip on exterior; greyish brown (10YR 5/2) unslipped surface on interior. Average hardness; very sparsely porous, fired to yellowish red (5YR 4/6) and greyish brown (10YR 5/2) fabric with frequent tiny lime, some medium grit inclusions.

111. (No. 1126): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 31/111.**

Max. h 2.3 cm., max. w 3.4 cm., max. th 0.6 cm.

Pale brown (10YR 6/3) slip on exterior; light brownish grey (10YR 6/2) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fired to light brownish grey (10YR 6/2) and very dark grey (2.5Y 3/1) fabric with some tiny lime and large grit inclusions.

112. (No. 799): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/112.**

Max. h 3.6 cm., max. w 3.8 cm., max. th 1.2 cm.

Very pale brown (10YR 7/3) slip on exterior; light reddish brown (5YR 6/4) slip on interior. Hard, non-porous, fine, pink (7.5YR 7/4) fabric with frequent medium grit inclusions.

113. (No. 784): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/113.**

Max. h 3.8 cm., max. w 4.0 cm., max. th 1.2 cm.

Light brown (7.5YR 6/4) unslipped surface exterior; light grey (10YR 7/2) unslipped surface on interior. Average hardness; non-porous, fired to light brown (7.5YR 6/4) and pale brown (10YR 6/3) fabric with some sand and lime inclusions.

114. (No. 795): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/114.**

Max. h 4.0 cm., max. w 5.0 cm., max. th 1.4 cm.

Very pale brown (10YR 7/3) unslipped surface on exterior, pink (7.5YR 7/3) unslipped surface on interior, hard, very sparsely porous, fired to brown (7.5YR 5/3) fabric with some tiny lime, small grit and sand inclusions.

115. (No. 481): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 31/115.**

Max. h 4.1 cm., max. w 5.1 cm., max. th 1.4 cm.

Light grey (10YR 7/2) slip on exterior; very pale brown (10YR 7/3) unslipped surface on interior. Exterior surface is burnished. Hard, very sparsely porous, fired to greyish brown (10YR 5/2) and reddish brown (5YR 5/4) fabric with some lime and micaceous inclusions.

116. (No. 767): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/116.**

Max. h 4.6 cm., max. w 4.8 cm., max. th 1.4

cm.

Reddish yellow (7.5YR 7/6) slip on exterior; light red (2.5YR 6/6) on exterior slip. Very pale brown (10YR 7/4) unslipped surface on interior. Hard, non-porous, fired to pink (7.5YR 7/4) and very pale brown (10YR 7/4) fabric with some sand and large grit inclusions.

117. (No. 758): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/117.**

Max. h 5.1 cm., max. w 3.3 cm., max. th 1.9 cm.

Pink (7.5YR 7/4) unslipped surface exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 7/6) fabric with frequent sand, lime and large grit inclusions.

118. (No. 686): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 31/118.**

Max. h 4.7 cm., max. w 5.3 cm., max. th 1.3 cm.

Reddish yellow (5YR 6/8) slip on exterior; reddish yellow (5YR 6/8) unslipped surface on interior. Hard, non-porous, fine, light red (2.5YR 6/8) fabric with some medium grit and tiny lime inclusions.

119. (No. 783): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/119.**

Max. h 4.4 cm., max. w 6.9 cm., max. th 0.9 cm.

Pink (5YR 7/4) unslipped surface on exterior; light reddish brown (5YR 6/4) unslipped surface on interior. Hard, very sparsely porous, fine, reddish brown (5YR 5/4) fabric with frequent medium grit and lime inclusions.

120. (No. 790): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/120.**

Max. h 4.9 cm., max. w 5.1 cm., max. th 1.7 cm.

Reddish yellow (7.5YR 6/6) slip on exterior; very pale brown (10YR 7/4) unslipped surface on interior. Hard, very sparsely porous, fired to light brownish grey (10YR 6/2) and very pale brown (10YR 7/4) fabric with frequent large grit inclusions.

121. (No. 794): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/121.**

Max. h 4.8 cm., max. w 5.5 cm., max. th 1.4 cm.

Pink (7.5YR 8/3) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, non-porous, fine, reddish yellow (5YR 6/6) fabric with some medium grit and sand inclusions.

122. (No. 749): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/122.**

Max. h 5.8 cm., max. w 4.2 cm., max. th 1.1 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior and interior. Hard, very sparsely porous, fine, very pale brown (10YR 7/3) fabric with frequent lime, micaceous and some medium grit inclusions.

123. (No. 786): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 31/123.**

Max. h 5.9 cm., max. w 5.8 cm., max. th 1.2 cm.

Pink (5YR 7/4) unslipped surface on exterior;

reddish yellow (5YR 6/6) unslipped surface on interior. Hard, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some large grit and lime inclusions.

124. (No. 1290): Body fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, found in 2005. **pl. 31/124.**

Max. h 6.0 cm., max. w 4.2 cm., max. th 1.1 cm.

Pink (7.5YR 7/4) slip on exterior, light grey (10YR 7/2) unslipped surface on interior. A red (2.5YR 5/6) band on exterior. Exterior surface is burnished. Soft, thin paste, non-porous, pink (5YR 7/4) and very pale brown (10YR 7/4) fabric with infrequent medium grit inclusions.

125. (No. 797): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 32/125.**

Max. h 6.0 cm., max. w 6.1 cm., max. th 1.3 cm.

Very pale brown (10YR 7/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Hard, sparsely porous, red (2.5YR 5/6) fabric with frequent lime, sand, large grit inclusions.

126. (No. 789): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 32/126.**

Max. h 6.4 cm., max. w 6.2 cm., max. th 1.6 cm.

Pink (5YR 7/4) unslipped surface on exterior; pink (7.5YR 7/4) unslipped surface interior. Hard, very sparsely porous, reddish brown (5YR 5/4) and dark grey (7.5YR 4/1) fabric with frequent sand, tiny lime and some large grit, plant inclusions.

127. (No. 788): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, in 2005. **pl. 32/127.**

Max. h 6.6 cm., max. w 9.8 cm., max. th 2.1 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior; very pale brown (10YR 7/3) unslipped surface interior. Hard, very sparsely porous, light brown (7.5YR 6/4) fabric with frequent large grit and sand inclusions.

128. (No. 798): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 32/128.**

Max. h 9.8 cm., max. w 9.8 cm., max. th 1.2 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior and interior. Average hardness; non-porous, fired to yellowish red (5YR 5/6) and very dark grey (7.5YR 3/1) fabric with frequent sand and large grit inclusions.

V. PONTIC SKYPHOS FRAGMENT

(pl. 4, no. 129)

During the 2005 survey at Kimistene one single fragment of a *skyphos* was recovered. Its shape, the quality of its slip, and its decoration resemble black-glazed vessels found in the northern Black Sea region. Many of the Atticizing wares found in Early Hellenistic contexts at Gordion were also imported from the Black Sea rather than from Aegean production centers (Stewart 2010, 84). The fabric is clean and reddish. It has a stamped decoration on the interior surface. It should be dated to the early 4th century B.C. A similar black-glazed fragment of 4th-3rd cent. B.C. was found at Oluz Höyük (Dönmez 2010b, 63, fig. 103.).

129. (No. 888): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 4/129 and pl. 32/129.**

Max. h 2.4 cm., max. w 4.3 cm., max. th 0.8 cm.

Black (Gley 1 2.5/N) slip is worn off. Hard, non-porous, thin paste, fired to red (2.5YR 5/8) fabric with no visible inclusions.

Parallel: Lawall 2005, 47, fig. 6 (rouletted *skyphos* base).

VI. HELLENISTIC PAINTED WARE

(pls. 4-6, nos. 130-187)

This group is not a discrete group with common and definable characteristics, but it is clearly a continuation of the Late Iron Age painted ware tradition in the Hellenistic period with Greek forms and local painted features. We have 58 sherds in total, 45 of which are closed and 13 open forms. The form repertory of this ware is very limited: closed forms with short neck. It is noteworthy that most of the pieces are body sherds with 0.4-1.0 cm thickness so that it was difficult to assign them to any known Hellenistic forms. They seem to be pots for daily use such as storage vessels, or for religious purposes as urns.

Paste colors are reddish yellow (5YR 6/6-6/8, 7.5YR 6/6-7/6), light red (2.5YR 6/8-6/6), red (2.5YR 5/8-5/6), light brown (7.5YR 6/4), pink (5YR 7/4, 7.5YR 7/4), light reddish brown (5YR 6/4), very pale brown (10YR 7/4), yellowish red (5YR 5/6-5/8), pale brown (10YR 6/3), brown (7.5YR 5/3), reddish brown (5YR 5/3) and grey (7.5YR 6/1). Inclusions are lime, grog, sand, grit and micaceous in medium and small dimensions. Their generally hard paste is light and they are well-fired products. In some badly-fired products paste is grey or mottled. Slip colours differ as pink (5YR 7/4-8/3, 7.5YR 7/3-7/4-8/3), very pale brown (10YR 7/3-7/4-8/2-8/3-8/3), weak

red (5R 5/4, 7.5R 4/3, 4/4, 10R 4/4-5/4) red (5R 4/6, 7.5R 5/6, 10R 5/6, 2.5YR 5/6), white (10YR 8/1), reddish yellow (5YR 6/6, 7.5YR 6/6), light red (2.5YR 6/6), pale red (7.5R 6/4), light reddish brown (5YR 6/4), pinkish grey (5YR 7/2) and brown (7.5YR 4/3).

The most important distinctive feature of this group is that the cream ground slip. The main decoration pattern is concentric bands in yellowish red (5YR 5/6), reddish brown (2.5YR 4/3, 5YR 5/3), pale red (7.5R 6/4) and weak red (10R 5/4) as well as red (5R 4/6, 10R 5/6-5/8, 2.5YR 5/6). Slips are mostly shiny and smooth; some samples are polished. Decoration is similar to that of Galatian ware in some respects (cf. a sherd from Eskiyapar: Zoroğlu 1979, 214, fig. 6, draw. 5.). No distinctive Galatian ware, however, was found in southwestern Paphlagonia. Banded decoration is a widespread ceramic trend in Asia Minor during the Hellenistic period and is produced—or at least acquired and used—at sites between Eskişehir to the west and the Halys River to the east (Stewart 2010, 153). The particular manifestation of banded pottery that occurs on the Phrygian Plateau (bordered by Eskişehir to the west, the Halys River to the east, possibly the Black Sea coast to the north, and Çatalhöyük to the south) is homogeneous in terms of fabric, form, and decoration (Stewart 2010, 153).

25 of these sherds were found on the southern slope of the *Acropolis* at Kimistene, 3 fragments from the cistern of Kimistene. It seems that Hellenistic painted ware has a concentration at Kimistene. Only two sherds were collected from Kepez.

A crater fragment with similar decoration from Oluz Höyük (Dönmez 2010b, 63, fig. 102) is dated to the 4th-3rd cent. B.C. In southwestern Paphlagonia, however, this group should be dated to the 3rd-2nd centuries B.C.

OPEN FORMS (pl. 4, nos. 130-139) / **Rim Fragments of Open Forms** (pl. 4, nos. 130-132)

Most of these sherds cannot be assigned to any known forms. No. 130 as well as 131 are similar forms in terms of rim profile.

130. (No. 1275): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 4/130 and pl. 32/130.**

Max. h 1.3 cm., d of rim 10.4 cm., max. w 4.2 cm., max. th 0.6 cm.

Very pale brown (10YR 8/2) slip on exterior; very pale brown (10YR 7/3) slip on lower interior. Two bands in very dark grey (7.5YR 3/1) paint on exterior, in weak red (10R 5/4) paint on interior rim. Hard, non-porous, thin paste, fine, light brown (7.5YR 6/4) fabric with some sand inclusions.

131. (No. 544): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 4/131 and pl. 32/131.**

Max. h 1.4 cm., d of rim 11.2 cm., max. w 4.4 cm., max. th 0.8 cm.

Very pale brown (10YR 8/2) slip on exterior; weak red (10R 4/3) paint on interior. Two bands in dark brown (7.5YR 3/3) on exterior. Hard, non-porous, thin paste, fine, pink (7.5YR 7/4) fabric with some lime and sand inclusions.

132. (No. 916): Rim fragment; Kimistene, *Acropolis*, on a roughy area in southeastern terrace (on the way to the Cistern), surface find, found in 2005. **pl. 4/132 and pl. 32/132.** Max. h 1.1 cm., d of rim 27.4 cm., max. w 5.9 cm., max. th 0.9 cm.

Very pale brown (10YR 8/4) slip on exterior and interior. In weak red (7.5R 4/3) on interior

rim. Hard, thin paste, sparsely porous, fired to light brown (7.5YR 6/4) fabric with occasional micaceous inclusions.

Base Fragment of Open Form (pl. 4, no. 133)

Flat based.

133. (No. 893): Base fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 4/133 and pl. 32/133.**

Max. h 2.0 cm., d of base 4.4 cm., max. w 3.0 cm., max. th 0.6 cm.

Pink (7.5YR 7/3) slip on exterior, in weak red (10R 4/4) paint on exterior, red (2.5YR 5/6) slip on interior. Exterior surface is burnished. Hard, non-porous, thin paste, fine, light red (2.5YR 6/8) fabric with some tiny lime inclusions.

Body Fragments of Open Forms (pl. 4, nos. 138-139)

134. (No. 902): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 32/134.**

Max. h 1.6 cm., max. w 1.6 cm., max. th 0.3 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (5YR 6/6) slip on interior. Two bands in weak red (10R 4/4) and very dark grey (5YR 3/1) on exterior. Interior surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

135. (No. 1364): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 32/135.**

Max. h 1.9 cm., max. w 2.4 cm., max. th 0.5 cm.

Pink (7.5YR 7/4) slip on exterior; in red (10R 5/6) on interior. Two bands in black (7.5YR

2.5/1) on exterior. Its below part has been painted weak red (10R 4/4). Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with occasional sand, frequent tiny lime inclusions.

136. (No. 812): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 32/136.**

Max. h 2.6 cm., max. w 1.8 cm., max. th 0.4 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (5YR 6/6) slip on interior. Four bands in red (10R 4/6) and very dark grey (5YR 3/1) on exterior. Interior surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with rare small lime inclusions.

137. (No. 853): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 32/137.**

Max. h 2.4 cm., max. w 2.5 cm., max. th 0.7 cm.

Pink (7.5YR 7/4) slip on exterior and interior. Exterior surface is burnished. Three bands in dark brown (7.5YR 3/2) and red (10R 5/6) on interior. Hard, thin paste, very sparsely porous, fine, yellowish red (5YR 5/6) fabric with occasional small lime inclusions.

138. (No. 1066): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 4/138 and pl. 32/138.**

Max. h 1.5 cm., max. w 2.1 cm., max. th 0.5 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior; very pale brown (10YR 8/4) slip on interior. Two bands in red (2.5YR 4/6) and very dark grey (5YR 3/1) paint on interior.

Hard, thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with no visible inclusions.

139. (No. 1023): Body fragment; Kepez, found in 2005. **pl. 4/139 and pl. 32/139.**

Max. h 1.3 cm., max. w 3.4 cm., max. th 0.8 cm.

Very pale brown (10YR 7/3) slip on exterior; light reddish brown (5YR 6/4) slip on interior. Two bands in dusky red (10R 3/2) paint on interior. Average hardness; non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

140. (No. 806): Body fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 32/140.**

Max. h 2.6 cm., max. w 3.5 cm., max. th 0.5 cm.

Light red (2.5YR 6/6) unslipped surface on exterior; light red (2.5YR 6/6) slip on interior. Interior surface is burnished. On exterior red (2.5YR 5/6) horizontal bands. Interior surface is burnished. Average hardness; non-porous, thin paste, fine, yellowish red (5YR 5/8) fabric with frequent tiny lime inclusions.

141. (No. 514): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 32/141.**

Max. h 4.0 cm., max. w 4.5 cm., max. th 0.7 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior, light red (2.5YR 6/6) slip on interior. Brown (7.5YR 5/3) eroded on horizontal bands on exterior. Hard, thin paste, non-porous, fired to brown (7.5YR 5/3) fabric with some tiny lime and sand inclusions.

142. (No. 438): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 33/142.**

Max. h 4.0 cm., max. w 4.1 cm., max. th 1.0

cm.

Red (10R 5/6) smoothed slip on exterior; weak red (10R 5/4) slip on interior. A band in very dark grey (7.5YR 3/1) paint on interior. All of surface is burnished. Hard, thin paste, non-porous, fired to red (2.5YR 5/8) and reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

CLOSED FORMS (pls. 4-6, nos. 144-187) / **Rim Fragments** (pl. 4, nos. 144-145)

No. 145 is narrow and short-necked. Most of the rim fragments are outcurved.

143. (No. 1047): Rim fragment; Kepez, found in 2005. **pl. 33/143.**

Max. h 2.0 cm., max. w 3.5 cm., max. th 0.6 cm.

White (10YR 8/1) slip on exterior and interior rim. Pink (7.5YR 7/4) unslipped surface on lower interior. Average hardness; very sparsely porous, fine, reddish brown (5YR 6/6) fabric with frequent sand and inclusions.

144. (No. 1130): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 4/144 and pl. 33/144.**

Max. h 3.4 cm., max. w 2.7 cm., max. th 0.7 cm.

White (10YR 8/1) slip on exterior and interior rim. A band in very dark grey (7.5YR 3/1) on exterior. Hard, thin paste, very sparsely porous, fine, red (2.5YR 5/8) fabric with occasional sand inclusions.

145. (No. 881): Rim fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 4/145 and pl. 33/145.**

Max. h 3.1 cm., max. w 6.5 cm., max. th 0.8 cm.

Pink (7.5YR 7/3) slip on exterior; weak red (10R 5/4) on interior rim. Its below part has very pale brown (10YR 7/3) unslipped surface on interior. A band in dusky red (10R 3/4) on exterior. Hard, non-porous, thin paste, fine, light brown (7.5YR 6/4) fabric with some tiny lime inclusions.

Base Fragment of Closed Form (pl. 4, no. 146)

146. (No. 1478): Base fragment of a closed form; Kimistene, *Acropolis*, found in 2005. **pl. 4/146 and pl. 33/146.**

Max. h 3.6 cm., d of base 8.6 cm., max. w 5.3 cm., max. th 0.7 cm.

Pinkish grey (5YR 7/2) slip on the exterior; reddish yellow (5YR 6/6) unslipped surface on the interior. Two parallel horizontal bands on the exterior. The upper and lower bands are weak red (5R 4/3 or 5R 4/2). Hard, non-porous, thin paste, fine, light red (2.5YR 6/6) fabric with some tiny lime and sand inclusions. High-based form with internal wheel-marks.

Body Fragments of Closed Form (pls. 4-6, nos. 148-187)

Large carinated forms. No ornamentations. Some of them are polished; some of them have strong internal wheel-marks.

147. (No. 897): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 33/147.**

Max. h 2.1 cm., max. w 2.0 cm., max. th 0.5 cm.

Weak red (7.5R 4/4) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, thin paste, fine, light red (2.5YR 6/8) fabric with some tiny lime inclusions.

148. (No. 442): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 4/148 and pl. 33/148.**

Max. h 1.8 cm., max. w 2.3 cm., max. th 0.6 cm.

Pink (5YR 8/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Two bands in black (5YR 2.5/1) paint on upper exterior. Its below part has weak red (10R 4/4) paint. Average hardness; thin paste, very sparsely porous, fine, light red (2.5YR 6/8) fabric with frequent tiny lime and some sand inclusions.

149. (No. 950): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 33/149.**

Max. h 1.7 cm., max. w 3.5 cm., max. th 0.5 cm.

Red (7.5R 5/6) abrasion slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, porous, fine, pink (7.5YR 7/4) fabric with some tiny lime inclusions.

150. (No. 1371): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 33/150.**

Max. h 2.3 cm., max. w 3.0 cm., max. th 0.4 cm.

Weak red (10R 5/4) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

151. (No. 1149): Body fragment; Kimistene, *Acropolis*, northern slope, found in 2005. **pl. 33/151.**

Max. h 2.8 cm., max. w 2.3 cm., max. th 0.8 cm.

Weak red (10R 5/4) slip on exterior; pink

(7.5YR 7/4) unslipped surface on interior. Average hardness; non-porous, fired to reddish yellow (5YR 6/6) fabric with frequent tiny lime and micaceous inclusions.

152. (No. 1325): Body fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 33/152.**

Max. h 1.7 cm., max. w 3.1 cm., max. th 0.6 cm.

Very pale brown (10YR 7/4) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Two bands in reddish brown (5YR 5/4) and very dark grey (10YR 3/1) on exterior. Average hardness; thin paste, non-porous, fired to reddish yellow (7.5YR 7/6-5YR 6/8) fabric with rare tiny lime inclusions.

153. (No. 441): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 33/153.**

Max. h 1.9 cm., max. w 3.3 cm., max. th 0.9 cm.

Red (2.5YR 5/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. A band in dark reddish grey (2.5YR 3/1) on exterior. Hard, non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with occasional tiny lime inclusions.

154. (No. 1262): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 33/154.**

Max. h 2.5 cm., max. w 2.9 cm., max. th 0.5 cm.

Pink (7.5YR 8/3) slip on exterior; very pale brown (10YR 8/4) unslipped surface on interior. Two bands in dark brown (7.5YR 3/2) on exterior. These bands are bordered with two bands in reddish brown (2.5YR 4/3). Average hardness; thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with rare sand and micaceous inclusions.

155. (No. 1235): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 33/155.**

Max. h 2.9 cm., max. w 2.7 cm., max. th 0.6 cm.

Pink (7.5YR 8/3) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Three bands in red (2.5YR 5/6) and dark reddish grey (5YR 4/2) on exterior. Hard, thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with some sand inclusions.

156. (No. 972): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 4/156 and pl. 33/156.**

Max. h 2.2 cm., max. w 3.4 cm., max. th 0.5 cm.

Pink (7.5YR 8/3) slip on exterior; light red (2.5YR 6/8) unslipped surface on interior. Two bands in very dark grey (7.5YR 3/1) paint on exterior. Hard, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with rare sand, occasional tiny lime inclusions.

157. (No. 1011): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 33/157.**

Max. h 2.5 cm., max. w 3.6 cm., max. th 0.8 cm.

Weak red (5R 5/4) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Average hardness; non-porous, thin paste, fine, light red (2.5YR 6/8) fabric with no visible inclusions.

158. (No. 940): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 33/158.**

Max. h 2.8 cm., max. w 2.8 cm., max. th 0.7 cm.

Red (10R 5/6) shiny slip on exterior; light red (2.5YR 6/6) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste,

very sparsely porous, fine, red (2.5YR 5/8) fabric with some tiny lime inclusions.

159. (No. 1397): Body fragment; Kimistene, summit of the *Acropolis*, surface find, found in 2005. **pl. 33/159.**

Max. h 2.9 cm., max. w 4.6 cm., max. th 0.4 cm.

Weak red (7.5R 4/3) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/8) and reddish yellow (5YR 6/6) fabric with no visible inclusions.

160. (No. 1351): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 33/160.**

Max. h 3.4 cm., max. w 3.2 cm., max. th 0.5 cm.

Light reddish brown (5YR 6/3) unslipped surface; reddish yellow (5YR 6/6) unslipped surface on interior. Traces of a band in reddish brown (5YR 5/4). Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with some micaceous and sand inclusions.

161. (No. 416): Body fragment; Kimistene, *Necropolis* 1, found in 2005. **pl. 4/161 and pl. 33/161.**

Max. h 2.9 cm., max. w 3.3 cm., max. th 0.8 cm.

Very pale brown (10YR 7/4) slip on exterior, light red (2.5YR 6/8) unslipped surface on interior. Two bands in very dark brown (7.5YR 3/2) paint on exterior surface. Its below part has a red (2.5YR 5/6) paint. Average hardness; non-porous, fired to red (2.5YR 5/8) and pale brown (10YR 6/3) fabric with frequent tiny lime and sand inclusions.

162. (No. 1285): Body fragment; Kimistene, *Acropolis*, on the craggy slope to the Acro-

pole, found in 2005. **pl. 5/162 and pl. 33/162.** Max. h 3.1 cm., max. w 2.7 cm., max. th 0.5 cm.

Very pale brown (10YR 7/4) slip on exterior; very pale brown (10YR 7/4) unslipped surface on interior. Two bands in very dark grey (5YR 3/1). Its below part has yellowish red (5YR 5/6) on exterior. Hard, thin paste, very sparsely porous, fine, very pale brown (10YR 7/4) fabric with rare lime inclusions.

163. (No. 889): Body and base fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 33/163.**

Max. h 2.9 cm., max. w 4.2 cm., max. th 0.7 cm.

Weak red (10R 4/4) slip on upper exterior; pink (7.5YR 7/4) slip around the exterior base. Reddish yellow (5YR 7/6) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/8) fabric with no visible inclusions.

164. (No. 537): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 5/164 and pl. 33/164.**

Max. h 3.8 cm., max. w 3.0 cm., max. th 0.4 cm.

Pink (7.5YR 8/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Three bands in very dark grey (7.5YR 3/1) on exterior. Its below part has reddish brown (2.5YR 4/3). Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/8) fabric with no visible inclusions.

165. (No. 407): Body fragment; *Necropolis* 1, found in 2005. **pl. 5/165 and pl. 33/165.**

Max. h 1.8 cm., max. w 3.4 cm., max. th 0.4 cm.

Very pale brown (10YR 8/2) slip on exte-

rior; light red (2.5YR 6/8) unslipped surface on interior. Three bands in black (7.5YR 2.5/1) paint on exterior. Hard, thin paste, very sparsely porous, fine, light red (2.5YR 6/8) fabric with no visible inclusions.

166. (No. 1242): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 5/166 and pl. 33/166.**

Max. h 3.3 cm., max. w 2.6 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on exterior, pink (7.5YR 7/4) unslipped surface on interior. A band in dark reddish grey (2.5YR 3/1) paint on upper exterior. Hard, thin paste, very sparsely porous, fired to pink (7.5YR 7/4) and reddish yellow (5YR 6/6) fabric with occasional sand and tiny lime inclusions.

167. (No. 400): Body fragment; Kimistene, *Acropolis*, eastern (lowest) slope; found in 2005. **pl. 5/167 and pl. 33/167.**

Max. h 2.2 cm., max. w 4.2 cm., max. th 0.5 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. A band in very dark grey (10YR 3/1) paint on exterior; its below part has weak red (10R 5/4) on exterior slip. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with occasional tiny lime inclusions.

168. (No. 731): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 5/168 and pl. 33/168.**

Max. h 3.1 cm., max. w 4.6 cm., max. th 0.5 cm.

Light reddish brown (2.5YR 6/4) unslipped surface on exterior; light brown (7.5YR 6/4) unslipped surface on interior. A band in very

dark grey (5YR 3/1) paint on exterior. Hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with rare lime and sand inclusions.

169. (No. 934): Body fragment of a closed form; Kimistene, *Acropolis*, found in 2005. **pl. 5/169 and pl. 33/169.**

Max. h 2.3 cm., max. w 5.7 cm., max. th 0.8 cm.

White (10YR 8/1) slip on the exterior; light reddish brown (5YR 6/3) unslipped surface on the interior. Two parallel horizontal bands on the exterior; these bands are in dark reddish grey (2.5YR 4/1). The lower part is in reddish brown (5YR 5/3). Hard, non-porous, thin paste, fired to reddish brown (5YR 5/3) fabric with some micaceous and sand inclusion.

170. (No. 444): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 5/170 and pl. 33/170.**

Max. h 3.4 cm., max. w 2.7 cm., max. th 0.6 cm.

Pink (7.5YR 7/4) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. A band in very dark grey (7.5YR 3/1) paint on exterior. Hard, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with rare lime inclusions.

171. (No. 1360): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 5/171 and pl. 33/171.**

Max. h 3.6 cm., max. w 2.8 cm., max. th 0.6 cm.

Pink (7.5YR 7/3) slip on exterior; pink (7.5YR 7/3) unslipped surface on interior. A band in very dark grey (5YR 3/1) paint on exterior, its below part has red (10R 5/6) on exterior slip. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with occasional micaceous and sand inclusions.

172. (No. 1350): Body fragment; Kimistene, Cistern, eastern slope, found 2005. **pl. 5/172 and pl. 33/172.**

Max. h 3.4 cm., max. w 3.7 cm., max. th 0.8 cm.

Red (5R 4/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. A band in dark reddish grey (2.5YR 3/1) paint on upper exterior. Exterior surface is burnished. Hard, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with some tiny lime inclusions.

173. (No. 524): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 5/173 and pl. 33/173.**

Max. h 3.8 cm., max. w 4.0 cm., max. th 0.7 cm.

Pink (7.5YR 8/3) slip on exterior, pink (7.5YR 7/4) unslipped surface on interior. Two bands in very dark grey (7.5YR 3/1) on exterior. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with occasional tiny lime inclusions.

174. (No. 939): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 5/174 and pl. 34/174.**

Max. h 2.6 cm., max. w 4.2 cm., max. th 0.8 cm.

Red (10R 5/6) shiny slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. A band in very dark grey (5YR 3/1) paint on exterior. Exterior surface is burnished. Hard, very sparsely porous, thin paste, fine, red (2.5YR 5/8) fabric with some micaceous, rare lime and grog less than 0.5 cm. inclusions.

175. (No. 546): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 5/175 and pl. 34/175.**

Max. h 2.9 cm., max. w 4.8 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on lower exterior; pink (7.5YR 7/4) unslipped surface on interior. A band in very dark grey (5YR 3/1) on upper exterior. Exterior surface is burnished. Hard, thin paste, non-porous, fired to light brown (7.5YR 6/4) and grey (7.5YR 6/1) fabric with frequent tiny lime and rare sand inclusions.

176. (No. 398): Body fragment; Kimistene, *Acropolis*, eastern (lowest) slope, found in 2005. **pl. 5/176 and pl. 34/176.**

Max. h 4.8 cm., max. w 4.2 cm., max. th 0.5 cm.

Reddish yellow (7.5YR 7/6) slip on exterior; pink (5YR 7/4) unslipped surface on interior. Interior surface is smoothed. Three bands in black (7.5YR 2.5/1) on exterior, its below part in red (2.5YR 5/6). Hard, thin paste, very sparsely porous, fine, light reddish brown (5YR 6/4) fabric with occasional tiny lime inclusions.

177. (No. 924): Body fragment of a closed form; Kimistene, *Acropolis*, found in 2005. **pl. 5/177 and pl. 34/177.**

Max. h 2.3 cm., max. w 5.2 cm., max. th 0.8 cm.

Pink (7.5YR 8/3) slip on the exterior; pink (5YR 7/4) unslipped surface on the interior. On the exterior there are two parallel dark reddish grey (10R 4/1) horizontal bands. Its lower part is in red (10R 5/8). Hard, thin paste, non-porous, fine, pink (5YR 7/4) fabric with some micaceous and lime inclusion.

178. (No. 919): Body fragment; Kimistene, *Acropolis*, southeastern slope; surface find, found in 2005. **pl. 34/178.**

Max. h 4.1 cm., max. w 4.1 cm., max. th 0.6 cm.

Very pale brown (10YR 8/2) slip on exterior;

reddish yellow (7.5YR 7/6) unslipped surface on interior. A band in very dark grey (7.5YR 3/1) on upper exterior. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with no visible inclusions.

179. (No. 1453): Body fragment; uncertain. **pl. 34/179.**

Max. h 4.5 cm., max. w 4.9 cm., max. th 0.6 cm.

Weak red (10R 4/4) matt slip on exterior; pink (5YR 7/4) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

180. (No. 1237): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 5/180 and pl. 34/180.**

Max. h 4.8 cm., max. w 4.6 cm., max. th 0.6 cm.

Very pale brown (10YR 8/2) abrasion slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Three bands in yellowish red (5YR 5/6) on exterior. Average hardness; non-porous, thin paste, fine, light brown (7.5YR 6/4) fabric with occasional sand and tiny lime inclusions.

181. (No. 887): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 5/181 and pl. 34/181.**

Max. h 2.5 cm., max. w 5.8 cm., max. th 1.0 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; pink (7.5YR 8/4) unslipped surface on interior. Two bands in very dark grey (5YR 3/1) paint on exterior. Hard, thin paste, non-porous, fired to light reddish brown (5YR 6/4) and light red (2.5YR 6/8) fabric with rare tiny lime inclusions.

182. (No. 854): Body fragment; Kimistene, *Acropolis*, northwestern slope of the Temple, found in 2005. **pl. 34/182.**

Max. h 4.6 cm., max. w 5.1 cm., max. th 0.9 cm.

Weak red (10R 4/4) abrasion slip on exterior; light red (2.5YR 6/6) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with some tiny lime inclusions.

183. (No. 434): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 5/183 and pl. 34/183.**

Max. h 4.0 cm., max. w 4.1 cm., max. th 0.7 cm.

Pale red (7.5R 6/4) slip on lower exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. A band in dark reddish grey (2.5YR 3/1) paint on upper exterior. Hard, thin paste, fine, light red (2.5YR 6/8) fabric with some tiny lime inclusions.

184. (No. 439): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 34/184.**

Max. h 4.3 cm., max. w 4.2 cm., max. th 1.2 cm.

Weak red (10R 5/4) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with rare tiny lime inclusions.

185. (No. 771): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 34/185.**

Max. h 5.7 cm., max. w 5.2 cm., max. th 0.8 cm.

White (10YR 8/1) slip on exterior; pink (5YR 7/4) unslipped surface on upper interior. Pink (5YR 7/4) slip on the lower part on interior. Interior slip is separated with a band in red

(2.5YR 5/6) paint. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/6) fabric with occasional medium grit and rare grog inclusions.

186. (No. 443): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 6/186 and pl. 34/186.**

Max. h 6.0 cm., max. w 6.9 cm., max. th 1.2 cm.

Weak red (10R 5/4) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. A band in very dark grey (7.5YR 3/1) paint on upper exterior. Hard, thin paste, porous, fine, pink (7.5YR 7/4) fabric with some tiny lime and sand inclusions.

187. (No. 525): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 6/187 and pl. 34/187.**

Max. h 6.1 cm., max. w 7.3 cm., max. th 0.9 cm.

Very pale brown (10YR 8/2) slip on upper exterior; very pale brown (10YR 7/4) unslipped surface on interior. A band in dark reddish grey (2.5YR 4/1) paint on upper exterior; the lower part has red (2.5YR 5/6) on exterior. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fine, light reddish brown (5YR 6/4) fabric with some lime inclusions.

VII. HELLENISTIC RELIEF WARE (pl. 6, nos.188-201)

This mould-made ware has only one form, the bowl. In these bowls the exterior surface is decorated with high relief. At the exterior surface Ionic *kymation* as well as degenerated floral decoration were applied, perhaps through the influence of external workshops in western Asia

Minor. Their rims are outcurved and body form must be globular. 14 fragments were collected, 12 of which are from Kepez and two from Kimistene.

Paste is reddish yellow (7.5YR 6/6, 5YR 6/6), light brown (7.5YR 6/4), pale brown (10YR 6/3), very pale brown (10YR 7/4), pale red (10R 6/2) and yellowish red (5YR 5/6). Inclusions are tiny lime, quartz, micaceous and sand small grit. Inclusions are small. Paste is hard and less porous. Slip is red (2.5YR 5/6-4/6-5/8, 10R 5/6), light red (2.5YR 6/6), reddish yellow (5YR 6/6-7/6), reddish brown (2.5YR 5/4, 5YR 4/4-5/4) and dark brown (7.5YR 3/2).

Some relief ware examples were also collected in Matthews's surveys of Inner Paphlagonia (Matthews/Metcalf/Cottica 2009, 220, fig. 6.104, nos. 11-14 (site PS 168).

2nd-1st century B.C.

OPEN FORMS (pl. 6, nos. 188-201) / Rim Fragments of a Bowl Form (pl. 6, nos. 188-190)

Some of them bear a rim frieze with Ionian *kymation* (parallels: Bilde 2010, 276, pl. 169, F-6, F-8, F-9).

188. (No. 1091): Rim fragment; Kepez, found in 2005. **pl. 6/188 and pl. 34/188.**

Max. h 4.7 cm., max. w 4.4 cm., max. th 0.7 cm.

Everted rim; horizontal leaf-decoration. Red (2.5YR 5/6) slip on the exterior; light red (2.5YR 6/6) slip on the interior. Average hardness; thin paste; very sparsely porous, fine, reddish yellow (5YR 6/6) and light red (2.5YR 6/8) mottled fabric with some lime and rare small grit inclusion.

189. (No. 1090): Rim fragment; Kepez, found in 2005. **pl. 6/189 and pl. 34/189.**

Max. h 3.9 cm., d of rim 14.8 cm., max. w 4.3

cm., max. th 0.6 cm.

Everted rim; in the rim zone, a band of egg-and-dart pattern below the rim (similar to: Edwards 1956, 99, pl. 42, nos. 58a-b). Light red (2.5YR 6/6) matt slip on the exterior and interior. Hard, thin paste; very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

Parallel: Chalier 2008, 96-97, 3a-b, 4a.

190. (No. 1283): Rim fragment; Kimistene, *Necropolis* 1, found in 2005. **pl. 6/190 and pl. 34/190.**

Max. h 3.2 cm., d of rim 15.4 cm., max. w 4.2 cm., max. th 0.6 cm.

Everted rim, red (2.5YR 5/6) matt, thick slip on exterior; red (2.5YR 5/6) on interior. A band in pink (5YR 7/3) paint on exterior rim. Average hardness; non-porous, thin paste, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime inclusions.

Parallel: Chalier 2008, 96-97, 3a-b, 4a.

Body Fragments of Open Forms (pl. 6, nos. 196-201)

191. (No. 1026): Body fragment; Kepez, found in 2005. **pl. 34/191.**

Max. h 1.8 cm., max. w 2.9 cm., max. th 0.6 cm.

Red (2.5YR 4/6) slip on exterior; light red (2.5YR 6/6) slip on interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with occasional small grit inclusions.

192. (No. 1030): Body fragment; Kepez, found in 2005. **pl. 34/192.**

Max. h 2.7 cm., max. w 2.3 cm., max. th 0.5 cm.

Reddish brown (5YR 4/4) slip on exterior; red (2.5YR 5/6) slip on interior. Two bands in pinkish white (7.5YR 8/2) and dark reddish

brown (5YR 3/3) paint on exterior. Hard, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with some tiny lime and rare sand inclusions.

193. (No. 1027): Body fragment; Kepez, found in 2005. **pl. 34/193.**

Max. h 2.4 cm., max. w 2.7 cm., max. th 0.6 cm.

Red (2.5YR 5/8) slip on exterior and interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/6) fabric with some lime and sand, rare micaceous inclusions.

194. (No. 1054): Body fragment; Kepez, found in 2005. **pl. 34/194.**

Max. h 3.2 cm., max. w 2.2 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on exterior; very pale brown (10YR 7/3) unslipped surface on interior. Soft, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with rare lime inclusions.

195. (No. 1017): Body fragment; Kepez, found in 2005. **pl. 34/195.**

Max. h 1.8 cm., max. w 3.1 cm., max. th 0.5 cm.

Reddish brown (2.5YR 5/4) slip on exterior; red (2.5YR 5/6) tiny slip on interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with no visible inclusions.

196. (No. 1019): Body fragment; Kepez, found in 2005. **pl. 6/196 and pl. 34/196.**

Max. h 3.4 cm., max. w 3.1 cm., max. th 0.5 cm.

Reddish yellow (5YR 6/6) slip on exterior; reddish yellow (5YR 7/6) slip on interior. Small leaf ornamentation on exterior surface. Hard, thin paste, non-porous, very pale brown (10YR 7/4) and light brownish grey (10YR

6/2) fabric with infrequent lime and sand inclusions.

197. (No. 921): Body fragment; Kimistene, *Acropolis*, southeastern slope, on the way to the Cistern, on a rocky slope, surface find, found in 2005. **pl. 6/197 and pl. 35/197.**

Max. h 2.8 cm., max. w 3.9 cm., max. th 0.6 cm.

Dark brown (7.5YR 3/2) slip on exterior; red (10R 5/6) slip on interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with infrequent tiny lime inclusions.

198. (No. 1231): Body fragment; Kepez, found in 2005. **pl. 6/198 and pl. 35/198.**

Max. h 2.4 cm., max. w 3.5 cm., max. th 0.7 cm.

Reddish brown (5YR 5/4) slip on exterior and interior. Small leaf ornamentation on exterior surface. Average hardness; thin paste, sparsely porous, fine, yellowish red (5YR 5/6) fabric with rare sand, frequent tiny lime inclusions.

199. (No. 1001): Body fragment; Kepez, found in 2005. **pl. 6/199 and pl. 35/199.**

Max. h 2.1 cm., max. w 4.9 cm., max. th 0.8 cm.

Red (2.5YR 5/6) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with rare quartz and a little micaceous inclusions.

Raised pattern of rays spreading vertically from bottom of bowl. Each ray consists of one lines. In the space between the rays, series of raised dots are set in vertical rows.

200. (No. 1003): Body fragment; Kepez, found in 2005. **pl. 6/200 and pl. 35/200.**

Max. h 3.2 cm., max. w 5.8 cm., max. th 0.7 cm.

Red (2.5YR 5/6) tiny slip on exterior and

interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with infrequent tiny lime inclusions.

201. (No. 1006): Body fragment; Kepez, found in 2005. **pl. 6/201 and pl. 35/201.**

Max. h 2.4 cm., max. w 6.6 cm., max. th 0.8 cm.

Reddish yellow (5YR 6/6) slip on exterior; its upper part is very pale brown (10YR 8/3) slip; red (2.5YR 5/6) slip on interior. Average hardness; porous, thin paste, fine, light brown (7.5YR 6/4) fabric with occasional tiny lime inclusions.

VIII. HELLENISTIC BURNISHED WARE (pls. 7-9, nos. 202-256)

Major forms are incurved rim bowls and fish plates. These are the imitations of some major Hellenistic forms of western Asia Minor. The incurving rim bowl is the most common shape in the Middle Hellenistic period in the whole landscape. These bowls should be drinking vessels.

Paste is reddish yellow (7.5YR 7/6-6/6, 5YR 6/8-6/6-7/6), light brown (7.5YR 6/4), pale brown (10YR 6/3), yellowish red (5YR 5/6), brown (7.5YR 5/4, 10YR 5/3), very pale brown (10YR 7/3-7/4), pink (7.5YR 7/4), light red (2.5YR 6/8), red (2.5YR 5/8), reddish brown (5YR 5/4) and light yellowish brown (10YR 6/4). Hard paste, non-porous and well fired. Bad paste became mottled in grey (7.5YR 6/1), dark grey (7.5YR 4/1) and black (2.5Y 2.5/1). Inclusions are sand, micaceous, small grit, grog, and tiny lime in medium dimensions. Some of the samples are without any inclusions. Their thickness differ between 0.5-1.0 cm. Thin slip mostly in the same colour of paste, ranging from very pale brown (10YR 8/2-8/3-8/4-7/3-7/4) to reddish yellow (5YR 6/6, 7.5YR 6/6-7/6), pink (7.5YR 7/4-7/3-8/4, 5YR 7/4), light yellowish brown (10YR 6/4),

pale brown (10YR 6/3), light grey (10YR 7/2), reddish brown (5YR 5/4), yellowish red (5YR 5/6), pinkish white (7.5YR 8/2) and red (2.5YR 5/6). Slip was applied on light coloured-paste and polished slightly. Most of them have no decoration, except on no. 250 where there is engraved linear decoration on its exterior. In exterior wall burnished surface and wheel-marks.

There are 60 fragments in total; 48 of them belong to open and 12 to closed forms. 34 fragments were found at Kepez, and 11 on the southern slope of *Acropolis* at Kimistene.

2nd-1st centuries B.C.

OPEN FORMS (pls. 7-9, nos. 202-242) /
Rim Fragments of a Bowl Form (pls. 7-8, nos. 202-220)

Incurved and rounded rim bowls are significant surface finds in Hellenistic southwestern Paphlagonia, as at all the major published Hellenistic sites in the Mediterranean. They are the most common and most widely distributed shape at Gordion (Stewart 2010, 195-196, figs. 218-222, nos. 226-281). Their size differs between medium (12.8-14 cm) and large (14.2-30.8 cm) dimensions. Typologically two subgroups of these bowls have been identified: closed rim bowls and simple rim bowls. These bowls would have functioned as accommodating a variety of foods including soups, stews, and mashes, as well as side dishes of fruits and nuts (Stewart 2010, 196). They have a thin slip; in their interior and exterior faces wheel-marks are very distinctive.

202. (No. 1094): Rim fragment; Kepez, found in 2005. **pl. 7/202 and pl. 35/202.**

Max. h 2.2 cm., max. w 2.5 cm., max. th 0.5 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior and interior. Hard, thin paste, very sparsely porous, fine, reddish yellow

(7.5YR 6/6) fabric with frequent tiny lime inclusions.

203. (No. 1079): Rim fragment; Kepez, found in 2005. **pl. 7/203 and pl. 35/203.**

Max. h 2.5 cm., max. w 3.8 cm., max. th 0.5 cm.

Very pale brown (10YR 8/3) slip on exterior; very pale brown (10YR 7/4) slip on interior. All of surface is burnished. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime and some sand inclusions.

204. (No. 1085): Rim fragment; Kepez, found in 2005. **pl. 7/204 and pl. 35/204.**

Max. h 2.6 cm., max. w 2.5 cm., max. th 0.6 cm.

Light grey (10YR 7/2) slip on exterior, pale brown (10YR 6/3) slip on interior rim. Exterior surface and interior rim are burnished. Hard, thin paste, non-porous, fired to yellowish red (5YR 5/6) and dark greyish brown (10YR 4/2) fabric with some micaceous inclusions.

205. (No. 1218): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 35/205.**

Max. h 3.2 cm., max. w 5.0 cm., max. th 0.7 cm.

Very pale brown (10YR 7/3) slip on exterior; very pale brown (10YR 7/4) slip on interior. All of surface is burnished. Average hardness; thin paste, very sparsely porous, fine, pale brown (10YR 6/3) fabric with infrequent sand inclusions.

206. (No. 991): Rim fragment; Kepez, found in 2005. **pl. 7/206 and pl. 35/206.**

Max. h 3.2 cm., max. w 5.0 cm., max. th 1.6 cm.

Pink (7.5YR 7/4) slip on exterior and interior;

light red (2.5YR 6/6) on the rim. Interior surface is burnished. Hard, very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with frequent tiny lime and large grit inclusions.

207. (No. 1180): Rim fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 7/207 and pl. 35/207.**

Max. h 2.4 cm., d of rim 12.8 cm., max. w 3.0 cm., max. th 0.5 cm.

Very pale brown (10YR 7/3) slip on exterior; very pale brown (10YR 7/4) slip on interior. Average hardness; thin paste, non-porous, fine, very pale brown (10YR 7/3) fabric with some tiny lime inclusions.

208. (No. 1224): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 7/208 and pl. 35/208.**

Max. h 2.8 cm., d of rim 13.6 cm., max. w 7.2 cm., max. th 0.5 cm.

Reddish yellow (7.5YR 7/6) slip on exterior and interior. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

209. (No. 1220): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 7/209 and pl. 35/209.**

Max. h 2.7 cm., d of rim 14.0 cm., max. w 6.6 cm., max. th 0.6 cm.

Very pale brown (10YR 7/3) slip on exterior and on interior. As inclusion medium calcite on exterior. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with occasional tiny lime inclusions.

210. (No. 692): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereşemail creek, found in 2005. **pl. 7/210 and pl. 35/210.**

Max. h 3.0 cm., d of rim 14.2 cm., max. w 4.4

cm., max. th 0.6 cm.

Reddish yellow (7.5YR 6/6) slip on exterior, reddish yellow (7.5YR 7/6) slip on interior. All of surface is burnished. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with rare sand and lime inclusions.

211. (No. 1078): Rim fragment; Kepez, found in 2005. **pl. 7/211 and pl. 35/211.**

Max. h 2.4 cm., d of rim 15.0 cm., max. w 5.8 cm., max. th 0.5 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior; pink (5YR 7/4) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent lime and rare sand inclusions.

212. (No. 1077): Rim fragment; Kepez, found in 2005. **pl. 7/212 and pl. 35/212.**

Max. h 3.4 cm., d of rim 30.8 cm., max. w 6.6 cm., max. th 1.2 cm.

Very pale brown (10YR 7/3) slip on exterior; light yellowish brown (10YR 6/4) unslipped surface on interior. Average hardness; non-porous, fine, light brown (7.5YR 6/4) fabric with some medium grit and lime inclusions.

213. (No. 1068): Rim fragment; Kepez, found in 2005. **pl. 7/213 and pl. 35/213.**

Max. h 3.8 cm., d of rim 16.2 cm., max. w 9.3 cm., max. th 0.7 cm.

Very pale brown (10YR 8/2) slip on the exterior and interior of the rim. Very pale brown (10YR 7/4) unslipped surface on lower interior. Exterior surface is burnished. Average hardness; thin paste, sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent lime and rare small grit inclusion.

214. (No. 1070): Rim fragment; Kepez, found in 2005. **pl. 7/214 and pl. 35/214.**

Max. h 3.1 cm., d of rim 17.0 cm., max. w 3.8

cm., max. th 0.7 cm.

Thick wheel-marks. Exterior surface is burnished. Pinkish white (7.5YR 8/2) slip on exterior. Reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 7/6) fabric with frequent micaceous and some sand inclusion.

215. (No. 1221): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 7/215 and pl. 35/215.**

Max. h 3.9 cm., d of rim 17.6 cm., max. w 5.8 cm., max. th 0.6 cm.

Reddish yellow (7.5YR 7/6) slip on exterior rim and interior. Reddish yellow (7.5YR 7/6) unslipped surface on lower exterior. Exterior rim and interior surface is burnished. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with some sand inclusions.

216. (No. 399): Rim fragment; Kimistene, *Acropolis*, below the Temple's terrace, eastern slope, found in 2005. **pl. 8/216 and pl. 35/216.**

Max. h 2.4 cm., d of rim 18.4 cm., max. w 3.6 cm., max. th 0.9 cm.

Very pale brown (10YR 7/4) slip on exterior; reddish yellow (7.5YR 6/6) slip on interior. Interior surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent lime and sand, rare micaceous inclusions.

217. (No. 1082): Rim fragment; Kepez, found in 2005. **pl. 8/217 and pl. 35/217.**

Max. h 2.5 cm., d of rim 19.0 cm., max. w 4.1 cm., max. th 0.7 cm.

Very pale brown (10YR 8/2) on exterior and interior rim. Very pale brown (10YR 7/4) unslipped surface on lower interior. Hard, thin paste, non-porous, fine, reddish yellow

(7.5YR 7/6) fabric with some tiny lime inclusions.

218. (No. 1277): Rim fragment; Kimistene, *Necropolis*, found in 2005. **pl. 8/218 and pl. 35/218.**

Max. h 2.6 cm., d of rim 21.0 cm., max. w 5.2 cm., max. th 0.6 cm.

Reddish yellow (7.5YR 6/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fired to reddish yellow (7.5YR 6/6-5YR 6/8) fabric with rare grog, sand and tiny lime inclusions.

219. (No. 1394): Rim fragment; Kimistene, summit of the *Acropolis*, surface find, found in 2005. **pl. 8/219 and pl. 36/219.**

Max. h 5.2 cm., d of rim 25.0 cm., max. w 7.6 cm., max. th 0.8 cm.

Reddish yellow (7.5YR 6/6) slip on exterior; light brown (7.5YR 6/3) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fired to light brown (7.5YR 6/4) fabric with frequent tiny lime inclusions.

220. (No. 1214): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 8/220 and pl. 36/220.**

Max. h 6.8 cm., d of rim 25.2 cm., max. w 4.6 cm., max. th 1.1 cm.

Light yellowish brown (10YR 6/4) slip on exterior and interior. Exterior surface is burnished. Hard, non-porous, fine, reddish brown (5YR 5/4) fabric with infrequent lime and small grit inclusions.

Other Rim Fragments (pl. 8, nos. 222-228)

Some metal imitated shapes, such as carinated and ledge rim bowls are popular. Most of them are polished. In some other excavated sites

these typologies were classified as “Achaemenid”. However, in southwestern Paphlagonia these vessel forms cannot be assigned to any known group.

221. (No. 801): Rim fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 36/221.**

Max. h 2.8 cm., max. w 2.2 cm., max. th 0.7 cm.

Light yellowish brown (10YR 6/4) slip on exterior; pale brown (10YR 6/3) slip on interior. All of surface is burnished. Hard, non-porous, fine, pale brown (10YR 6/3) fabric with frequent sand and some small grit inclusions.

222. (No. 500): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 8/222 and pl. 36/222.**

Max. h 1.8 cm., max. w 3.1 cm., max. th 0.7 cm.

Light brown (7.5YR 6/4) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fine, brown (7.5YR 5/4) fabric with some sand inclusions.

223. (No. 862): Rim fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, altar with *boukronion*, found in 2005. **pl. 8/223 and pl. 36/223.**

Max. h 2.0 cm., max. w 2.5 cm., max. th 0.7 cm.

Pink (5YR 7/4) slip on exterior and interior. All of surface is burnished. Soft, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent sand inclusions.

Parallels: Sagona/Sagona 2004, fig. 159, 10 (from Çimentepe, 800-300 B.C.) and Şenyurt/Kamış/Akçay 2005, 101, 141, type 4.4, fig. 9/108.

224. (No. 1299): Rim fragment; Kimistene, *Acropolis*, temple’s terrace, illegally excavat-

ed area under the temple’s podium, found in 2005. **pl. 36/224.**

Max. h 2.1 cm., max. w 2.7 cm., max. th 0.9 cm.

Light yellowish brown (10YR 6/4) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fired to pale brown (10YR 6/3) and black (2.5Y 2.5/1) fabric with frequent tiny lime inclusions.

225. (No. 955): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 8/225 and pl. 36/225.**

Max. h 2.3 cm., max. w 4.0 cm., max. th 1.0 cm.

Light brown (7.5YR 6/4) slip on exterior; pink (7.5YR 7/4) slip on interior. Exterior surface is burnished. Hard, non-porous, fired to light brown (7.5YR 6/4) and grey (7.5YR 6/1) fabric with frequent tiny lime and some sand inclusions.

Parallels: Şenyurt/Kamış/Akçay 2005, 95, 136, type 2.2, fig. 4/46.

226. (No. 517): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 8/226 and pl. 36/226.**

Max. h 3.2 cm., max. w 2.3 cm., max. th 1.2 cm.

Light brown (7.5YR 6/4) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fine, brown (7.5YR 5/4) fabric with some sand inclusions.

227. (No. 1075): Rim fragment; Kepez, found in 2005. **pl. 36/227.**

Max. h 1.8 cm., max. w 3.8 cm., max. th 1.1 cm.

Light brown (7.5YR 6/4) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Exterior surface is burnished. Soft, very sparsely porous, fine, yellowish red (5YR 5/6)

fabric with frequent tiny lime inclusions.

228. (No. 1457): Rim fragment; uncertain. **pl. 8/228 and pl. 36/228.**

Max. h 2.2 cm., max. w 4.4 cm., max. th 0.7 cm.

Reddish brown (5YR 5/4) slip on exterior and interior. All of surface is burnished. Hard, non-porous, fine, brown (10YR 5/3) fabric with occasional sand and grog inclusions.

Parallel: Şenyurt/Ekmen 2005, 62-63, 73, 113, fig. 66, type 1.17/8.

Base Fragments of Open Forms (pls. 8-9, nos. 230-233)

High-based profiles.

229. (No. 1165): Base fragment; Kepez, Cistern, found in 2005. **pl. 36/229.**

Max. h 2.8 cm., max. w 7.5 cm., max. th 0.8 cm.

Very pale brown (10YR 7/4) slip on exterior and interior. Average hardness; thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with frequent tiny lime and rare small grit inclusions.

230. (No. 1158): Base fragment; Kepez, Cistern, found in 2005. **pl. 8/230 and pl. 36/230.**

Max. h 3.7 cm., d of base 6.4 cm., max. w 11.5 cm., max. th 0.7 cm.

Surface is smoothed on the exterior. A red (2.5YR 5/6) tiny slip on the exterior. Reddish yellow (5YR 6/6-7.5YR 7/6) unslipped surface on interior. Average hardness; sparsely porous, thin paste; fine, light red (2.5YR 6/8) fabric with frequent lime and some small grit inclusion.

231. (No. 988): Base fragment; Kepez, found in 2005. **pl. 9/231 and pl. 36/231.**

Max. h 2.8 cm., d of base 6.8 cm., max. w 6.9

cm., max. th 0.7 cm.

Pink (7.5YR 7/4) slip on exterior; exterior surface thinly slipped. Reddish yellow (5YR 6/6) slip on interior. It is burnished on the middle of interior. Hard, non-porous, thin paste, fired to reddish yellow (5YR 6/6) fabric with no visible inclusions.

232. (No. 1322): Base fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 9/232 and pl. 36/232.**

Max. h 2.8 cm., d of base 7.4 cm., max. w 4.9 cm., max. th 0.7 cm.

Very pale brown (10YR 8/2) slip on exterior and interior. Interior surface is burnished. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/8) and pale brown (10YR 6/3) fabric with no visible inclusions.

233. (No. 466): Base fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 9/233 and pl. 36/233.**

Max. h 2.4 cm., d of base 7.6 cm., max. w 5.7 cm., max. th 0.8 cm.

Very pale brown (10YR 8/2) slip on exterior; pink (7.5YR 7/4) slip on interior. Interior surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with infrequent tiny lime inclusions.

Body Fragments of Open Forms (pl. 9, no. 242)

234. (No. 1193): Body fragment; Kepez, Cistern, found in 2005. **pl. 36/234.**

Max. h 1.5 cm., max. w 1.6 cm., max. th 0.5 cm.

Reddish yellow (5YR 6/6) slip on exterior; reddish yellow (7.5YR 7/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/8) fabric with frequent micaceous, rare sand inclusions.

235. (No. 1057): Body fragment; Kepez, found in 2005. **pl. 36/235.**

Max. h 2.3 cm., max. w 2.6 cm., max. th 0.5 cm.

Pink (7.5YR 8/4) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

236. (No. 1058): Body fragment; Kepez, found in 2005. **pl. 36/236.**

Max. h 2.5 cm., max. w 2.5 cm., max. th 0.5 cm.

Yellowish red (5YR 5/6) slip on upper exterior. Upper exterior is burnished. Its below part has pink (7.5YR 7/4) unslipped surface. Reddish yellow (5YR 6/6) slip on interior, hard, thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with some tiny lime and rare sand inclusions.

237. (No. 1024): Body fragment; Kepez, found in 2005. **pl. 37/237.**

Max. h 2.6 cm., max. w 2.6 cm., max. th 0.6 cm.

Very pale brown (10YR 7/3) slip on exterior; very pale brown (10YR 7/4) thin slip on interior. All of surface is burnished. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with rare sand inclusions.

238. (No. 841): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 37/238.**

Max. h 2.3 cm., max. w 2.9 cm., max. th 0.6 cm.

Pink (7.5YR 7/3) slip on exterior; pink (7.5YR 7/4) slip on interior. Hard, thin paste, non-porous, fired to reddish yellow (7.5YR 6/6) and brown (7.5YR 5/2) mottled fabric with no visible inclusions.

239. (No. 1036): Body fragment; Kepez, found in 2005. **pl. 37/239.**

Max. h 2.7 cm., max. w 2.3 cm., max. th 0.7 cm.

Very pale brown (10YR 7/4) thin slip on exterior and interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with rare sand inclusions.

240. (No. 759): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 37/240.**

Max. h 3.5 cm., max. w 2.4 cm., max. th 0.7 cm.

Pink (7.5YR 8/4) slip on exterior, pink (7.5YR 7/4) slip on interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with frequent tiny lime inclusions.

241. (No. 1028): Body fragment; Kepez, found in 2005. **pl. 37/241.**

Max. h 2.5 cm., max. w 3.3 cm., max. th 0.7 cm.

Very pale brown (10YR 8/3) slip on exterior and interior. All of surface is burnished. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

242. (No. 814): Body fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 9/242 and pl. 37/242.**

Max. h 3.2 cm., max. w 4.0 cm., max. th 0.5 cm

Reddish yellow (5YR 7/6) unslipped surface on exterior, very pale brown (10YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with some sand inclusions.

243. (No. 1160): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 37/243.**

Max. h 1.9 cm., max. w 4.3 cm., max. th 1.0 cm.

Reddish yellow (7.5YR 6/6) slip on exterior. Its upper part is reddish yellow (7.5YR 7/6) unslipped surface on exterior. Reddish yellow (7.5YR 7/6) slip on interior. The connection area of base and belly is burnished and slipped on the exterior. Average hardness; thin paste, very sparsely porous, fine, yellowish red (5YR 5/6) fabric with frequent tiny lime inclusions.

244. (No. 436): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 37/244.**

Max. h 1.3 cm., max. w 4.6 cm., max. th 0.7 cm.

Pale brown (10YR 6/3) slip on exterior and interior. All of surface is burnished. Average hardness; thin paste, non-porous, fired to brown (10YR 5/3) and greyish brown (10YR 5/2) fabric with no visible inclusions.

245. (No. 995): Body fragment; Kepez, found in 2005. **pl. 37/245.**

Max. h 3.9 cm., max. w 4.5 cm., max. th 0.6 cm.

Light grey (10YR 7/2) thin slip on exterior and interior. Hard, thin paste, non-porous, fired to greyish brown (10YR 5/2) fabric with no visible inclusions.

246. (No. 1013): Body fragment; Kepez, found in 2005. **pl. 37/246.**

Max. h 2.9 cm., max. w 5.7 cm., max. th 0.5 cm.

Very pale brown (10YR 8/4) slip on exterior; reddish yellow (5YR 6/6) slip on interior. Interior surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with no visible inclusions.

247. (No. 1173): Body fragment; Kepez, Cistern, found in 2005. **pl. 37/247.**

Max. h 3.4 cm., max. w 4.3 cm., max. th 0.7 cm.

Very pale brown (10YR 7/3) slip on exterior and interior. Exterior surface is burnished. Average hardness; thin paste, very sparsely porous, fine, pale brown (10YR 6/3) fabric with some micaceous inclusions.

248. (No. 1166): Body fragment; Kepez, Cistern, found in 2005. **pl. 37/248.**

Max. h 4.0 cm., max. w 6.8 cm., max. th 0.7 cm.

Very pale brown (10YR 7/4) thin slip on exterior and interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with occasional tiny lime and sand inclusions.

249. (No. 1168): Body fragment; Kepez, Cistern, found in 2005. **pl. 37/249.**

Max. h 4.3 cm., max. w 5.7 cm., max. th 0.5 cm.

Very pale brown (10YR 7/4) slip on exterior and interior. Exterior surface is burnished. Hard, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with some sand inclusions.

CLOSED FORMS (pl. 9, nos. 250-256) /
A Body Fragment of a *Rhyton* (pl. 9, no. 250)

250. (No. 1170): Body fragment; Kepez, Cistern, found in 2005. **pl. 9/250 and pl. 37/250.**

Max. h 6.4 cm., max. w 4.1 cm., max. th 0.8 cm.

Very pale brown (10YR 7/3) slip on exterior; very pale brown (10YR 7/4) unslipped surface on interior. Engraved linear decoration on the exterior. Soft, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with occasional tiny lime and frequent sand inclusions.

Base Fragments of Closed Form (pl. 9, nos. 251-255)

High-based forms. Some of them were polished.

251. (No. 1197): Base fragment; Kepez, Cistern, found in 2005. **pl. 9/251 and pl. 37/251.** Max. h 1.1 cm., max. w 2.0 cm., max. th 0.7 cm.

Pink (7.5YR 8/4) unslipped surface on exterior and interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some sand and rare tiny lime inclusions.

252. (No. 1396): Base fragment; Kimistene, summit of the *Acropolis*, found in 2005. **pl. 9/252 and pl. 37/252.**

Max. h 1.7 cm., d of rim 6.4 cm., max. w 3.3 cm., max. th 0.7 cm.

Reddish yellow (5YR 6/6) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste, sparsely porous, fired to yellowish red (5YR 5/6) and reddish yellow (7.5YR 6/6) mottled fabric with rare small grit inclusions.

253. (No. 1109): Base fragment; Kepez, Cistern, found in 2005. **pl. 9/253 and pl. 37/253.** Max. h 1.0 cm., d of rim 9.4 cm., max. w 3.3 cm., max. th 0.6 cm.

Very pale brown (10YR 7/3) slip on exterior; very pale brown (10YR 7/4) slip on interior. Hard, thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

254. (No. 503): Base fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 9/254 and pl. 37/254.**

Max. h 2.6 cm., d of rim 11.6 cm., max. w 7.5

cm., max. th 1.0 cm.

Pink (7.5YR 7/4) slip on exterior and interior. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fired to brown (7.5YR 5/4) fabric with some tiny lime and sand inclusions.

255. (No. 665): Base fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 9/255 and pl. 37/255.**

Max. h 2.4 cm., d of rim 12.0 cm., max. w 6.6 cm., max. th 0.8 cm.

Reddish yellow (7.5YR 7/6) slip on exterior. Reddish yellow (5YR 6/6) unslipped surface on the exterior of connection area between base and belly. Reddish yellow (7.5YR 7/6) unslipped surface on interior. The area between base and belly is also burnished. Hard, thin paste, sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with rare lime, infrequent sand inclusions.

Handle Fragment of Closed Form (pl. 9, nos. 256)

Exterior is burnished.

256. (No. 709): Handle fragment; Kimistene, *Acropolis*, temple slope, eastern slope, surface find, found in 2005. **pl. 9/256 and pl. 37/256.** Max. h 3.5 cm., max. w 4.5 cm., max. th 1.6 cm.

Very pale brown (10YR 7/4) slip on exterior; very pale brown (10YR 7/3) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with frequent tiny lime inclusions.

Body Fragments of Closed Forms (pl. 37, nos. 257-261)

All of them have a light slip.

257. (No. 1236): Body fragment; Kepez, found in 2005. **pl. 37/257.**

Max. h 2.0 cm., max. w 3.3 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) slip on exterior; red (2.5YR 5/6) unslipped surface on interior. Hard, thin paste, non-porous, fired to red (2.5YR 5/8) and light brown (7.5YR 6/3) fabric with frequent tiny lime and occasional sand inclusions.

258. (No. 1181): Body fragment; Kepez, Cistern, found in 2005. **pl. 37/258.**

Max. h 2.2 cm., max. w 4.5 cm., max. th 0.6 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime and rare small grit inclusions.

259. (No. 1232): Body fragment; Kepez, found in 2005. **pl. 37/259.**

Max. h 1.3 cm., max. w 6.2 cm., max. th 1.1 cm.

Reddish yellow (7.5YR 6/6) slip on exterior. Reddish yellow (5YR 6/6) unslipped surface on interior. Exterior surface is burnished. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with rare micaceous and sand inclusions.

260. (No. 1172): Body fragment; Kepez, Cistern, found in 2005. **pl. 37/260.**

Max. h 5.5 cm., max. w 4.0 cm., max. th 0.6 cm.

Very pale brown (10YR 7/4) slip on exterior and interior neck. The other part has very pale brown (10YR 7/4) unslipped surface on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with some sand inclusions.

261. (No. 1161): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 37/261.**

Max. h 5.0 cm., max. w 5.6 cm., max. th 0.9 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Average hardness; thin paste, non-porous, fine, light yellowish brown (10YR 6/4) fabric with infrequent sand, some tiny lime inclusions.

IX. RED-PAINTED KEPEZ GROUP

(pls. 10-16, nos. 262-395)

There should be numerous workshops of Hellenistic local painted pottery in northern and central Asia Minor, such as the one discovered at Oluz Höyük. Our Kepez group, most of which consists of small sherds is a further one. They have frequently one or two red or brownish bands in the interior and thin bands around the rim. Especially on the shoulders and interior faces this ornamentation has been applied by means of a compass.

The most common form is that of bowls that are partially slipped. Some of them are incurved rim bowls (cf. nos. 279 and 292) with a thickness of 0.4-1.0 cm. Fish plates with downturned rims (nos. 308 and 313) are also attested. No. 274 is an hemispherical form with two grooves on the upper exterior of the rim. Most of the sherds are of bases and rims. The major form is the hemispherical bowl with thin walls and smoothed surface.

Paste is reddish yellow (5YR 6/6-6/8-7/6-7/8, 7.5YR 6/6-7/6), light red (2.5YR 6/8-6/6), light brown (7.5YR 6/3-6/4), red (10R 5/8, 2.5YR 5/6-5/8), pink (5 YR 7/4, 7.5YR 7/3-7/4), yellowish red (5YR 5/6), very pale brown (10YR 7/3-7/4), reddish brown (5YR 4/4-5/4), brown (7.5YR 4/4-5/3-5/4), light reddish brown (5YR 6/4) and light yellowish brown (10YR 6/4). Hard paste with lime, sand, grit, micaceous, grog and quartz

inclusions in small dimensions. In some examples there is no inclusion. The slip is red (10R 4/6-5/6-5/8, 2.5YR 4/6-4/8-5/6-5/8), reddish yellow (5YR 6/6-6/8-7/6, 7.5YR 6/6-7/6), very pale brown (10YR 8/2-8.5/2-8/3-8/4-7/3-7/4), pink (5YR 7/4-8/3, 7.5YR 7/4-8/3), light red (2.5YR 6/6-6/8), reddish brown (2.5YR 4/4-5/4, 5YR 4/3-5/4), weak red (10R 4/4-5/4), brown (7.5YR 4/2-4/3-5/4, 10YR 5/3), light brown (7.5YR 6/4), yellowish red (5YR 5/6), light grey (10YR 7/2) and yellow (10YR 7/6). Due to the changing fire conditions or brush use the slip colors change to be mottled. It is non-porous.

The elaborate method of decoration was primarily slip, applied in bands. These decorative bands with 0.7-2.0 cm were applied in red (10R 5/8-5/6, 2.5YR 4/6-5/6-5/8), pinkish white (7.5YR 8/2, 5YR 8/2), weak red (7.5R 4/4, 10R 5/4-4/2, 2.5YR 4/2), light red (2.5YR 6/6-6/8), reddish brown (2.5YR 5/4-4/3, 5YR 5/4-4/4-4/3), reddish yellow (5YR 6/6, 7.5YR 7/6-7/8-6/6), dusky red (2.5YR 3/2), very dark grey (7.5YR 3/1), very pale brown (10YR 8/2), black (5YR 2.5/1, 7.5YR 2.5/1), light brown (7.5YR 6/4), yellowish red (5YR 5/6), dark greyish brown (10YR 4/2), light reddish brown (5YR 6/4), dark reddish grey (2.5YR 3/1) and white (5YR 8/1). Three different painting methods have been applied.

134 sherds were collected in total. 112 fragments are open forms and 22 closed forms.

90 of them were found at Kepez and 30 of them were from the southern slope of the *Acropolis* at Kimistene. In any case this is a local group, assigned to southwestern Paphlagonia.

2nd-1st centuries B.C.

OPEN FORMS (pl. 10-15, nos. 262-373) /
Bowl Form 1 (pls.10-11, nos. 262-284)

This bowl type is an incurved rim bowl which is a small open vessel with a deep interior with the maximum diameter near the upper quar-

ter of the wall and a ring or false ring foot. Most of them were decorated with red and red-brown bands. Their rim parts were painted with brush in red. These thin bands continue also in the vessels itself. Some of them do not have any slip on their bottom part. Their surfaces are dull. Their dimensions differ between 12.0 and 27.2 cm. In some samples there are two grooves on the upper exterior just below the rim.

262. (No. 586): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 10/262 and pl. 38/262.**

Max. h 1.2 cm., w 1.8 cm., max. th 0.3 cm.

Red (10R 5/8) on exterior and interior rims; their below parts have light red (2.5YR 6/6) unslipped surface. Hard, non-porous, thin paste, fine, red (2.5YR 5/6) fabric with some micaceous inclusions.

263. (No. 1105): Rim fragment; Kepez, found in 2005. **pl. 10/263 and pl. 38/263.**

Max. h 1.7 cm., max. w 1.7 cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; very sparsely porous, thin paste, non-porous, fine, reddish yellow (5YR 7/8) fabric with rare micaceous and lime inclusions.

264. (No. 1062): Rim fragment; Kepez, found in 2005. **pl. 10/264 and pl. 38/264.**

Max. h 1.9 cm., max. w 1.7 cm., max. th 0.5 cm.

Weak red (10R 5/4) on exterior rim; its below part has pink (7.5YR 7/4) unslipped surface on exterior. Reddish yellow (7.5YR 7/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

265. (No. 1086): Rim fragment; Kepez, found

in 2005. **pl. 10/265 and pl. 38/265.**

Max. h 2.1 cm., max. w 2.3 cm., max. th 0.6 cm.

Light red (2.5YR 6/6) on exterior rim; its below part has pink (7.5YR 7/4) unslipped surface. Red (2.5YR 5/6) on interior. Average hardness; non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some sand, lime and micaceous inclusions.

266. (No. 885): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 10/266 and pl. 38/266.**

Max. h 2.4 cm., max. w 2.0 cm., max. th 0.5 cm.

Yellowish red (5YR 5/6) on exterior rim; its below part has very pale brown (10YR 7/4) on unslipped surface. Light red (2.5YR 6/6) on interior rim; its below part has pink (7.5YR 7/3) on unslipped surface. Hard, non-porous, thin paste, fired to light brown (7.5YR 6/3) and grey (10YR 5/1) fabric with some tiny lime inclusions.

267. (No. 953): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 10/267 and pl. 38/267.**

Max. h 2.9 cm., max. w 2.6 cm., max. th 0.6 cm.

Reddish brown (2.5YR 5/4) on exterior rim and interior rim. Their below parts have pink (7.5YR 7/4) unslipped surface. Two shallow groove enclose all of exterior rim. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with rare lime inclusions.

268. (No. 1190): Rim fragment; Kepez, Cistern, found in 2005. **pl. 10/268 and pl. 38/268.**

Max. h 2.3 cm., max. w 2.7 cm., max. th 0.7 cm.

Reddish brown (2.5YR 4/3) on exterior rim; its below part has reddish yellow (5YR 7/6)

unslipped on exterior. Light brown (7.5YR 6/4) slip on interior. It is burnished on interior surface. Hard, thin paste, sparsely porous, fine, yellowish red (5YR 5/6) fabric with some lime inclusions.

269. (No. 802): Rim fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 10/269 and pl. 38/269.**

Max. h 2.4 cm., max. w 3.1 cm., max. th 0.6 cm.

Light red (2.5YR 6/6) on exterior rim and interior. Lower exterior has pink (7.5YR 7/4) unslipped surface. This part is burnished. Hard, non-porous, thin paste, fine, reddish brown (5YR 5/4) fabric with occasional tiny lime and sand inclusions.

270. (No. 1093): Rim fragment; Kepez, found in 2005. **pl. 10/270 and pl. 38/270.**

Max. h 2.2 cm., max. w 3.1 cm., max. th 0.5 cm.

Reddish yellow (5YR 6/6) on exterior and interior rim. Very pale brown (10YR 7/4) slip on lower interior. Reddish brown (5YR 4/3) band on middle of the interior. Hard, thin paste, non-porous, fine, brown (7.5YR 5/4) fabric with infrequent sand inclusions.

271. (No. 645): Rim fragment; Kimistene, *Acropolis*, western slope, found in 2005. **pl. 10/271 and pl. 38/271.**

Max. h 3.5 cm., max. w 4.1 cm., max. th 0.9 cm.

Red (2.5YR 5/8) on exterior rim and interior rim. Their below parts have reddish yellow (5YR 6/6) unslipped surface. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fine, light red (2.5YR 6/8) fabric with frequent tiny lime inclusions.

272. (No. 966): Rim fragment; Kimistene, the surface find of the Cistern, eastern slope,

found in 2005. **pl. 10/272 and pl. 38/272.**

Max. h 4.2 cm., max. w 4.6 cm., max. th 0.6 cm.

Red (2.5YR 5/6) band on exterior rim and interior rim; their below parts have reddish yellow (7.5YR 7/6) slip all of surface. Interior surface is burnished. Average hardness; sparsely porous, thin paste, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

273. (No. 999): Rim fragment; Kepez, found in 2005. **pl. 38/273.**

Max. h 4.6 cm., max. w 4.5 cm., max. th 1.0 cm.

Red (2.5YR 5/6) band on exterior rim and interior rim. Their below parts have reddish yellow (5YR 6/6) unslipped surface. Average hardness; very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some small lime and small grit inclusions.

274. (No. 1071): Rim fragment; Kepez, found in 2005. **pl. 10/274 and pl. 38/274.**

Max. h 4.1 cm., d of rim 12.0 cm., max. w 5.2 cm., max. th 0.6 cm.

Two shallow grooves enclose all of the exterior rim; reddish brown (2.5YR 5/4) slip on exterior rim. Its lower part has a very pale brown (10YR 7/4) unslipped interior and exterior surface. Hard, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with infrequent sand inclusions and with traces of mica.

275. (No. 852): Rim fragment; Kimistene, found in 2005. **pl. 10/275 and pl. 38/275.**

Max. h 2.1 cm., d of rim 12.8 cm., max. w 2.4 cm., max. th 0.5 cm.

Red (2.5YR 5/6) abrasion slip on exterior and interior. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

276. (No. 1227): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 10/276 and pl. 38/276.**

Max. h 4.0 cm., d of rim 13.2 cm., max. w 4.1 cm., max. th 0.6 cm.

Red (2.5YR 5/6) on exterior rim and interior rim. Their below parts have reddish yellow (7.5YR 7/6) thin slip, hard, non-porous, thin paste, fine, reddish yellow (7.5YR 6/6) fabric with occasional sand and micaceous, some tiny lime inclusions.

277. (No. 1204): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 10/277 and pl. 38/277.**

Max. h 3.4 cm., d of rim 27.2 cm., max. w 5.7 cm., max. th 0.8 cm.

Reddish brown (5YR 5/4) on exterior rim; its below part has light brown (7.5YR 6/4) unslipped surface on exterior and interior rim, light brown (7.5YR 6/4) slip on lower interior. This part is burnished. Hard, thin paste, non-porous, fine, brown (7.5YR 5/4) fabric with frequent tiny lime, infrequent medium grit inclusions.

278. (No. 1217): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 10/278 and pl. 38/278.**

Max. h 4.0 cm., d of rim 14.0 cm., max. w 4.1 cm., max. th 0.7 cm.

Red (2.5YR 5/6) on exterior rim and interior. Its below part has very pale brown (10YR 7/3) slip on exterior. This part is burnished. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with some tiny lime inclusions.

279. (No. 1095): Rim fragment of an incurved rim bowl; Kepez, found in 2005. **pl. 11/279 and pl. 38/279.**

Max. h 2.0 cm., d of rim 14.2 cm., max. w 6.9 cm., max. th 0.5 cm.

Reddish yellow (7.5YR 7/6) and brown (7.5YR 4/2) mottled slip on exterior; brown (10YR 5/3) and yellow (10YR 7/6) mottled slip on interior. Hard, thin paste, non-porous, fine, light yellowish brown (10YR 6/4) fabric with occasional sand and lime inclusions. Parallels: Rotroff 1997, 341, fig. 63, no. 1002; and Stewart 2010, 281, fig. 102d and fig. 220, n. 259 (P 2841; from Gordion).

280. (No. 1412): Rim fragment; Kepez, surface find, found in 2005. **pl. 11/280 and pl. 38/280.**

Max. h 3.0 cm., d of rim 15.2 cm., max. w 2.8 cm., max. th 1.1 cm.

Red (2.5YR 5/6) on exterior rim; its below part has pink (7.5YR 7/4) unslipped surface. Same color as the interior. Hard, porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some sand, frequent lime inclusions.

281. (No. 838): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 11/281 and pl. 38/281.**

Max. h 2.5 cm., d of rim 16.4 cm., max. w 4.3 cm., max. th 0.7 cm.

Light red (2.5YR 6/8) slip on exterior; red (2.5YR 5/8) slip on interior. All of surface is burnished. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/8) fabric with some tiny lime inclusions.

282. (No. 1069): Rim fragment; Kepez, found in 2005. **pl. 11/282 and pl. 38/282.**

Max. h 3.8 cm., d of rim 16.6 cm., max. w 6.8 cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on the exterior and interior rim. Their lower parts have yellow (10YR 7/6) unslipped surface on exterior and interior. The exterior surface is burnished, hard, sparsely porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

283. (No. 1106): Rim fragment; Kepez, found in 2005. **pl. 11/283 and pl. 38/283.**

Max. h 2.2 cm., d of rim 17.0 cm., max. w 3.9 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/8) slip on exterior and interior rim. Reddish yellow (5YR 7/6) unslipped surface on interior. Exterior surface and interior rim are burnished. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with infrequent sand inclusions.

284. (No. 1369): Rim fragment; Kepez, *Necropolis*, found in 2005. **pl. 11/284 and pl. 38/284.**

Max. h 2.8 cm., d of rim 17.2 cm., max. w 6.0 cm., max. th 0.8 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior; pale brown (10YR 6/3) unslipped surface on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with some medium grit and rare tiny lime inclusions.

Bowl Form 2 (pls. 11-12, nos. 286-300)

This is an outturned rim bowl shape with perhaps a hemispherical body and thin or medium walls. At Gordion four similar drinking vessels have been classified as hemispherical bowls where it has been interpreted as “a local variant” (Stewart 2010, 206, fig. 236, 371–374).

285. (No. 1061): Rim fragment; Kepez, found in 2005. **pl. 38/285.**

Max. h 1.7 cm., max. w 1.4 cm., max. th 0.4 cm.

Red (10R 5/8) thin slip on exterior and interior. Soft, thin paste, non-porous, fine, red (10R 5/8) fabric with rare quartz inclusions.

286. (No. 1195): Rim fragment; Kepez, Cistern, found in 2005. **pl. 11/286 and pl. 38/286.**

Max. h 1.8 cm., max. w 1.6 cm., max. th 0.5 cm.

Red (2.5YR 5/8) slip on exterior and interior. Soft, thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with rare sand inclusions.

287. (No. 581): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 38/287.**

Max. h 1.4 cm., max. w 2.4 cm., max. th 0.6 cm.

Red (2.5YR 5/8) shiny slip on exterior; light red (2.5YR 6/8) slip on interior. Hard, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with frequent tiny lime and rare sand inclusions.

288. (No. 582): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 38/288.**

Max. h 2.0 cm., max. w 2.2 cm., max. th 0.4 cm.

Weak red (10R 5/4) slip on exterior and interior. Hard, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with no visible inclusions.

289. (No. 685): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 38/289.**

Max. h 2.0 cm., d of base 7.8 cm., max. w 2.3 cm., max. th 0.5 cm.

Red (10R 4/6) slip on exterior and interior. Soft, thin paste, non-porous, fine, reddish brown (5YR 4/4) fabric with frequent micaeous and some lime inclusions.

290. (No. 1099): Rim fragment; Kepez, found in 2005. **pl. 11/290 and pl. 38/290.**

Max. h 2.3 cm., max. w 2.0 cm., max. th 0.8 cm.

Red (10R 5/8) on exterior and interior rim. Its below part has reddish yellow (5YR 7/6) unslipped surface on interior. Average hardness; very sparsely porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with rare lime inclusions.

291. (No. 1087): Rim fragment; Kepez, found in 2005. **pl. 11/291 and pl. 38/291.**

Max. h 2.5 cm., max. w 2.1 cm., max. th 0.4 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with infrequent sand inclusions.

292. (No. 1020): Rim fragment; Kepez, found in 2005. **pl. 11/292 and pl. 38/292.**

Max. h 3.2 cm., max. w 2.8 cm., max. th 0.6 cm.

Red (10R 5/6) slip on exterior and interior. Hard, thin paste, non-porous, fired to light reddish brown (10YR 6/3) and reddish yellow (5YR 6/6) fabric with some tiny lime and occasional sand inclusions.

293. (No. 1188): Rim fragment; Kepez, Cistern, found in 2005. **pl. 11/293 and pl. 38/293.**

Max. h 3.8 cm., max. w 2.8 cm., max. th 0.5 cm.

Red (2.5YR 5/8) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, red (2.5YR 5/6) fabric with some sand inclusions.

294. (No. 1128): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 11/294 and pl. 38/294.**

Max. h 3.1 cm., max. w 3.2 cm., max. th 0.4 cm.

Red (10R 5/8) on exterior rim and interior rim. Their below parts have reddish yellow

(7.5YR 7/6) unslipped surface, Average hardness; non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

295. (No. 1015): Rim fragment; Kepez, found in 2005. **pl. 11/295 and pl. 39/295.**

Max. h 5.5 cm., d of rim 13.0 cm., max. w 4.9 cm., max. th 0.5 cm.

Brown (7.5YR 4/3) and reddish yellow (5YR 6/6) mottled slip on exterior; reddish yellow (5YR 6/6) band on interior rim. Its below part has pink (7.5YR 7/4) slip on interior. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with infrequent sand and rare lime inclusions.

296. (No. 1111): Rim fragment; Kepez, Cistern, found in 2005. **pl. 12/296 and pl. 39/296.**

Max. h 1.7 cm., d of rim 13.4 cm., max. w 2.9cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with rare tiny lime inclusions.

297. (No. 1206): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 12/297 and pl. 39/297.**

Max. h 2.3 cm., d of rim 14.0 cm., max. w 5.4 cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on exterior; reddish yellow (5YR 6/6) slip on interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with frequent tiny lime inclusions.

298. (No. 796): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 12/298 and pl. 39/298.**

Max. h 3.8 cm., d of rim 14.8 cm., max. w 3.6 cm., max. th 0.5 cm.

Red (2.5YR 5/6) on exterior rim and interior rim. Their below parts have reddish yellow (7.5YR 7/6) unslipped surface, hard, very sparsely porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with frequent lime inclusions.

299. (No. 1159): Rim fragment; Kepez, Cistern, found in 2005. **pl. 12/299 and pl. 39/299.**

Max. h 7.3 cm., d of rim 15.2 cm., max. w 5.4 cm., max. th 0.6 cm.

Reddish yellow (7.5YR 7/6) and red (2.5YR 5/8) mottled slip on the exterior. Red (2.5YR 5/6) slip on the interior. Hard, very sparsely porous, thin paste, fine, reddish yellow (7.5YR 6/6) fabric with infrequent small grit and lime inclusion.

300. (No. 1112): Rim fragment; Kepez, Cistern, found in 2005. **pl. 12/300 and pl. 39/300.**

Max. h 2.4 cm., d of rim 16.0 cm., max. w 3.5 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) abrasion thin slip on exterior and interior. Very pale brown (10YR 8/2) band on interior slip. Hard, thin paste, non-porous, fine light brown (7.5YR 6/4) fabric with rare tiny lime inclusions.

Dish Form 1 (pl. 12, nos. 301-303)

Rounded rim of a deep dish form. The interior of no. 302 is painted.

301. (No. 1000): Rim fragment; Kepez, found in 2005. **pl. 12/301 and pl. 39/301.**

Max. h 5.4 cm., max. w 4.8 cm., max. th 0.4 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (7.5YR 7/6) slip on interior. Three parallel horizontal bands are very dark grey (7.5YR 3/1). There is a red (2.5YR 5/6) horizontal band between two bands on exterior. Hard, thin paste, very sparsely porous,

fired to reddish yellow (7.5YR 7/6) and reddish yellow (5YR 6/8) fabric with rare micaceous and sand inclusions.

302. (No. 936): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 12/302 and pl. 39/302.**

Max. h 1.7 cm., d of rim 19.2 cm., max. w 3.5 cm., max. th 0.7 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior; reddish yellow (5YR 6/6) abrasion slip on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some micaceous and tiny lime inclusions.

303. (No. 1092): Rim fragment; Kepez, found in 2005. **pl. 12/303 and pl. 39/303.**

Max. h 2.2 cm., d of rim 21.0 cm., max. w 7.9 cm., max. th 0.5 cm.

Entire surface slightly slipped. Red (2.5YR 5/6) abrasion slip on the exterior; red (2.5YR 5/6) slip on the interior. Hard, very sparsely porous, thin paste; fine, reddish yellow (5YR 6/8) fabric with rare tiny lime inclusion.

Dish Form 2 (pl. 13, nos. 304-305)

Rounded rim dishes with a straight edge and shallow surface. Their exterior is slipped with light colours.

304. (No. 1100): Rim fragment; Kepez, found in 2005. **pl. 13/304 and pl. 39/304.**

Max. h 2.3 cm., max. w 3.1 cm., max. th 0.5 cm.

Pink (7.5YR 7/4) slip on exterior and interior; red (2.5YR 5/6) on interior slip. Average hardness; non-porous, thin paste, fine, pink (7.5YR 7/4) fabric with infrequent lime inclusions.

305. (No. 1107): Rim fragment; Kepez, Cistern, found in 2005. **pl. 13/305 and pl. 39/305.** Max. h 3.0 cm., max. w 3.3 cm., max. th 0.6 cm.

Light brown (7.5YR 6/4) slip on exterior and lower interior; red (2.5YR 5/6) on interior rim. Exterior surface is burnished. Hard, non-porous, thin paste, fine, pink (7.5YR 7/4) fabric with rare lime inclusions.

Plate (pl. 13, nos. 306-309)

Plates with an outcurved rim and shallow body. Similar to the shape of a fish plate, which was a fairly popular shape in the eastern Mediterranean during the Hellenistic period (Stewart 2010, 179).

306. (No. 1476): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 13/306 and pl. 39/306.**

Max. h 0.9 cm., max. w 3.5 cm., max. th 0.5 cm.

Pink (5YR 7/4) slip all of surface; reddish brown (2.5YR 5/4) on interior rim. Hard, thin paste, very sparsely porous, fired to red (2.5YR 5/6) and light brown (7.5YR 6/4) fabric with rare lime inclusions.

307. (No. 1336): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 13/307 and pl. 39/307.**

Max. h 1.7 cm., d of rim 18.0 cm., max. w 4.4 cm., max. th 0.5 cm.

Red (2.5YR 6/8) slip on exterior; red (2.5YR 5/8) shiny slip on interior. Hard, thin paste, non-porous, fine, red (2.5YR 6/8) fabric with no visible inclusions.

308. (No. 1088): Rim fragment; Kepez, found in 2005. **pl. 13/308 and pl. 39/308.**

Max. h 1.3 cm., d of rim 18.0 cm., max. w 7.0

cm., max. th 0.5 cm.

Very pale brown (10YR 7/3) thin slip on exterior; red (2.5YR 5/6) slip on interior. Pinkish white (7.5YR 8/2) band on interior. Average hardness; very sparsely porous, thin paste, fine, light reddish brown (5YR 6/4) fabric with some sand and lime. A little micaceous inclusion.

Parallel: Stewart 2010, 203, fig. 232, 356 (P 4186; Middle Hellenistic).

309. (No. 1081): Rim fragment; Kepez, found in 2005. **pl. 13/309 and pl. 39/309.**

Max. h 0.9 cm., d of rim 23.0 cm., max. w 3.4 cm., max. th 0.6 cm.

Red (2.5YR 5/8) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with rare lime inclusions.

Base Fragments of Open Forms (pls. 13-14, nos. 310-314)

Their forms cannot be assigned; most of them should, however, be bowls. The most important characteristic of this form is a band decoration. Their measurements are similar to each other.

310. (No. 1009): Base fragment; Kepez, found in 2005. **pl. 13/310 and pl. 39/310.**

Max. h 2.1 cm., d of base 7.2 cm., max. w 4.3 cm., max. th 1.1 cm.

Pink (5YR 7/4) slip on exterior; surface thinly slipped; red (2.5YR 5/6) slip on interior. Average hardness; non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some small sand, frequent lime inclusions.

311. (No. 1157): Base fragment; Kepez, Cistern, found in 2005. **pl. 13/311 and pl. 39/311.**

Max. h 2.8 cm., d of base 6.0 cm., max. w 7.0 cm., max. th 0.9 cm.

Reddish yellow (7.5YR 7/6) slip on the exte-

rior; very pale brown (10YR 7/4) unslipped surface on the interior. There is a reddish yellow (7.5YR 7/6) concentric band on the interior surface. Hard, sparsely porous, fine, light red (2.5YR 6/6) fabric with frequent lime inclusions.

312. (No. 1016): Base fragment; Kepez, found in 2005. **pl. 13/312 and pl. 39/312.**

Max. h 2.2 cm., d of base 10.8 cm., max. w 6.4 cm., max. th 0.9 cm.

Pink (7.5YR 8/4) unslipped surface on exterior; red (10R 5/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 7/8) fabric with rare sand inclusions.

313. (No. 1198): Base fragment; Kepez, Cistern, found in 2005. **pl. 14/313 and pl. 39/313.**

Max. h 2.8 cm., max. w 9.0 cm., max. th 1.2 cm.

Very pale brown (10YR 7/3) slip on the exterior; very pale brown (10YR 7/3) slip on the centre of the bottom. Very pale brown (10YR 8/2) on the interior surface. A red (2.5YR 5/8) and dusky red (2.5YR 3/2) mottled-painted concentric band on the interior surface. Stripe caused by careless execution. Hard, very sparsely porous, thin paste, fine, pink (5YR 7/4) fabric with frequent micaceous and grit inclusions.

314. (No. 829): Base fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 14/314 and pl. 40/314.**

Max. h 6.0 cm., d of base 9.8 cm., max. w 9.5 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) slip on the exterior; surface thinly slipped, light red (2.5YR 6/8) slip on the interior. Weak red (7.5R 4/4) on the centre of the bottom; two concentric bands in dark reddish grey (2.5YR 3/1) and very dark grey (7.5YR 3/1) paint on the interior. Hard, non-porous, thin paste, fine, light

red (2.5YR 6/8) fabric with occasional tiny lime and a little micaceous inclusion.

Body Fragments of Open Forms (pls. 14-15, nos. 328-373)

315. (No. 1064): Body fragment; Kepez, found in 2005. **pl. 40/315.**

Max. h 1.4 cm., max. w 1.6 cm., max. th 0.4 cm.

Red (10R 5/8) slip on exterior and interior. Hard, thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with frequent tiny sand and rare micaceous inclusions.

317. (No. 1063): Body fragment; Kepez, found in 2005. **pl. 40/316.**

Max. h 1.5 cm., max. w 2.0 cm., max. th 0.5 cm.

Red (10R 5/8) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with no visible inclusions.

316. (No. 1189): Body fragment; Kepez, Cistern, found in 2005. **pl. 40/317.**

Max. h 2.2 cm., max. w 1.4 cm., max. th 0.4 cm.

Very pale brown (10YR 8.5/2) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. A band in reddish brown (2.5YR 4/3) on exterior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with some micaceous inclusions.

318. (No. 1243): Body fragment; Kepez, found in 2005. **pl. 40/318.**

Max. h 1.4 cm., max. w 2.2 cm., max. th 0.3 cm.

Very pale brown (10YR 8/2) slip on lower exterior. A band in reddish brown (2.5YR 5/4) paint on upper exterior and interior. Hard, thin

paste, non-porous, fine, pink (5YR 7/4) fabric with no visible inclusions.

319. (No. 1192): Body fragment; Kepez, Cistern, found in 2005. **pl. 40/319.**

Max. h 2.1 m., max. w 1.9 cm., max. th 0.6 cm.

Red (10R 5/8) slip on exterior and interior. Average hardness; thin paste, non-porous, fired to reddish yellow (5YR 7/8-7.5YR 6/6) fabric with some lime and sand inclusions.

320. (No. 1050): Body fragment; Kepez, found in 2005. **pl. 40/320.**

Max. h 1.8 cm., max. w 2.2 cm., max. th 0.3 cm.

Reddish brown (5YR 5/4) and reddish yellow (5YR 6/6) mottled slip on exterior. Reddish yellow (5YR 6/6) slip on interior. Two bands in pinkish white (7.5YR 8/2) paint on exterior slip. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with frequent tiny lime inclusions.

321. (No. 1241): Body fragment; Kepez, found in 2005. **pl. 40/321.**

Max. h 2.1 cm., max. w 1.9 cm., max. th 0.5 cm.

Red (2.5YR 5/8) shiny slip on exterior and interior. Hard, thin paste, sparsely porous, fine, light red (2.5YR 6/6) fabric with rare micaceous inclusions

322. (No. 1035): Body fragment; Kepez, found in 2005. **pl. 40/322.**

Max. h 2.1 cm., max. w 2.3 cm., max. th 0.8 cm.

Red (10R 5/8) slip on exterior; light red (2.5YR 6/8) slip on interior. Average hardness; very sparsely porous, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

323. (No. 1025): Body fragment; Kepez, found in 2005. **pl. 40/323.**

Max. h 2.4 cm., max. w 2.1 cm., max. th 0.5 cm.

Red (2.5YR 5/8) slip on exterior and interior. Average hardness; thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with infrequent sand inclusions.

324. (No. 1022): Body fragment; Kepez, found in 2005. **pl. 40/324.**

Max. h 2.0 cm., max. w 3.1 cm., max. th 0.6 cm.

Red (2.5YR 5/6) slip on exterior and interior. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/3) fabric with no visible inclusions.

325. (No. 1148): Body fragment; Kimistene, *Acropolis*, temple slope, first slope on the north, found in 2005. **pl. 40/325.**

Max. h 2.1 cm., max. w 2.6 cm., max. th 0.6 cm.

Red (2.5YR 5/6) slip on exterior and interior. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with no visible inclusions.

326. (No. 1021): Body fragment; Kepez, found in 2005. **pl. 40/326.**

Max. h 2.4 cm., max. w 2.5 cm., max. th 0.6 cm.

Red (2.5YR 5/8) slip on exterior and interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/6) and light red (2.5YR 6/8) mottled fabric with occasional sand inclusions.

327. (No. 1184): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 40/327.**

Max. h 3.0 cm., max. w 2.0 cm., max. th 0.5 cm.

Weak red (10R 5/4) abrasion slip on exterior. Pink (7.5YR 7/4) slip on interior. Interior surface is burnished. Hard, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with no visible inclusions.

328. (No. 1053): Body fragment; Kepez, found in 2005. **pl. 14/328 and pl. 40/328.**

Max. h 2.7 cm., max. w 2.4 cm., max. th 0.5 cm.

Reddish yellow (7.5YR 7/6) slip on exterior and interior. Three bands in red (2.5YR 5/6) on upper exterior and upper interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with rare sand inclusions.

329. (No. 1029): Body fragment; Kepez, found in 2005. **pl. 40/329.**

Max. h 2.4 cm., max. w 2.7 cm., max. th 0.4 cm.

Shiny red (2.5YR 5/6) and reddish brown (2.5YR 4/4) mottled slip on exterior; red (2.5YR 4/8) slip on interior; its below part has reddish brown (5YR 4/3) slip on interior. Hard, thin paste, non-porous, fired to red (2.5YR 5/6) and light red (2.5YR 6/6) mottled fabric with rare lime inclusions.

330. (No. 1040): Body fragment; Kepez, found in 2005. **pl. 14/330 and pl. 40/330.**

Max. h 2.5 cm., max. w 2.9 cm., max. th 0.5 cm.

Light red (2.5YR 6/8) on upper exterior; its below part has reddish yellow (5YR 7/6) slipped. Exterior surface is burnished. Light red (2.5YR 6/6) on upper interior; pinkish white (7.5YR 8/2) band on interior slip. Its below part has very pale brown (10YR 7/4) unslipped surface on interior. Hard, very sparsely porous, thin paste, fine, reddish yellow (5YR 6/8) fabric with frequent tiny lime inclusions.

331. (No. 1056): Body fragment; Kepez, found in 2005. **pl. 40/331.**

Max. h 2.8 cm., max. w 2.8 cm., max. th 0.9 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior; red (2.5YR 5/6) slip on interior. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with occasional lime inclusions.

332. (No. 1032): Body fragment; Kepez, found in 2005. **pl. 40/332.**

Max. h 3.2 cm., max. w 2.4 cm., max. th 0.5 cm.

Very pale brown (10YR 8/4) slip on exterior; red (2.5YR 5/8) slip on interior. A band in red (2.5YR 5/6) on exterior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with no visible inclusions.

333. (No. 1238): Body fragment; Kepez, found in 2005. **pl. 40/333.**

Max. h 3.4 cm., max. w 2.7 cm., max. th 0.6 cm.

Red (2.5YR 5/6) and yellow (10YR 7/6) mottled slip on exterior; reddish yellow (5YR 6/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with rare micaceous, quartz and sand inclusions.

334. (No. 1176): Body fragment; Kepez, Cistern, found in 2005. **pl. 40/334.**

Max. h 2.8 cm., max. w 2.8 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on exterior; pink (5YR 7/4) unslipped surface on interior. A band in red (2.5YR 5/8) on interior. Hard, thin paste, non-porous, fine, light red (2.5YR 6/6) fabric with some sand and lime inclusions.

335. (No. 518): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005.

pl. 40/335.

Max. h 3.2 cm., max. w 2.2 cm., max. th 0.8 cm.

Reddish brown (2.5YR 5/4) slip on exterior; light red (2.5YR 6/6) slip on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

336. (No. 1045): Body fragment; Kepez, found in 2005. **pl. 40/336.**

Max. h 3.2 cm., max. w 2.3 cm., max. th 0.5 cm.

Very pale brown (10YR 7/4) thin slip on exterior; red (2.5YR 5/6) slip on interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/8) fabric with rare tiny lime inclusions.

337. (No. 1034): Body fragment; Kepez, found in 2005. **pl. 40/337.**

Max. h 2.5 cm., max. w 3.4 cm., max. th 0.5 cm.

Reddish brown (5YR 5/4) unslipped surface on exterior, reddish yellow (7.5YR 6/6) slip on interior. Interior surface is burnished. Hard, thin paste, non-porous, fired to yellowish red (5YR 5/6) fabric with rare small grit and lime inclusions.

338. (No. 611): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 40/338.**

Max. h 2.4 cm., max. w 3.6 cm., max. th 0.6 cm.

Pink (7.5YR 7/4) thin slip on exterior; red (2.5YR 5/6) slip on interior. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with some lime inclusions.

339. (No. 813): Body fragment; Kimistene, summit of the *Acropolis*, western slope, found in 2005. **pl. 40/339.**

Max. h 2.5 cm., max. w 3.6 cm., max. th 0.5 cm.

Reddish brown (5YR 5/4) abrasion slip on exterior; light red (2.5YR 6/8) slip on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

340. (No. 1127): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 40/340.**

Max. h 2.4 cm., max. w 3.6 cm., max. th 0.6 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; red (2.5YR 5/6) slip on interior. Hard, thin paste, non-porous, fine, reddish brown (5YR 5/4) fabric with occasional lime and rare sand inclusions.

341. (No. 1475): Body fragment; Kepez, in a grave assemblage, found in 2005. **pl. 40/341.**

Max. h 2.5 cm., max. w 3.2 cm., max. th 0.7 cm.

Light red (2.5YR 6/6) unslipped surface on exterior and interior. A band in light red (2.5YR 6/8) on interior. Hard, thin paste, very sparsely porous, fired to yellowish red (5YR 5/8) and light brown (7.5YR 6/4) fabric with occasional sand inclusions.

342. (No. 511): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 40/342.**

Max. h 3.2 cm., max. w 2.7 cm., max. th 0.7 cm.

Shiny red (10R 5/6) slip on exterior; matt weak red (10R 5/4) slip on interior. Hard, thin paste, non-porous, fine, reddish brown (5YR 5/4) fabric with frequent tiny lime inclusions.

343. (No. 1234): Body fragment; Kepez, found in 2005. **pl. 40/343.**

Max. h 3.1 cm., max. w 2.7 cm., max. th 0.7 cm.

Grey (7.5YR 5/4) unslipped surface on exterior; light brown (7.5YR 6/4) unslipped surface on interior. A band in reddish brown (2.5YR 5/4) on interior slip. Interior surface is burnished. Average hardness; sparsely porous, thin paste, fired to brown (7.5YR 5/3) fabric with some sand and occasional micaceous inclusions.

344. (No. 764): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 40/344.**

Max. h 3.3 cm., max. w 2.9 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) slip on exterior and interior. All of surface is thinly slipped. Exterior surface is burnished. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with infrequent tiny lime and micaceous inclusions.

345. (No. 513): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 40/345.**

Max. h 3.0 cm., max. w 3.2 cm., max. th 0.5 cm.

Pink (5YR 7/4) unslipped surface on exterior, red (10R 5/6) slip on interior, hard, sparsely porous, thin paste, fine, light red (2.5YR 6/6) fabric with some sand inclusions.

346. (No. 1187): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 40/346.**

Max. h 3.2 cm., max. w 3.0 cm., max. th 0.6 cm.

Red (2.5YR 5/6) slip on exterior, light red (2.5YR 6/6) slip on interior. Decoration: Two thin bands in reddish yellow (7.5YR 7/8) paint on slip, hard, very sparsely porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with rare sand inclusions.

347. (No. 1182): Body fragment; Kepez, surface find in the Cistern, found in 2005. It has been restored with no. 306. **pl. 41/347.**

Max. h 3.9 cm., max. w 2.7 cm., max. th 0.6 cm. Reddish yellow (5YR 6/6) slip on exterior, light grey (10YR 7/2) slip on interior. Interior surface is burnished. Decoration: Pinkish white (7.5YR 8/2) band on exterior slip. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with some sand and rare small grit inclusions.

348. (No. 1018): Body fragment; Kepez, found in 2005. **pl. 41/348.**

Max. h 3.7 cm., max. w 3.2 cm., max. th 0.5 cm.

Very pale brown (10YR 8/2) slip on exterior, in red (2.5YR 4/6) paint on exterior slip, red (10R 4/6) slip on interior, Average hardness; thin paste, very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with some lime and sand inclusions.

349. (No. 490): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 41/349.**

Max. h 2.4 cm., max. w 3.6 cm., max. th 0.6 cm.

Light grey (10YR 7/2) abrasion slip on exterior; red (2.5YR 4/6) slip on interior. Exterior surface is burnished. Average hardness; thin paste, very sparsely porous, fine, light brown (7.5YR 6/3) fabric with no visible inclusions.

350. (No. 1031): Body fragment; Kepez, found in 2005. **pl. 41/350.**

Max. h 2.2 cm., max. w 4.8 cm., max. th 0.5 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; weak red (10R 4/4) slip on exterior, hard. Thin paste, non-porous, fine, reddish yellow (5YR 6/8) fabric with no visible inclusions.

351. (No. 1467): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 41/351.**

Max. h 3.0 cm., max. w 4.1 cm., max. th 0.6 cm.

Pink (7.5YR 8/3) abrasion slip on exterior; red (2.5YR 5/6) slip on interior. Hard, sparsely porous, thin paste, fine, light red (2.5YR 6/6) fabric with rare micaceous inclusions.

352. (No. 504): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 41/352.**

Max. h 2.9 cm., max. w 3.9 cm., max. th 1.0 cm.

Red (2.5YR 4/6) slip on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/6) fabric with rare tiny lime inclusions.

353. (No. 1014): Body fragment; Kepez, found in 2005. **pl. 41/353.**

Max. h 1.9 cm., max. w 3.9 cm., max. th 0.7 cm.

Red (2.5YR 5/6) and reddish yellow (7.5YR 7/6) mottled slip on exterior; red (2.5YR 5/6) slip on interior. Hard, thin paste, non-porous, fine, light reddish brown (5YR 6/4) fabric with frequent tiny lime inclusions.

354. (No. 1179): Body fragment; Kepez, Cistern, found in 2005. **pl. 14/354 and pl. 41/354.**

Max. h 1.8 cm., max. w 4.3 cm., max. th 0.6 cm.

Very pale brown (10YR 8/4) slip on exterior; very pale brown (10YR 7/4) slip on interior. A band in dusky red (2.5YR 3/2) on lower exterior. Exterior surface is burnished. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime and occasional sand inclusions.

355. (No. 1005): Body fragment; Kepez, found in 2005. **pl. 14/355 and pl. 41/355.**

Max. h 1.4 cm., max. w 4.1 cm., max. th 1.0 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior and interior. A band in reddish brown (5YR 5/4) on interior. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/3) fabric with infrequent tiny grog and lime inclusions.

356. (No. 1185): Body fragment; Kepez, Cistern, found in 2005. **pl. 41/356.**

Max. h 3.0 cm., max. w 3.6 cm., max. th 0.6 cm.

Pink (7.5YR 7/4) slip on exterior; red (2.5YR 5/6) slip on interior. Hard, very sparsely porous, thin paste, fine, reddish yellow (7.5YR 6/6) fabric with rare micaceous and some sand inclusions.

357. (No. 1324): Body fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 41/357.**

Max. h 3.1 cm., max. w 4.3 cm., max. th 0.9 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior; red (2.5YR 4/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with occasional sand and rare micaceous inclusions.

358. (No. 668): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 14/358 and pl. 41/358.**

Max. h 2.8 cm., max. w 3.9 cm., max. th 1.0 cm.

Very pale brown (10YR 7/3) slip on exterior; reddish yellow (7.5YR 6/6) slip on interior. A band in reddish brown (5YR 5/4) on interior. All of surface is burnished. Hard, thin paste, porous, fine, reddish yellow (5YR 6/6) fabric

with some tiny lime and micaceous inclusions.

359. (No. 1131): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 41/359.**

Max. h 3.7 cm., max. w 4.1 cm., max. th 0.7 cm.

Red (10R 5/6) slip on exterior and interior. Hard, thin paste, non-porous, fine, light red (2.5YR 6/6) fabric with some tiny and rare small lime inclusions.

360. (No. 1175): Body fragment; Kepez, Cistern, found in 2005. **pl. 41/360.**

Max. h 3.8 cm., max. w 3.9 cm., max. th 0.8 cm.

Yellowish red (5YR 5/6) slip on exterior and interior. All of surface is burnished. Average hardness; thin paste, non-porous, fired to yellowish red (5YR 5/6) fabric with frequent tiny lime inclusions.

361. (No. 1010): Body fragment; Kepez, found in 2005. **pl. 15/361 and pl. 41/361.**

Max. h 2.2 cm., max. w 3.4 cm., max. th 0.9 cm.

Very pale brown (10YR 7/3) slip on exterior; light grey (10YR 7/2) slip on interior. A band in light reddish brown (5YR 6/4) on interior; this band is bordered with two thin bands in reddish brown (5YR 5/4). Average hardness; thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with no visible inclusions.

362. (No. 484): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 41/362.**

Max. h 4.5 cm., max. w 3.3 cm., max. th 1.0 cm.

Red (2.5YR 5/6) slip on exterior; reddish

brown (2.5YR 4/4) slip on interior. Hard, non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some tiny lime inclusions.

363. (No. 1169): Body fragment; Kepez, Cistern, found in 2005. **pl. 15/363 and pl. 41/363.** Max. h 2.0 cm., max. w 3.5 cm., max. th 0.6 cm.

Very pale brown (10YR 7/3) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Interior surface separated with a band in light red (2.5YR 6/6). Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with some tiny sand and lime inclusions.

364. (No. 1183): Body fragment; Kepez, Cistern, found in 2005. **pl. 15/364 and pl. 41/364.** Max. h 1.7 cm., max. w 4.5 cm., max. th 0.6 cm.

Light red (2.5YR 7/6) slip on exterior and interior. Surface is thinly slipped. Two bands in red (2.5YR 5/8) on interior. Hard, thin paste, sparsely porous, fine, light red (2.5YR 6/6) fabric with frequent sand and micaceous inclusions.

365. (No. 1368): Body fragment; Kepez, *Necropolis*, found in 2005. **pl. 41/365.** Max. h 5.2 cm., max. w 4.4 cm., max. th 0.5 cm.

Red (10R 5/6) slip on exterior and interior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/8) fabric with no visible inclusions.

366. (No. 1043): Body fragment; Kepez, found in 2005. **pl. 15/366 and pl. 41/366.** Max. h 1.3 cm., max. w 3.2 cm., max. th 0.6 cm.

Yellowish red (5YR 5/6) slip on exterior; light grey (10YR 7/2) slip on interior. Interior surface is burnished. Pinkish white (7.5YR 8/2) band on exterior slip. Hard, thin paste, very

sparsely porous, fine, light brown (7.5YR 6/4) fabric with occasional sand inclusions.

367. (No. 561): Body and base fragment; Kepez, found in 2005. **pl. 15/367 and pl. 41/367.**

Max. h 2.4 cm., max. w 5.1 cm., max. th 1.0 cm.

Very pale brown (10YR 7/4) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. A concentric band in red (2.5YR 5/6) on interior. Average hardness; very sparsely porous, thin paste, fired to reddish yellow (7.5YR 6/6) and yellowish red (5YR 5/6) fabric with rare lime inclusions.

368. (No. 1007): Body fragment; Kepez, found in 2005. **pl. 15/368 and pl. 41/368.**

Max. h 3.0 cm., max. w 6.1 cm., max. th 0.9 cm.

Very pale brown (10YR 7/3) thin slip on exterior and interior. A band in yellowish red (5YR 5/6) on interior. Average hardness; non-porous, thin paste, fine, very pale brown (10YR 7/3) fabric with infrequent micaceous inclusions.

369. (No. 1167): Body fragment; Kepez, Cistern, found in 2005. **pl. 15/369 and pl. 41/369.**

Max. h 2.1 cm., max. w 6.5 cm., max. th 1.1 cm.

Very pale brown (10YR 7/4) slip on exterior; reddish yellow (7.5YR 7/6) slip on interior. Two bands in light red (2.5YR 6/8) on interior. Hard, thin paste, sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some tiny lime, occasional small grit and micaceous inclusions.

370. (No. 998): Body fragment; Kepez, found in 2005. **pl. 15/370 and pl. 42/370.**

Max. h 1.5 cm., max. w 6.8 cm., max. th 1.1 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior and interior. Two bands in dark greyish brown (10YR 4/2) and light brown (7.5YR 6/4) paint on interior. Hard, thin paste, sparsely porous, fine, very pale brown (10YR 7/4) fabric with infrequent small lime and some medium grit inclusions.

371. (No.760): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 42/371.**

Max. h 5.5 cm., max. w 6.6 cm., max. th 0.9 cm.

Very pale brown (10YR 7/4) unslipped surface on exterior. Smoothed surface on exterior; reddish brown (2.5YR 4/4) slip on interior. Hard, thin paste, non-porous, fired to light brown (7.5YR 6/4) and pale brown (10YR 6/3) fabric with occasional lime, sand and rare quartz inclusions.

372. (No. 994): Body and base fragment; Kepez, found in 2005. **pl. 15/372 and pl. 42/372.**

Max. h 2.5 cm., max. w 7.6 cm., max. th 1.1 cm.

Pink (5YR 7/4) unslipped surface on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. A concentric band in red (2.5YR 5/6) on interior. On the exterior some grooves as decoration. Average hardness; non-porous, thin paste, fired to reddish brown (5YR 5/4) fabric with frequent sand and some lime inclusions.

373. (No. 1393): Body fragment; Kimistene, summit of the *Acropolis*, surface find, found in 2005. **pl. 15/373 and pl. 42/373.**

Max. h 3.4 cm., max. w 6.2 cm., max. th 1.0 cm.

Reddish yellow (7.5YR 7/6) slip on exterior and interior. A concentric band in red (2.5YR

5/6) paint on interior. Hard, thin paste, sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime, sand inclusions.

CLOSED FORMS (pl. 16, nos. 374-395)

/ Rim Fragments of Closed Forms (pl. 16, nos. 374-376)

Pitcher or juglets with outcurved rims.

374. (No. 1101): Rim fragment; Kepez, found in 2005. **pl. 16/374 and pl. 42/374.**

Max. h 2.1 cm., max. w 2.5 cm., max. th 0.4 cm.

Red (10R 5/6) slip on exterior; interior surface thinly slipped. Matt reddish yellow (5YR 7/6) slip on interior rim. Hard, non-porous, thin paste, fine, reddish yellow (5YR 7/6) fabric with no visible inclusions.

375. (No. 1002): Rim fragment of a closed form; Kepez, found in 2005. **pl. 16/375 and pl. 42/375.**

Max. h 4.4 cm., max. w 4.3 cm., max. th 0.9 cm.

Very pale brown (10YR 8/4) slip on the exterior. Pink (5YR 7/4) unslipped surface on the interior. Red (10R 5/6) on exterior rim; its lower part has a black (5YR 2.5/1) horizontal band on the exterior. Average hardness; thin paste, very sparsely porous, fired to reddish yellow (7.5YR 6/6) and light red (2.5YR 6/8) fabric with rare small grog and tiny lime; infrequent sand inclusions.

376. (No. 1083): Rim fragment of a closed form; Kepez, found in 2005. **pl. 16/376 and pl. 42/376.**

Max. h 2.4 cm., d of rim 7.8 cm., max. w 3.1cm., max. th 0.6 cm.

Light red (2.5YR 6/6) and red (2.5YR 5/6) mottled slip on exterior; red (2.5YR 5/6)

slip on interior rim. Its lower part has a pink (7.5YR 7/4) unslipped surface. On the neck a weak red (2.5YR 4/2) band. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime inclusion.

Handle Fragment of a Closed Form (pl. 16, no. 377)

Vertical handle.

377. (No. 1239): Handle fragment; Kepez, found in 2005. **pl. 16/377 and pl. 42/377.**

Max. h 1.3 cm., max. w 2.2 cm., max. th 1.3 cm.

Red (10R 4/6) slip on all of surface. Average hardness; non-porous, fine, red (2.5YR 5/6) fabric with frequent tiny lime inclusions.

Body Fragments of Closed Forms (pl. 16, nos. 385-395)

Body fragments of unidentified closed shapes. Their interiors are unslipped; exterior decorated mostly with bands.

378. (No. 1042): Body fragment; Kepez, found in 2005. **pl. 42/378.**

Max. h 3.0 cm., max. w 1.7 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Soft, thin paste, non-porous, fine, red (2.5YR 5/8) fabric with frequent tiny lime inclusions.

379. (No. 1186): Body fragment; Kepez, Cistern, found in 2005. **pl. 42/379.**

Max. h 1.8 cm., max. w 2.6 cm., max. th 0.7 cm. Red (2.5YR 5/8) slip on exterior; light grey (10YR 7/2) unslipped surface on exterior. Average hardness; thin paste, non-porous, fired to pale brown (10YR 6/3) mottled fabric with rare micaceous and sand inclusions.

380. (No. 791): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 42/380.**

Max. h 2.5 cm., max. w 2.6 cm., max. th 0.5 cm.

Very pale brown (10YR 8/3) slip on exterior; yellowish red (5YR 5/6) on exterior slip. Reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/3) fabric with some sand and tiny lime inclusions.

381. (No. 1240): Body fragment; Kepez, found in 2005. **pl. 42/381.**

Max. h 2.4 cm., max. w 3.1 cm., max. th 0.5 cm.

Red (10R 5/8) slip on upper exterior; its below part has reddish yellow (5YR 7/6) unslipped surface. Pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with occasional small lime inclusions.

382. (No. 1174): Body fragment; Kepez, Cistern, found in 2005. **pl. 42/382.**

Max. h 1.6 cm., max. w 3.2 cm., max. th 0.5 cm.

Red (10R 5/8) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. A band in pinkish white (5YR 8/2) on exterior slip. Hard, non-porous, thin paste, reddish yellow (5YR 6/6) fabric with some small grit inclusions.

383. (No. 1411): Body fragment; Kepez, surface find, found in 2005. **pl. 42/383.**

Max. h 1.4 cm., max. w 4.0 cm., max. th 0.6 cm.

Red (10R 5/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Two bands in weak red (10R 4/2) and white (5YR 8/1) on exterior slip. Hard, very sparsely porous, thin

paste, fired to reddish yellow (5YR 6/6) and light reddish brown (10YR 6/4) fabric with some sand, rare tiny lime inclusions.

384. (No. 1038): Body fragment; Kepez, found in 2005. **pl. 42/384.**

Max. h 3.5 cm., max. w 2.7 cm., max. th 0.6 cm. Red (2.5YR 4/6) slip on exterior; light brown (7.5YR 6/4) unslipped surface on interior. A band in light brown (7.5YR 6/4) on slip. Average hardness; thin paste, non-porous, fine, brown (7.5YR 4/4) fabric with some lime and sand inclusions.

385. (No. 1409): Body fragment; Kepez, surface find, found in 2005. **pl. 16/385 and pl. 42/385.**

Max. h 3.4 cm., max. w 2.9 cm., max. th 0.6 cm.

Pink (5YR 8/3) slip on exterior; pink (5YR 7/4) unslipped surface on interior. Three bands in black (7.5YR 2.5/1) and red (2.5YR 5/6) on exterior. Shallow grooves on the surface. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with some sand, tiny lime inclusions.

Parallel: Stewart 2010, 210-211, fig. 244, 392 (middle Hellenistic pitcher from Gordion).

386. (No. 523): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 16/386 and pl. 42/386.**

Max. h 3.5 cm., max. w 3.1 cm., max. th 0.7 cm.

Red (10R 5/8) slip on upper exterior; light reddish brown (2.5YR 6/4) unslipped surface on interior. Two bands in pinkish white (7.5YR 8/2) paint on exterior slip. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime inclusions.

387. (No. 1327): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 16/387 and pl. 42/387.**

Max. h 3.5 cm., max. w 3.1 cm., max. th 0.7 cm.

Red (2.5YR 4/6) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Three bands in dusky red (2.5YR 3/2) and pinkish white (7.5YR 8/2) on exterior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with some tiny lime and sand inclusions.

388. (No. 1468): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 42/388.**

Max. h 3.2 cm., max. w 3.6 cm., max. th 0.7 cm.

Red (2.5YR 5/8) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, light red (2.5YR 6/8) fabric with frequent tiny lime and rare sand inclusions.

389. (No. 1012): Body fragment; Kepez, found in 2005. **pl. 42/389.**

Max. h 3.7 cm., max. w 3.6 cm., max. th 0.6 cm.

Reddish brown (5YR 5/4) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

390. (No. 890): Body fragment; Kimistene, *Acropolis*, southern slope, underground cave (cistern?), surface find, found in 2005. **pl. 42/390.**

Max. h 3.5 cm., max. w 4.0 cm., max. th 0.5 cm.

Red (2.5YR 5/6) shiny slip on exterior; very

pale brown (10YR 8/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with occasional tiny lime inclusions.

391. (No. 1199): Body fragment; Kepez, Cistern, found in 2005. **pl. 42/391.**

Max. h 3.2 cm., max. w 4.0 cm., max. th 1.2 cm.

Red (2.5YR 5/6) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Two bands in weak red (2.5YR 4/2) and pinkish white (7.5YR 8/2) on exterior slip. Average hardness; porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with some micaceous inclusions.

392. (No. 1356): Body fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 42/392.**

Max. h 4.5 cm., max. w 4.0 cm., max. th 0.8 cm.

Red (2.5YR 5/6) abrasion slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, sparsely porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime and calsite inclusions.

393. (No. 996): Body fragment; Kepez, found in 2005. **pl. 16/393 and pl. 43/393.**

Max. h 3.0 cm., max. w 5.2 cm., max. th 0.7 cm.

Yellowish red (5YR 5/6) slip on exterior; very pale brown (10YR 7/4) unslipped surface on interior. Two bands in reddish brown (5YR 4/4) and pinkish white (7.5YR 8/2) on exterior slip. Average hardness; non-porous, thin paste, fine, light brown (7.5YR 6/4) fabric with some tiny lime and rare sand inclusions.

394. (No. 1008): Body fragment; Kepez, found in 2005. **pl. 43/394.**

Max. h 3.6 cm., max. w 4.6 cm., max. th 0.6 cm.

Reddish brown (5YR 5/4) slip on exterior; light brown (7.5YR 6/4) unslipped surface on interior. A band in reddish yellow (7.5YR 6/6) on exterior slip. Hard, thin paste, very sparsely porous, fired to brown (7.5YR 5/4) and reddish brown (5YR 5/4) fabric with rare tiny lime inclusions.

395. (No. 1163): Body fragment; Kepez, Cistern, found in 2005. **pl. 16/395 and pl. 43/395.**

Max. h 5.3 cm., max. w 5.7 cm., max. th 0.8 cm.

Brown (7.5YR 4/3) shiny slip on upper exterior; brown (7.5YR 5/4) matt slip on lower exterior. Light brown (7.5YR 6/4) unslipped surface on interior. Three bands in pinkish white (7.5YR 8/2) and dusky red (2.5YR 3/2) on exterior. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

X. LATE HELLENISTIC-EARLY ROMAN GREY WARE (pls. 16-18, no. 396-436)

In the Hellenistic period at Gordion nearly 75% of all vessels are grey (Stewart 2010, 146; and Voigt *et al.* 1997, 18–19) and grey vessels appear in every general functional category (Stewart 2010, 146). At Hadrianopolis the earliest Roman fineware is represented by the grey ware (as well as brown-slipped ware), dating between the 1st century B.C. to the 2nd century A.D. (i.e., for proto-sigillata phase) which was almost exclusively locally produced, following the Late Iron Age (so-called “Phrygian”) tradition in production technics, i.e. manufacture as well as in the development of types. S. Mitchell believed there was no Hellenistic phase at Hadrianopolis (Mitchell 1993, 93); but we have a few Late Hellenistic pottery sherds (i.e from the 1st cent. B.C.) from Hadrianopolis. Through these finds it is possible to construct the first settlement at Hadrianopolis

in the 1st century B.C. Since Kimistene and other nearby settlements in Hadrianopolis's *chora* also yielded pottery of the Bronze and Iron Ages, it is surprising to observe the physical similarity in appearance between Late Hellenistic-Early Roman grey ware in Hadrianopolis and earlier grey wares in its *chora*. During the Byzantine period there is a certain grey ware tradition in the region as well. The most important difference between this later grey ware and Late Hellenistic ones is speed of the wheel and its traces on the surface.

The paste of this ware is grey (10YR 5/1-6/1, 2.5Y 5/1-6/1, Gley 1 5/N), dark grey (10YR 4/1, 2.5Y 4/1, Gley 1 4/N), very dark grey (Gley 1 3/N), greyish brown (10YR 5/2), black (Gley 1 2.5/N), bluish grey (Gley 2 5/5PB), pale brown (10YR 6/3) and light brown (7.5YR 6/4). Fine and hard paste. Bad fired samples are mottled in grey, brown or dark greyish brown. Some samples have no inclusions; some of them have mica, lime and sand in medium sizes on their surface. Surfaces are porous. Its fabric is similar to local sigillata of our study region. Slip is close to metallic tones, such as very dark grey (10YR 3/1, 2.5Y 3/1, Gley 1 3/N), dark grey (10YR 4/1, 2.5Y 4/1, Gley 1 4/N), grey (10YR 5/1, 2.5Y 5/1-6/1, Gley 1 6/N), black (2.5Y 2.5/1, Gley 1 2.5/N), dark reddish grey (5YR 4/2), greyish brown (10YR 5/2) and dark greyish brown (2.5Y 4/2). Slip had been applied in dipping position and in careless manner. Wall thickness differs between 0.3-1.4 cms. Most of the open vessels belong to a certain plate form.

55 sherds in total; 26 of which are open and 29 of them are closed forms. Most of them were found at Hadrianopolis (22 from *domus*, 10 from the Bath A, 8 from the Bath B, 8 from western tomb and 2 from the absidal building) as well as Kimistene, Kepez and Boncuklar.

They are dated to the 1st century B.C. to 2nd century A.D.

OPEN FORMS (pls. 16-22, nos. 396-418)

/ Bowl Form 1 (pl. 16, nos. 396-398)

396. (No. 110): Rim fragment; Bath B, Room 6, found in 2007. **pl. 16/396 and pl. 43/396.**

Max. h 3.7 cm., max. w 4.2 cm., max. th 0.3 cm.

Dark grey (10YR 4/1) slip on exterior; very dark grey (Gley 1 3/N) slip on interior. Hard, thin paste, non-porous, fine, dark grey (2.5Y 4/1) fabric with rare micaceous inclusion.

397. (No. 100): Rim fragment; Bath B, Room 6, found in 2007. **pl. 16/397 and pl. 43/397.**

Max. h 3.1 cm., max. w 4.6 cm., max. th 0.5 cm.

Very dark grey (Gley 1 3/N) slip on exterior; very dark grey (2.5Y 3/1) slip on interior. Hard, thin paste, non-porous, fine, grey (10YR 5/1) fabric with rare lime inclusion.

398. (No. 1208): Rim fragment; Kimistene, summit of the *Acropolis*, southern slope, found in 2005. **pl. 16/398 and pl. 43/398.**

Max. h 2.0 cm., d of rim 14.8 cm., max. w 4.8 cm., max. th 0.5 cm.

Very dark grey (2.5Y 3/1) slip on exterior and interior. Hard, non-porous, thin paste, fired to brown (7.5YR 5/3) and greyish brown (10YR 5/2) fabric with some micaceous inclusion.

Bowl Form 2 (pl. 16, nos. 399-400)

Outcurved rim bowl.

399. (No. 424): Rim fragment; apsidial building, found in 2007. **pl. 16/399 and pl. 43/399.**

Max. h 2.6 cm., d of rim 11.0 cm., max. w 3.5 cm., max. th 0.3 cm.

Black (Gley 1 2.5/N) slip on all of the surface. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusion.

400. (No. 157): Rim fragment; *Domus*, found in 2007. **pl. 16/400 and pl. 43/400.**

Max. h 2.1 cm., d of rim 13.4 cm., max. w 4.2 cm., max. th 0.3 cm.

Dark grey (Gley 1 4/N) slip on upper exterior; its below part and interior are slipped in grey (Gley 1 6/N). Hard, thin paste, very sparsely porous, fine, grey (Gley 1 5/N) fabric with no visible inclusion.

Dish Form 1 (pls. 16-17, nos. 401-404)

Dull slipped.

401. (No. 425): Rim fragment; apsidial building, found in 2007. **pl. 16/401 and pl. 43/401.**

Max. h 2.8 cm., max. w 4.8 cm., max. th 0.5 cm.

Grey (2.5Y 5/1) slip on exterior and interior. Hard, non-porous, thin paste, fine, grey (2.5Y 6/1) fabric with no visible inclusions.

402. (No. 158): Rim fragment; *Domus*, found in 2007. **pl. 17/402 and pl. 43/402.**

Max. h 3.4 cm., d of rim 15.5 cm., max. w 7.5 cm., max. th 0.4 cm.

Grey (2.5Y 5/1) slip on exterior; dark grey (Gley 1 4/N) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (10YR 6/1) fabric with no visible inclusions.

403. (No. 58): Rim fragment; *Domus*, room 6, level 1, found in 2007. **pl. 17/403 and pl. 43/403.**

Max. h 3.9 cm., d of rim 20.8 cm., max. w 9.1 cm., max. th 0.6 cm.

Dark grey (2.5Y 4/1) slip on exterior; grey (2.5Y 5/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

404. (No. 251): Rim fragment; Western Tomb, found 2007. **pl. 17/404 and pl. 43/404.**

Max. h 4.4 cm., d of rim 25.0 cm., max. w 6.8 cm., max. th 0.5 cm.

Dark grey (Gley 1 4/N) slip on exterior; very dark grey (2.5Y 3/1) slip on interior. Hard, thin paste, very sparsely porous, fired to brown (10YR 4/3) and dark grey (10YR 4/1) fabric with rare tiny lime inclusions.

Dish Form 2 (pl. 17, nos. 405-409)

405. (No. 249): Rim fragment; western tomb, found 2007. **pl. 17/405 and pl. 43/405.**

Max. h 2.0 cm., d of rim 10.2 cm., max. w 5.3 cm., max. th 0.3 cm.

Dark grey (2.5Y 4/1) slip on exterior and interior. Average hardness; thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with rare sand inclusions.

406. (No. 248): Rim fragment; western tomb, found in 2007. **pl. 17/406 and pl. 43/406.**

Max. h 3.0 cm., d of rim 18.0 cm., max. w 5.3 cm., max. th 0.6 cm.

Black (Gley 1 2.5/N) slip on the exterior; dark reddish grey (5YR 4/2) slip on the interior. Hard, thin paste, non-porous, fine, grey (10YR 5/1) and dark greyish brown (10YR 4/2) fabric with rare tiny lime inclusion.

407. (No. 250): Rim fragment; Western Tomb, found 2007. **pl. 17/407 and pl. 43/407.**

Max. h 4.2 cm., d of rim 18.4 cm., max. w 3.4 cm., max. th 0.5 cm.

Black (Gley 1 2.5/N) slip on exterior; very dark grey (Gley 1 3/N) slip on interior. Hard, thin paste, non-porous, fine, dark grey (Gley 1 4/N) fabric with occasional tiny lime inclusions.

408. (No. 354): Rim fragment; monumental tomb, found in 2007. **pl. 17/408 and pl. 43/408.**

Max. h 2.7 cm., d of rim 24.0 cm., max. w 6.6

cm., max. th 0.7 cm.

Dark grey (2.5Y 4/1) slip on exterior; very dark grey (2.5Y 3/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

409. (No. 196): Rim fragment; Bath A, room 5, found in 2006. **pl. 17/409 and pl. 43/409.**

Max. h 2.7 cm., d of rim 24.8 cm., max. w 5.8 cm., max. th 0.3 cm.

Very dark grey (Gley 1 3/N) slip on the exterior and interior. Hard, thin paste, very sparsely porous, fine, bluish grey (Gley 2 5/5PB) fabric with no visible inclusion.

Rim Fragment of a Plate (pl. 17, no. 410)

410. (No. 254): Rim fragment; Western Tomb, found 2007. **pl. 17/410 and pl. 43/410.**

Max. h 3.8 cm., max. w 4.8 cm., max. th 0.7 cm.

Very dark grey (Gley 1 3/N) slip on exterior; very dark grey (2.5Y 3/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (10YR 5/1) fabric with occasional sand inclusions. Exterior mottled.

Base Fragments of Open Forms (pl. 18, nos. 411-418)

Most of them has a shallow form. Their dimensions differ between 10.4 and 35.6 cm.

411. (No. 216): Base fragment; Bath A, room 1, found 2006. **pl. 18/411 and pl. 43/411.**

Max. h 0.8 cm., max. w 5.2 cm., max. th 0.6 cm.

Very dark grey (Gley 1 3/N) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, grey (Gley 1 5/N) fabric with some sand inclusions.

412. (No. 29): Base fragment; *domus*, room 1, level 1, illegally excavated area, found in 2007. **pl. 18/412 and pl. 43/412.**

Max. h 2.5 cm., d of base 10.4 cm., max. w 3.2 cm., max. th 0.7 cm.

Greyish brown (10YR 5/2) slip on exterior; grey (10YR 5/1) slip on interior. Hard, thin paste, non-porous, fine, greyish brown (10YR 5/2) fabric with rare tiny lime inclusions.

413. (No. 151): Base fragment; *domus*, found in 2007. **pl. 18/413 and pl. 43/413.**

Max. h 2.7 cm., d of base 13.6 cm., max. w 6.7 cm., max. th 0.6 cm.

Grey (2.5Y 5/1) and very dark grey (2.5Y 3/1) mottled slip on exterior; dark grey (2.5Y 4/1) slip on interior. Hard, thin paste, non-porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime and micaceous inclusions.

414. (No. 3): Base fragment; *domus*, room 1, level 1, found in 2007. **pl. 18/414 and pl. 44/414.**

Max. h 2.0 cm., d of base 30.6 cm., max. w 4.5 cm., max. th 0.6 cm.

Very dark grey (Gley 1 3/N) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with occasional tiny lime inclusions.

415. (No. 154): Base fragment; *domus*, found in 2007. **pl. 18/415 and pl. 44/415.**

Max. h 1.9 cm., d of base 17.0 cm., max. w 4.6 cm., max. th 0.8 cm.

Very dark grey (2.5Y 3/1) slip on exterior; dark grey (2.5Y 4/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

416. (No. 4): Base fragment; *domus*, room 1, level 1, found in 2007. **pl. 18/416 and pl. 44/416.**

Max. h 2.3 cm., d of base 35.6 cm., max. w 5.5 cm., max. th 0.7 cm.

Dark grey (2.5Y 4/1) slip on exterior; grey (2.5Y 5/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

417. (No. 5): Base fragment; *domus*, room 1, level 1, found in 2007. **pl. 18/417 and pl. 44/417.**

Max. h 3.1 cm., d of base 20.2 cm., max. w 2.3 cm., max. th 0.3 cm.

Dark grey (2.5Y 4/1) slip on exterior; grey (2.5Y 5/1) slip on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

418. (No. 287): Base fragment; *domus*, room 6, level 1, found in 2007. **pl. 18/418 and pl. 44/418.**

Max. h 2.5 cm., d of base 21.0 cm., max. w 5.3 cm., max. th 1.0 cm.

Dark grey (2.5Y 4/1) slip on exterior and interior. Hard, thin paste, non-porous, fine, grey (10YR 5/1) fabric with rare tiny lime inclusions.

Body Fragments of Open Forms (pl. 44, nos. 419-421)

419. (No. 54): Body fragment; *domus*, room 6, level 1, found in 2007. **pl. 44/419.**

Max. h 2.6 cm., max. w 4.0 cm., max. th 0.9 cm.

Black (Gley 1 2.5/N) slip on exterior and interior. Hard, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with no visible inclusions.

420. (No. 1378): Body fragment; Kepez, *Necropolis*, found 2005. **pl. 44/420.**

Max. h 4.1 cm., max. w 3.8 cm., max. th 0.5 cm.

Light brownish grey (10YR 6/2) unslipped surface on exterior; black (Gley 1 2.5/N) slip on interior. Hard, thin paste, non-porous, fired to brown (7.5YR 5/2) and very dark grey (Gley 1 3/N) fabric with rare micaceous inclusions.

421. (No. 155): Body fragment; *domus*, found in 2007. **pl. 44/421.**

Max. h 3.6 cm., max. w 7.5 cm., max. th 0.7 cm.

Dark grey (2.5Y 4/1) and dark grey (Gley 1 4/N) mottled slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with no visible inclusions.

CLOSED FORMS (pls. 18-19, nos. 422-436) / **Rim Fragment of a Juglet** (pl. 18, no. 422)

422. (No. 230): Rim fragment; Bath A, room 13, found 2006. **pl. 18/422 and pl. 44/422.**

Max. h 2.1 cm., max. w 2.3 cm., max. th 0.3 cm.

Very dark grey (2.5Y 3/1) slip on exterior; dark grey (2.5Y 4/1) slip on interior. Hard, thin paste, very sparsely porous, fired to grey (2.5Y 5/1) fabric with no visible inclusions.

Base Fragments of Closed Forms (pls. 18-19, nos. 423-435)

Small forms for some certain liquids. Some of them could be belonging to juglets or *unguentaria*.

423. (No. 68): Base fragment; *domus*, room 6, level 1, found in 2007. **pl. 18/423 and pl. 44/423.**

Max. h 2.3 cm., d of base 2.6 cm., max. w 4.3 cm., max. th 0.7 cm.

Grey (2.5Y 6/1) unslipped surface on exterior and interior, Average hardness; thin paste,

very sparsely porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

424. (No. 366): Base fragment; Bath B, room 8, illegally excavated area, found in 2007. **pl. 18/424 and pl. 44/424.**

Max. h 1.8 cm., d of base 2.8 cm., max. w 3.5 cm., max. th 0.8 cm.

Grey (2.5Y 6/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

425. (No. 90): Base fragment; Bath B, Room 5, found in 2007. **pl. 18/425 and pl. 44/425.**

Max. h 1.4 cm., d of base 3.1 cm., max. w 3.3 cm., max. th 0.6 cm.

Grey (2.5Y 5/1) slip on exterior; grey (2.5Y 5/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, dark grey (Gley 1 4/N) fabric with no visible inclusions.

426. (No. 241): Base fragment; western tomb, found 2007. **pl. 18/426 and pl. 44/426.**

Max. h 2.2 cm., d of base 3.2 cm., max. w 4.1 cm., max. th 0.8 cm.

Very dark grey (Gley 1 3/N) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

427. (No. 92): Base fragment; Bath B, room 5, found in 2007. **pl. 19/427 and pl. 44/427.**

Max. h 1.6 cm., d of base 3.4 cm., max. w 5.1 cm., max. th 0.6 cm.

Dark grey (2.5Y 4/1) unslipped surface on exterior, grey (2.5Y 5/1) unslipped surface on interior, hard, thin paste, non-porous, fine, dark grey (2.5Y 4/1) fabric with rare tiny lime inclusions.

428. (No. 107): Base fragment; Bath B, room 6, found in 2007. **pl. 19/428 and pl. 44/428.**

Max. h 1.7 cm., d of base 3.5 cm., max. w 4.8 cm., max. th 0.6 cm.

Dark grey (2.5Y 4/1) slip on exterior, dark grey (2.5Y 4/1) unslipped surface on interior, hard, thin paste, non-porous, fine, dark grey (2.5Y 4/1) fabric with no visible inclusions.

429. (No. 252): Base fragment; western tomb, found 2007. **pl. 19/429 and pl. 44/429.**

Max. h 4.1 cm., d of base 3.5 cm., max. w 4.8 cm., max. th 0.7 cm.

Very dark grey (Gley 1 3/N) slip on exterior; dark grey (Gley 1 4/N) unslipped surface on interior. Hard, thin paste, non-porous, fine, dark grey (Gley 1 4/N) fabric with some tiny lime inclusions.

430. (No. 8): Base fragment; *domus*, room 1, level 1, found in 2007. **pl. 19/430 and pl. 44/430.**

Max. h 1.6 cm., d of base 3.6 cm., max. w 3.5 cm., max. th 0.8 cm.

Grey (2.5Y 6/1) unslipped surface on exterior; grey (2.5Y 5/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with rare tiny lime inclusions.

431. (No. 36): Base fragment; *domus*, room 6, level 1, found in 2007. **pl. 19/431 and pl. 44/431.**

Max. h 2.0 cm., d of base 3.6 cm., max. w 5.0 cm., max. th 0.6 cm.

Grey (2.5Y 5/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare micaceous inclusions.

432. (No. 106): Base fragment; Bath B, room 6, found in 2007. **pl. 19/432 and pl. 44/432.**

Max. h 2.3 cm., d of base 3.6 cm., max. w 5.1 cm., max. th 0.7 cm.

Very dark grey (Gley 1 3/N) slip on exterior;

very dark grey (Gley 1 3/N) unslipped surface on interior. Hard, thin paste, non-porous, fine, black (Gley 1 2.5/N) fabric with some sand inclusions.

433. (No. 6): Base fragment; *domus*, room 1, level 1, found in 2007. **pl. 19/433 and pl. 44/433.**

Max. h 3.3 cm., d of base 4.6 cm., max. w 4.4 cm., max. th 1.0 cm.

Grey (2.5Y 5/1) slip on exterior, grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with rare micaceous inclusions.

434. (No. 37): Base fragment; *domus*, room 6, level 1, found in 2007. **pl. 19/434 and pl. 44/434.**

Max. h 2.8 cm., d of base 5.4 cm., max. w 5.5 cm., max. th 0.6 cm.

Black (Gley 1 2.5/N) slip on exterior; dark grey (Gley 1 4/N) unslipped surface on exterior and interior. Hard, thin paste, non-porous, fine, dark grey (Gley 1 4/N) fabric with some tiny lime inclusions.

435. (No. 174): Base fragment; *domus*, room 8, floor level, found in 2007. **pl. 19/435 and pl. 44/435.**

Max. h 1.8 cm., d of base 5.4 cm., max. w 4.5 cm., max. th 0.4 cm.

Grey (10YR 6/1) unslipped surface on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

Handle Fragment of Closed Form (pl. 19, no. 436)

Rounded handle fragment of a small jug.

436. (No. 371): Handle fragment; Bath B, room 6, illegally excavated area, found in 2007. **pl. 19/436 and pl. 45/436.**

Max. h 7.9 cm., max. w 3.7 cm., max. th 1.4 cm.

Dark grey (2.5Y 4/1) and grey (2.5Y 5/1) mottled slip on all of surface. Hard, thin paste, very sparsely porous, fine, dark grey (2.5Y 4/1) fabric with rare tiny lime inclusions.

Body Fragments of Closed Forms (pl. 45, nos. 437-450)

437. (No. 214): Body fragment; Bath A, room 1, found in 2006. **pl. 45/437.**

Max. h 2.0 cm., max. w 1.4 cm., max. th 0.3 cm.

Dark grey (Gley 1 4/N) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Average hardness; thin paste, non-porous, fine, dark grey (2.5Y 4/1) fabric with no visible inclusions.

438. (No. 473): Body fragment; Bath A, room 2b, found in 2006. **pl. 45/438.**

Max. h 2.6 cm., max. w 2.5 cm., max. th 0.3 cm.

Very dark grey (2.5Y 3/1) slip on exterior; grey (2.5Y 5/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

439. (No. 211): Body fragment; Bath A, room 1, found in 2006. **pl. 45/439.**

Max. h 2.5 cm., max. w 2.9 cm., max. th 0.4 cm.

Black (Gley 1 2.5/N) slip on exterior; very dark grey (Gley 1 3/N) unslipped surface on interior. Hard, thin paste, non-porous, fine, very dark grey (Gley 1 3/N) fabric with no visible inclusions.

440. (No. 7): Body fragment; *domus*, room 1, level 1, found in 2007. **pl. 45/440.**

Max. h 3.2 cm., max. w 3.5 cm., max. th 0.8 cm.

Grey (2.5Y 6/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with some sand inclusions.

441. (No. 215): Body fragment; Bath A, room 1, found in 2006. **pl. 45/441.**

Max. h 2.3 cm., max. w 2.9 cm., max. th 0.5 cm.

Black (2.5Y 2.5/1) slip on exterior; light grey (2.5Y 7/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, grey (2.5Y 6/1) fabric with rare tiny lime inclusions.

442. (No. 180): Body fragment; *domus*, room 5, found in 2007. **pl. 45/442.**

Max. h 3.6 cm., max. w 3.5 cm., max. th 0.6 cm.

Very dark grey (10YR 3/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 5/1) fabric with rare tiny lime inclusions.

443. (No. 894): Body fragment; Kimistene, Acropolis, southern slope, underground cave, surface find, found in 2005. **pl. 45/443.**

Max. h 2.6 cm., max. w 3.6 cm., max. th 0.6 cm.

Very dark grey (2.5Y 3/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, grey (2.5Y 6/1) fabric with no visible inclusions.

444. (No. 281): Body fragment; Bath A, room 14, found in 2006. **pl. 45/444.**

Max. h 2.9 cm., max. w 4.1 cm., max. th 0.5 cm.

Black (2.5Y 2.5/1) slip on exterior; grey (2.5Y

5/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, dark grey (2.5Y 4/1) fabric with occasional sand inclusions.

445. (No. 245): Body fragment; western tomb, found in 2007. **pl. 45/445.**

Max. h 4.4 cm., max. w 2.6 cm., max. th 0.3 cm.

Very dark grey (Gley 1 3/N) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, non-porous, fired to dark grey (2.5Y 4/1) and grey (2.5Y 5/1) fabric with no visible inclusions.

446. (No. 285): Body fragment; Bath A, room 14, found in 2006. **pl. 45/446.**

Max. h 2.7 cm., max. w 5.0 cm., max. th 0.4 cm.

Dark greyish brown (2.5Y 4/2) slip on upper exterior; dark grey (2.5Y 4/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fired to dark grey (2.5Y 4/1) fabric with rare tiny lime inclusions.

447. (No. 217): Body fragment; Bath A, room 1, found in 2006. **pl. 45/447.**

Max. h 3.1 cm., max. w 4.9 cm., max. th 0.6 cm.

Dark grey (2.5Y 4/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, non-porous, fine, grey (2.5Y 5/1) fabric with no visible inclusions.

448. (No. 547): Body fragment; surface find from the Village Boncuklar, found in 2005.

pl. 45/448.

Max. h 4.9 cm., max. w 5.0 cm., max. th 0.5 cm.

Black (Gley 1 2.5/N) slip on exterior; light brownish grey (10YR 6/2) unslipped surface on interior. Hard, thin paste, non-porous, fine, grey (10YR 5/1) fabric with no visible inclusions.

449. (No. 164): Body fragment; *domus*, found in 2007. **pl. 45/449.**

Max. h 4.7 cm., max. w 6.3 cm., max. th 0.6 cm.

Very dark grey (2.5Y 3/1) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, sparsely porous, fine, grey (2.5Y 6/1) fabric with occasional sand inclusions.

450. (No. 142): Body fragment; *domus*, room 4, found in 2007. **pl. 45/450.**

Max. h 1.9 cm., max. w 4.5 cm., max. th 1.4 cm.

Dark grey (Gley 1 4/N) slip on exterior; grey (2.5Y 6/1) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, grey (2.5Y 6/1) fabric with no visible inclusions.

XI. LATE HELLENISTIC-EARLY ROMAN BROWN-SLIPPED WARE (pls. 20-23, nos. 451-526)

Brown-slipped ware is a close relative of local sigillata in terms of fabric, shapes, slip techniques applied etc.: they are thin walled and consist of mostly open forms with brown and more matt slip. It is a hard, fine and non-porous fabric with less inclusions (sand, micaceous, lime and grit) in small sizes. Its production and firing techniques are less careless than sigillata. Its paste is reddish yellow (5YR 6/6-7/6, 7.5YR 6/6-7/6), light brown (7.5YR 6/4), pink (5YR 7/4, 7.5YR 7/4), light yellowish brown (10YR 6/4, 2.5Y 6/3-6/4), red (2.5YR 5/6), brown (7.5YR 5/3-5/4), very pale brown (10YR 7/3-7/4), pale brown (10YR 6/3), yellowish red (5YR 5/6), light reddish brown (5YR 6/4), reddish brown (5YR 5/4) and light red (2.5YR 6/8-6/6). Slip is brown (7.5YR 4/2-4/3-4/4-5/3-5/4, 10YR 4/3-5/3), reddish brown (2.5 YR 4/3-4/4-5/4, 5YR 4/3-4/4-5/3-5/4), red (2.5YR 5/6-4/6-4/8), dark brown (7.5YR 3/2-

3/3), black (7.5YR 2.5/1, 2.5Y 2.5/1), yellowish red (5YR 5/6), reddish yellow (5YR 6/6, 7.5YR 6/6-7/6), dark greyish brown (10YR 4/2), dark reddish brown (5YR 3/2), weak red (2.5YR 4/2), light brown (7.5YR 6/4), dark reddish grey (5YR 4/2), very dark grey (10YR 3/1, 2.5Y 3/1), pale brown (10YR 6/3, 2.5Y 7/4-8/4), dark grey (2.5Y 4/1), pink (5YR 7/4), strong brown (7.5YR 5/6), very dark greyish brown (10YR 3/2) and yellow (10YR 7/6). Because of bad firing technics surface slip is frequently mottled in brown (7.5YR 4/3-4/2), dark reddish brown (5YR 3/3-3/2, 2.5YR 3/3), reddish brown (2.5YR 4/4, 5YR 5/3-5/4), dark grey (10YR 4/1), strong brown (7.5YR 5/6), dark reddish grey (5YR 4/2), very dark greyish brown (10YR 3/2), very dark grey (5YR 3/1), black (5YR 2.5/1, 10YR 2.5/1), red (2.5YR 5/6), dark greyish brown (10YR 4/2), reddish yellow (5YR 6/6), dusky red (2.5YR 3/2) and yellowish brown (10YR 5/4). Their bases left unslipped.

89 sherds were collected in total, 59 of which belong to the open and 30 to the closed forms. 22 of them were found in Bath A at Hadrianopolis, 17 in Kepez, 10 on the southern slope of the *Acropolis* at Kimistene and 3 in the western tomb at Hadrianopolis.

1st century B.C.-1st century A.D.

OPEN FORMS (pls. 20-22, nos. 451-492)

Most common forms are bowls.

Bowl Form 1 (pl. 20, nos. 451-456)

Incurved rim bowls with mottled surface.

451. (No. 1413): Rim fragment; Kepez, surface find, found in 2005. **pl. 20/451 and pl. 45/451.**

Max. h 1.4 cm., max. w 1.9 cm., max. th 0.3 cm.

Brown (7.5YR 5/3) slip on exterior; yellow-

ish red (5YR 5/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with rare tiny lime and sand inclusions.

452. (No. 1104): Rim fragment; Kepez, found in 2005. **pl. 20/452 and pl. 45/452.**

Max. h 1.5 cm., max. w 2.0 cm., max. th 0.4 cm.

Reddish yellow (7.5YR 6/6) and brown (7.5YR 4/3) mottled slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

453. (No. 901): Rim fragment; Kimistene, *Acropolis*, southern slope, underground cave, surface find, found in 2005. **pl. 20/453 and pl. 45/453.**

Max. h 1.8 cm., max. w 1.7 cm., max. th 0.4 cm.

Red (2.5YR 5/6) and reddish brown (2.5YR 4/4) mottled slip on exterior; reddish brown (5YR 4/3) and slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with occasional sand and tiny lime inclusions.

454. (No. 1233): Rim fragment; Kepez, found in 2005. **pl. 20/454 and pl. 45/454.**

Max. h 2.0 cm., max. w 3.4 cm., max. th 0.5 cm.

Weak red (2.5YR 4/2) slip on exterior and interior rim. Their below parts have red (2.5YR 5/6) slip; hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with rare medium sand inclusions.

455. (No. 343): Rim fragment; Bath B, Room 1, found in 2007. **pl. 20/455 and pl. 45/455.**

Max. h 2.2 cm., d of rim 11.5 cm., max. w 3.7 cm., max. th 0.4 cm.

Dark brown (7.5YR 3/2) slip on exterior rim and interior. Its below part has reddish yellow (7.5YR 7/6) unslipped surface on exterior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime inclusions.

456. (No. 931): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 20/456 and pl. 45/456.**

Max. h 2.6 cm., d of rim 13.6 cm., max. w 4.0 cm., max. th 0.5 cm.

Brown (7.5YR 5/3) slip on exterior and interior. Hard, thin paste, non-porous, fine, brown (10YR 6/4) fabric with occasional sand inclusions.

Bowl Form 2 (pl. 20, nos. 463-468)

Outcurved rim bowl, sometimes with a groove on the rim.

457. (No. 297): Rim fragment; Bath A, Room 2b, found in 2006. **pl. 45/457.**

Max. h 0.8 cm., max. w 1.3 cm., max. th 0.3 cm.

Brown (7.5YR 4/2) and pale brown (2.5Y 7/4) slip on exterior; red (2.5YR 4/6) slip on interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

458. (No. 591): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 45/458.**

Max. h 1.6 cm., max. w 2.1 cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on exterior; light brown (7.5YR 6/4) slip on interior. Average hardness; thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with rare sand and micaeous inclusions.

459. (No. 584): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 45/459.**

Max. h 1.6 cm., max. w 1.5 cm., max. th 0.4 cm.

Reddish brown (5YR 5/4) eroded slip on exterior and interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with frequent tiny lime inclusions.

460. (No. 1060): Rim fragment; Kepez, found in 2005. **pl. 45/460.**

Max. h 2.3 cm., max. w 1.5 cm., max. th 0.4 cm.

Reddish brown (5YR 5/4) mottled slip on exterior and interior. Hard, thin paste, non-porous, fine, very pale brown (10YR 7/4) fabric with some tiny lime and sand inclusions.

461. (No. 520): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 45/461.**

Max. h 1.5 cm., max. w 2.2 cm., max. th 0.5 cm.

Red (2.5YR 5/6) slip on exterior; dark reddish brown (5YR 3/3) and red (2.5YR 5/6) mottled slip on interior. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with no visible inclusions.

462. (No. 1374): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 45/462.**

Max. h 1.8 cm., max. w 1.7 cm., max. th 0.5 cm.

Red (2.5YR 5/8) and dark reddish brown (2.5YR 3/3) mottled slip on exterior; reddish brown (5YR 4/3) slip on interior rim. Its below part is pink (5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine,

reddish yellow (5YR 6/6) fabric with no visible inclusions.

463. (No. 851): Rim fragment; Kimistene, surface find, found in 2005. **pl. 20/463 and pl. 45/463.**

Max. h 2.5 cm., max. w 2.5 cm., max. th 0.5 cm. Brown (7.5YR 4/2) abrasion slip on exterior and interior. Average hardness; thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with tiny lime inclusions.

464. (No. 1362): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 20/464 and pl. 45/464.**

Max. h 2.6 cm., max. w 2.7 cm., max. th 0.5 cm.

Yellowish red (5YR 5/6) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 7/6) fabric with rare tiny lime inclusions.

465. (No. 952): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 20/465 and pl. 45/465.**

Max. h 1.4 cm., d of rim 13.4 cm., max. w 2.7 cm., max. th 0.3 cm.

Dark grey (10YR 4/1) and brown (10YR 5/3) mottled slip on exterior; dark grey (2.5Y 4/1) slip on interior. Hard, thin paste, non-porous, fired to greyish brown (10YR 5/2) fabric with no visible inclusions.

466. (No. 1102): Rim fragment; Kepez, found in 2005. **pl. 20/466 and pl. 45/466.**

Max. h 2.0 cm., d of rim 15.6 cm., max. w 3.0 cm., max. th 0.4 cm.

Dark reddish grey (5YR 4/2) slip on exterior; reddish brown (5YR 4/3) slip on interior. Average hardness; thin paste, very sparsely porous, fine, very pale brown (10YR 7/4) fabric with rare micaceous, tiny lime and sand inclusions.

467. (No. 411): Rim fragment; Kimistene, surface find, found in 2005. **pl. 20/467 and pl. 45/467.**

Max. h 1.9 cm., d of rim 17.0 cm., max. w 2.5 cm., max. th 0.3 cm.

Reddish yellow (7.5YR 6/6) slip on exterior; dark reddish grey (5YR 4/2) and light brown (7.5YR 6/4) slip on interior. Hard, thin paste, non-porous, pink (7.5YR 7/4) fabric with rare sand inclusions.

468. (No. 238): Rim fragment; Bath A, room 12, found in 2006. **pl. 20/468 and pl. 45/468.**

Max. h 3.3 cm., d of rim 27.0 cm., max. w 6.8 cm., max. th 0.6 cm.

Red (2.5YR 5/6) slip on exterior; strong brown (7.5YR 5/6) slip on interior. Hard, thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

Dish (pl. 20, nos. 469-471)

A dish form with a flattened rim.

469. (No. 356): Rim fragment; Western Tomb, found in 2007. **pl. 20/469 and pl. 46/469.**

Max. h 4.0 cm., max. w 4.6 cm., max. th 0.7 cm.

Red (2.5YR 5/6) slip on exterior rim and interior; pink (5YR 7/4) slip on lower exterior. Hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with some lime inclusions.

470. (No. 422): Rim fragment; Apsidial Building, found in 2007. **pl. 20/470 and pl. 46/470.**

Max. h 3.2 cm., d of rim 29.6 cm., max. w 4.2 cm., max. th 0.7 cm.

Reddish brown (2.5YR 5/4) slip on exterior and interior. Hard, thin paste, non-porous, fine, light red (2.5YR 6/8) fabric with some lime inclusions.

471. (No. 222): Rim fragment; Bath A, room 13, found in 2006. **pl. 20/471 and pl. 46/471.**

Max. h 2.7 cm., d of rim 15.4 cm., max. w 4.1 cm., max. th 0.5 cm.

Brown (10YR 4/3) slip on exterior; very dark grey (10YR 3/1) slip on interior. Hard, thin paste, very sparsely porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

Other Rim Fragments (pl. 21, nos. 473-475)

Some of them are thickened rim forms; some have mottled slips.

472. (No. 834): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 46/472.**

Max. h 2.0 cm., max. w 4.1 cm., max. th 0.4 cm.

Red (2.5YR 5/6) slip on exterior; red (2.5YR 4/6) slip on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

473. (No. 227): Rim fragment; Bath A, room 13, found in 2006. **pl. 21/473 and pl. 46/473.**

Max. h 4.4 cm., max. w 6.5 cm., max. th 0.5 cm.

Brown (7.5YR 4/3) and very dark greyish brown (10YR 3/2) mottled slip exterior and interior. Hard, thin paste, non-porous, fired to very dark grey (Gley 1 3/N) fabric with some tiny lime inclusions.

474. (No. 242): Rim fragment; Western Tomb, found in 2007. **pl. 21/474 and pl. 46/474.**

Max. h 3.6 cm., d of rim 18.8 cm., max. w 5.4 cm., max. th 0.4 cm.

Brown (7.5YR 4/2-4/3) slip on exterior; brown (7.5YR 4/2) slip on interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

475. (No. 1259): Rim fragment; Kimistene, *Necropolis*, surface find, found in 2005. **pl. 21/475 and pl. 46/475.**

Max. h 3.0 cm., d of rim 24.0 cm., max. w 4.8 cm., max. th 0.6 cm.

Reddish brown (5YR 4/4) slip on exterior and interior. Hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with frequent tiny lime inclusions.

Base Fragments of Open Forms (pls. 21-22, nos. 478-492)

High based fragments; exterior surfaces left unslipped. Traces of slips are mottled.

476. (No. 373): Base fragment; Bath A, room 2b, found in 2006. **pl. 46/476.**

Max. h 1.3 cm., max. w 1.2 cm., max. th 0.2 cm.

Pink (5YR 7/4) unslipped surface on exterior; brown (7.5YR 4/3) slip on interior. Average hardness; thin paste, non-porous, fired to reddish yellow (5YR 6/6) and light brown (7.5YR 6/4) fabric with no visible inclusions.

477. (No. 372): Base fragment; Bath A, room 2b, found in 2006. **pl. 46/476.**

Max. h 1.3 cm., max. w 1.2 cm., max. th 0.2 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; brown (7.5YR 4/3) slip on interior. Average hardness; thin paste, non-porous, fired to reddish yellow (5YR 6/6) and light brown (7.5YR 6/4) fabric with no visible inclusions.

478. (No. 529): Base fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 21/478 and pl. 46/478.**

Max. h 1.5 cm., max. w 1.8 cm., max. th 0.4 cm.

Reddish yellow (5YR 6/6) and reddish brown

(5YR 5/4) mottled slip on exterior; brown (7.5YR 4/3) slip on interior. Hard, thin paste, non-porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

479. (No. 984): Base fragment; Hadrianopolis, surface find, found in 2005. **pl. 21/479 and pl. 46/479.**

Max. h 1.4 cm., max. w 3.0 cm., max. th 0.5 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; reddish brown (2.5YR 4/4) slip on interior. Hard, thin paste, non-porous, fired to very pale brown (10YR 7/4) and pink (7.5YR 7/4) fabric with no visible inclusions.

480. (No. 95): Base fragment; Bath B, room 5, found in 2007. **pl. 21/480 and pl. 46/480.**

Max. h 1.6 cm., d of base 2.8 cm., max. w 3.0 cm., max. th 0.4 cm.

Reddish brown (5YR 4/4) slip on exterior; dark reddish brown (5YR 3/2) slip on interior. Hard, thin paste, non-porous, fine, red (2.5YR 5/6) fabric with no visible inclusions.

481. (No. 293): Base fragment; Bath A, room 2b, found in 2006. **pl. 21/481 and pl. 46/481.**

Max. h 0.7 cm., d of base 4.0 cm., max. w 2.9 cm., max. th 0.3 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; brown (7.5YR 5/4) slip on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with no visible inclusions.

482. (No. 367): Base fragment; Bath B, room 8, from the illegally excavated area in the southeast, found in 2007. **pl. 21/482 and pl. 46/482.**

Max. h 1.2 cm., d of base 4.4 cm., max. w 2.7 cm., max. th 0.4 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; reddish brown (5YR 5/4) slip on interior. Hard, thin paste, very sparsely porous, fine,

light reddish brown (5YR 6/4) fabric with some tiny lime inclusions.

483. (No. 519): Base fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 21/483 and pl. 46/483.**

Max. h 1.1 cm., d of base 4.6 cm., max. w 4.6 cm., max. th 0.3 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; brown (7.5YR 5/4) and very dark greyish brown (10YR 3/2) mottled slip on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with occasional tiny lime inclusions.

484. (No. 284): Base fragment; Bath A, room 14, found in 2007. **pl. 21/484 and pl. 46/484.**

Max. h 1.2 cm., d of base 5.2 cm., max. w 5.4 cm., max. th 0.4 cm.

Reddish yellow (5YR 6/6) and brown (7.5YR 4/2) mottled slip on exterior; brown (10YR 5/3) and reddish yellow (5YR 6/6) mottled slip on interior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with infrequent lime, sand and occasional micaceous inclusions.

485. (No. 206): Base fragment; Bath A, room 1, found in 2006. **pl. 21/485 and pl. 46/485.**

Max. h 1.5 cm., d of base 5.8 cm., max. w 4.2 cm., max. th 0.4 cm.

Light yellowish brown (2.5Y 6/3) unslipped surface on exterior; brown (10YR 5/3) slip on interior. Hard, thin paste, very sparsely porous, fine, light yellowish brown (2.5Y 6/4) fabric with occasional sand inclusions.

486. (No. 279): Base fragment; Bath A, room 14, found in 2007. **pl. 21/486 and pl. 46/486.**

Max. h 1.6 cm., d of base 6.8 cm., max. w 4.6 cm., max. th 0.6 cm.

Dark greyish brown (10YR 4/2) and brown

(10YR 4/3) mottled slip on exterior; dark greyish brown (10YR 4/2) slip on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

487. (No. 355): Base fragment; Monumental Tomb, found in 2007. **pl. 21/487 and pl. 46/487.**

Max. h 1.3 cm., d of base 7.2 cm., max. w 2.5 cm., max. th 0.5 cm.

Pink (7.5YR 7/4) unslipped surface on exterior; reddish brown (5YR 5/4) slip on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with occasional micaceous inclusions.

488. (No. 253): Base fragment; Western Tomb, found in 2007. **pl. 21/488 and pl. 46/488.**

Max. h 1.6 cm., d of base 8.8 cm., max. w 8.2 cm., max. th 0.6 cm.

Pink (5YR 7/4) unslipped surface on the exterior; reddish brown (5YR 4/3) slip in the interior. Hard, thin paste; very sparsely porous, fine, pink (5YR 7/4) fabric with tiny lime inclusion.

489. (No. 1384): Base fragment; surface find from Göletarkası, found in 2005. **pl. 22/489 and pl. 46/489.**

Max. h 2.6 cm., d of base 13.6 cm., max. w 6.8 cm., max. th 1.0 cm.

Reddish brown (5YR 5/4) slip on exterior and interior. Exterior surface is burnished. Hard, thin paste, very sparsely porous, fine, reddish brown (5YR 5/4) fabric with some sand inclusions.

490. (No. 1469): Base fragment; surface find from the Village Boncuklar, found in 2005. **pl. 22/490 and pl. 46/490.**

Max. h 1.7 cm., d of base 14.6 cm., max. w 4.2 cm., max. th 0.7 cm.

Pale brown (10YR 6/3) slip on exterior; red-

dish brown (5YR 4/3) slip on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fired to grey (2.5Y 5/1) fabric with sand and occasional micaceous inclusions.

491. (No. 932): Base fragment; Kimistene, *Acropolis*, found in 2005. **pl. 22/491 and pl. 46/491.**

Max. h 1.6 cm., d of base 14.8 cm., max. w 4.3 cm., max. th 0.7 cm.

Red (2.5YR 4/8) slip on exterior; brown (7.5YR 4/4) slip on interior. Three thin bands in very dark grey (7.5YR 3/1) on interior. Hard, thin paste, non-porous, fine, reddish brown (5YR 5/4) fabric with no visible inclusions.

492. (No. 650): Base fragment; Kimistene, Cistern, found in 2005. **pl. 22/492 and pl. 46/492.**

Max. h 4.0 cm., d of base 18.0 cm., max. w 6.8 cm., max. th 0.7 cm.

Light brown (7.5YR 6/4) slip on exterior; reddish brown (5YR 4/3) slip on interior. Hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with some sand inclusion.

Body Fragments of Open Forms (pl. 47, nos. 493-509)

Fragments mostly with mottled slip.

493. (No. 1144): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 47/493.**

Max. h 1.0 cm., max. w 1.4 cm., max. th 0.3 cm.

Black (2.5Y 2.5/1) slip on exterior; reddish brown (2.5YR 4/4) slip on interior. Hard, thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with no visible inclusions.

494. (No. 1139): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 47/494.**

Max. h 1.5 cm., max. w 1.6 cm., max. th 0.5 cm.

Light brownish grey (2.5Y 6/2) unslipped surface on exterior; reddish brown (2.5YR 4/4) slip on interior. Hard, thin paste, non-porous, fine, light red (2.5YR 6/6) fabric with rare sand inclusions.

495. (No. 1141): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 47/495.**

Max. h 1.9 cm., max. w 1.7 cm., max. th 0.4 cm.

Reddish brown (2.5YR 4/4) and red (2.5YR 5/6) mottled slip on exterior; reddish brown (2.5YR 4/4) slip on interior. Hard, thin paste, non-porous, fine, pink (5YR 7/4) fabric with no visible inclusions.

496. (No. 522): Body fragment; Kepez, found in 2005. **pl. 47/496.**

Max. h 2.1 cm., max. w 2.4 cm., max. th 0.5 cm.

Red (2.5YR 5/6) and reddish brown (2.5YR 5/4) slip on exterior; reddish yellow (5YR 6/6) slip on interior. Hard, thin paste, sparsely porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

497. (No. 1194): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 47/497.**

Max. h 1.5 cm., max. w 3.0 cm., max. th 0.5 cm.

Yellowish red (5YR 5/6) slip on exterior; brown (7.5YR 5/3) slip on interior. Exterior surface is burnished. Hard, thin paste, non-porous, fired to pale brown (10YR 6/3) and reddish brown (5YR 5/4) fabric with sand and rare micaceous inclusions.

498. (No. 1039): Body fragment; Kepez, found in 2005. **pl. 47/498.**

Max. h 2.3 cm., max. w 2.3 cm., max. th 0.4 cm.

Red (2.5YR 4/6) slip on exterior; reddish

brown (2.5YR 4/4) slip on interior. Hard, thin paste, very sparsely porous, fine, light reddish brown (5YR 6/4) fabric with frequent tiny lime inclusions.

499. (No. 1037): Body fragment; Kepez, found 2005. **pl. 47/499.**

Max. h 2.4 cm., max. w 2.4 cm., max. th 0.5 cm.

Very dark grey (5YR 3/1) slip on exterior; red (2.5YR 5/6) slip on interior. Soft, thin paste, very sparsely porous, fine, brown (7.5YR 5/4) fabric with occasional lime inclusions.

500. (No. 693): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 47/500.**

Max. h 2.6 cm., max. w 2.5 cm., max. th 0.5 cm.

Dusky red (2.5YR 3/2) and red (2.5YR 4/6) mottled slip on exterior; reddish brown (2.5YR 4/3) slip on interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with infrequent lime and sand inclusions.

501. (No. 33): Body fragment; *Domus*, room 2, found in 2007. **pl. 47/501.**

Max. h 3.0 cm., max. w 2.5 cm., max. th 0.5 cm.

Weak red (2.5YR 4/2) slip on exterior and interior. Hard, thin paste, very sparsely porous, fired to light brown (7.5YR 6/3-6/4) mottled fabric with infrequent lime inclusions.

502. (No. 1041): Body fragment; Kepez, found in 2005. **pl. 47/502.**

Max. h 2.7 cm., max. w 2.9 cm., max. th 0.6 cm.

Dark greyish brown (10YR 4/2) and yellowish brown (10YR 5/4) mottled slip on exterior. Brown (10YR 4/3) slip on interior. Hard,

thin paste, sparsely porous, fired to light yellowish brown (10YR 6/4) fabric with no visible inclusions.

503. (No. 570): Body fragment; surface find from the Village Boncuklar, found in 2005. **pl. 47/503.**

Max. h 3.4 cm., max. w 1.5 cm., max. th 0.5 cm.

Dark brown (7.5YR 4/2) slip on exterior; black (7.5YR 2.5/1) slip on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with rare sand inclusions.

504. (No. 1377): Body fragment; Kepez, *Necropolis*, found in 2005. **pl. 47/504.**

Max. h 3.1 cm., max. w 3.2 cm., max. th 0.7 cm.

Dark brown (7.5YR 3/2) slip on exterior; reddish brown (5YR 4/4) slip on interior. Slip is shiny on all of surface. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

505. (No. 435): Body fragment; Kimistene, *Acropolis*, slope, found in 2005. **pl. 47/505.**

Max. h 2.7 cm., max. w 4.5 cm., max. th 0.7 cm. Pink (7.5YR 7/4) unslipped surface on exterior; brown (7.5YR 4/3) slip on interior. Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with no visible inclusions.

506. (No. 1410): Body fragment; Kepez, surface find, found in 2005. **pl. 47/506.**

Max. h 4.3 cm., max. w 4.3 cm., max. th 0.6 cm.

Dark reddish grey (5YR 4/2) slip on exterior; reddish brown (5YR 5/4) slip on interior. Hard, very sparsely porous, thin paste, fired to light red (2.5YR 6/6) and reddish yellow (7.5YR 6/6) mottled fabric with some tiny lime inclusions.

507. (No. 1501): Body fragment; Kepez, found in 2005. **pl. 47/507.**

Nos. 507 and 508 belong to each other.

Max. h 2.7 cm., max. w 4.3 cm., max. th 0.5 cm.

Very pale brown (10YR 8/3) unslipped surface on upper exterior; its below part is dark greyish brown (10YR 4/2) slip on exterior. Red (2.5YR 5/6) slip on interior. Hard, thin paste, very sparsely porous, fine, very pale brown (10YR 7/3) fabric with some tiny lime inclusions.

508. (No. 1044): Body fragment; Kepez, found in 2005. **pl. 47/508.**

Max. h 3.3 cm., max. w 3.5 cm., max. th 0.5 cm.

Very pale brown (10YR 8/3) unslipped surface on upper exterior; its below part is dark greyish brown (10YR 4/2) slip on exterior. Red (2.5YR 5/6) slip on interior. Hard, thin paste, very sparsely porous, fine, very pale brown (10YR 7/3) fabric with some tiny lime inclusions.

509. (No. 162): Body fragment; *Domus*, found in 2007. **pl. 47/509.**

Max. h 5.0 cm., max. w 4.9 cm., max. th 1.2 cm.

Brown (7.5YR 5/3) slip on exterior; dark brown (7.5YR 3/2) slip on interior. Hard, non-porous, thin paste, fine, brown (7.5YR 5/3) fabric with occasional tiny lime inclusions.

CLOSED FORMS (pls. 22-23, nos. 510-526) / **Juglet** (pl. 22, nos. 510-512)

Mostly thin-walled forms with blackish or mottled slip.

510. (No. 205): Rim fragment; Bath A, room 1, found in 2006. **pl. 22/510 and pl. 47/510.**

Max. h 2.2 cm., d of rim 5.2 cm., max. w 2.9 cm., max. th 0.2 cm.

It may have belonged to a kind of small juglet with splayed mouth. Black (7.5YR 2.5/1) slip on exterior; reddish brown (5YR 5/3) slip on interior. Hard, non-porous, thin paste, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

511. (No. 192): Rim fragment; Bath A, room 2, found in 2006. **pl. 22/511 and pl. 47/511.**

Max. h 5.1 cm., d of rim 8.0 cm., max. w 7.3 cm., max. th 0.3 cm.

Black (7.5YR 2.5/1) slip on exterior; dark brown (7.5YR 3/2) slip on interior. Pink (7.5YR 7/4) unslipped surface on lower interior. Hard, non-porous, thin paste, fine, pink (7.5YR 7/4) fabric with no visible inclusions. Parallel: Stewart 2010, 210, 304, fig. 244, 392 (P 2136) - a Middle Hellenistic pitcher from Gordion with an offset rim, long inset neck and sharply biconical wall (d. of rim 6.8 cm).

512. (No. 1178): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 22/512 and pl. 47/512.**

Max. h 2.9 cm., d of rim 10.4 cm., max. w 3.2 cm., max. th 0.6 cm.

Very dark grey (10YR 3/1) slip on exterior rim; yellow (10YR 7/6) slip on lower exterior. Pale brown (2.5Y 8/4) slip and very dark grey (2.5Y 3/1) thin band on lip. Black (10YR 2.5/1) and very dark greyish brown (10YR 3/2) mottled slip on interior rim. Reddish yellow (7.5YR 6/6) unslipped surface on lower interior. Hard, thin paste, non-porous, fine, reddish yellow (7.5YR 6/6) fabric with no visible inclusions.

Base Fragments of Closed Forms (pls. 22-23, nos. 514-519)

Mostly unslipped, high bases.

513. (No. 1489): Base fragment; surface find from the Village Boncuklar, found in 2005. **pl. 47/513.**

Max. h 1.3 cm., max. w 1.8 cm., max. th 0.3 cm. Pink (7.5YR 8/4) unslipped surface on exterior and interior. Average hardness; thin paste, non-porous, fine, reddish yellow (5YR 7/6) fabric with no visible inclusions.

514. (No. 1201): Base fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 22/514 and pl. 47/514.**

Max. h 2.5 cm., d of rim 4.4 cm., max. w 5.0 cm., max. th 0.5 cm.

Reddish yellow (7.5YR 7/6) unslipped surface on exterior and interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/6) and pale brown (10YR 6/3) fabric with occasional micaceous inclusions.

515. (No. 1492): Base fragment; surface find from the Village Boncuklar, found in 2005. **pl. 23/515 and pl. 47/515.**

Max. h 1.6 cm., d of base 5.0 cm., max. w 3.8 cm., max. th 0.4 cm.

Light brownish grey (10YR 6/2) unslipped surface on exterior and interior. Hard, thin paste, very sparsely porous, fired to grey (2.5Y 5/1) fabric with occasional tiny lime inclusions.

516. (No. 946): Base fragment; Kimistene, *Acropolis*, found in 2005. **pl. 23/516 and pl. 47/516.**

Max. h 1.1 cm., d of base 5.8 cm., max. w 4.5 cm., max. th 0.3 cm.

Brown (7.5YR 4/2) eroded slip on exterior; pink (5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, pink (5YR 7/4) fabric with no visible inclusions.

517. (No. 948): Base fragment; Kimistene, *Acropolis*, found in 2005. **pl. 23/517 and pl.**

47/517.

Max. h 1.4 cm., d of base 6.0 cm., max. w 4.9 cm., max. th 0.4 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Hard, thin paste, very sparsely porous, fired to reddish yellow (5YR 6/6) and (7.5YR 6/6) mottled fabric with some tiny lime inclusions.

518. (No. 1420): Base fragment; Church, found in 2005. **pl. 23/518 and pl. 47/518.**

Max. h 2.2 cm., d of base 8.6 cm., max. w 7.3 cm., max. th 0.8 cm.

Red (2.5YR 5/6) slip on exterior; pink (5YR 7/4) unslipped surface on interior. Hard, thin paste, very sparsely porous, fired to pink (5YR 7/4) and light reddish brown (2.5YR 6/4) fabric with no visible inclusions.

519. (No. 787): Base fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 23/519 and pl. 47/519.**

Max. h 3.5 cm., d of base 11.4 cm., max. w 3.1 cm., max. th 0.9 cm.

Reddish brown (5YR 4/3) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fired to reddish yellow (7.5YR 6/6) and (5YR 6/6) fabric with frequent tiny lime inclusions.

Handle Fragments of Closed Forms (pl. 23, nos. 525-526)

Vertical handles with mottled surfaces.

520. (No. 1134): Handle fragment; Kimistene, *Acropolis*, found in 2005. **pl. 48/520.**

Max. h 1.6 cm., max. w 1.3 cm., max. th 0.7 cm.

Dark reddish grey (5YR 3/2) and black (5YR 2.5/1) mottled slip on exterior and interior.

Average hardness; thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with occasional tiny lime inclusions.

521. (No. 412): Handle fragment; Hadrianopolis, surface find, found in 2005. **pl. 48/521.**

Max. h 1.5 cm., max. w 1.4 cm., max. th 0.6 cm.

Red (2.5YR 5/6) and very dark grey (5YR 3/1) mottled slip on exterior and interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

522. (No. 240): Handle fragment; Bath A, room 12, found in 2006. **pl. 48/522.**

Max. h 2.0 cm., max. w 1.7 cm., max. th 0.6 cm.

Red (2.5YR 5/6) and dark reddish brown (5YR 3/2) mottled slip on exterior and interior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with no visible inclusions.

523. (No. 201): Handle fragment; Bath A, room 13a, below the floor, found in 2006. **pl. 48/523.**

Max. h 1.0 cm., max. w 2.3 cm., max. th 0.6 cm.

Reddish brown (5YR 4/4) and very dark grey (5YR 3/1) mottled slip on exterior and interior. Hard, thin paste, non-porous, fired to reddish yellow (5YR 6/6) and light red (2.5YR 6/6) mottled fabric with rare micaceous and tiny lime inclusions.

524. (No. 224): Handle fragment; Bath A, Room 13, found in 2006. **pl. 48/524.**

Max. h 2.5 cm., max. w 1.2 cm., max. th 0.6 cm.

Black (7.5YR 2.5/1) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with

occasional micaceous and tiny lime inclusions.

525. (No. 207): Handle fragment; Bath A, Room 1, found in 2006. **pl. 23/525 and pl. 48/525.**

Max. h 4.3 cm., max. w 1.7 cm., max. th 0.8 cm.

Brown (7.5YR 5/4) slip on exterior and interior. Hard, thin paste, very sparsely porous, fine, light yellowish brown (10YR 6/4) fabric with no visible inclusions.

526. (No. 191): Handle fragment; Bath A, Room 4, found in 2006. **pl. 23/526 and pl. 48/526.**

Max. h 4.0 cm., max. w 1.6 cm., max. th 0.7 cm.

Strong brown (7.5YR 5/6) and dark brown (7.5YR 3/2) mottled slip on exterior and interior. Average hardness; thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with frequent tiny lime inclusions.

A Lamp Fragment (pl. 48, no. 527)

A fragment of the middle part of lamp.

527. (No. 25): Body fragment; *Domus*, room 1, level 1, found in 2007. **pl. 48/527.**

Max. h 1.9 cm., max. w 2.8 cm., max. th 0.4 cm.

Dark brown (7.5YR 3/2) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent sand inclusions.

Body Fragments of Closed Forms (pl. 48, nos. 528-539)

Some with very intensive wheel-marks.

528. (No. 568): Body fragment; surface find from the Village Boncuklar, found in 2005. **pl. 48/528.**

Max. h 1.5 cm., max. w 1.4 cm., max. th 0.3 cm.

Dark brown (7.5YR 3/3) slip on exterior; greyish brown (10YR 3/2) unslipped surface on interior. Average hardness; thin paste, non-porous, fine, pale brown (10YR 6/3) fabric with no visible inclusions.

529. (No. 478): Body fragment; Bath A, room 2b, found in 2006. **pl. 48/529.**

Max. h 2.0 cm., max. w 2.5 cm., max. th 0.2 cm.

Yellowish red (5YR 5/6) slip on exterior; pale brown (2.5Y 7/3) and dark grey (2.5Y 4/1) mottled unslipped surface on interior. Hard, thin paste, non-porous, fired to light brownish grey (2.5Y 6/2) and reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

530. (No. 1267): Body fragment; Kimistene, *Necropolis*, surface find, found in 2005. **pl. 48/530.**

Max. h 1.5 cm., max. w 2.4 cm., max. th 0.3 cm.

Reddish brown (5YR 5/4) slip on exterior, pink (7.5YR 7/4) unslipped surface on interior, Average hardness; thin paste, non-porous, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

531. (No. 1326): Body fragment; Kimistene, summit of the *Acropolis*, found in 2005. **pl. 48/531.**

Max. h 2.4 cm., max. w 3.4 cm., max. th 0.4 cm.

Brown (7.5YR 4/3) slip on exterior, pink (7.5YR 7/4) unslipped surface on interior, hard, thin paste, non-porous, fine, reddish yellow (7.5YR 7/6) fabric with no visible inclusions.

532. (No. 554): Body fragment; surface find from the Village Boncuklar, found in 2005. **pl. 48/532.**

Max. h 2.7 cm., max. w 2.9 cm., max. th 0.3 cm.

Brown (10YR 5/3) slip on exterior; very pale brown (10YR 7/3) unslipped surface on interior. Average hardness; thin paste, non-porous, fine, very pale brown (10YR 7/3) fabric with no visible inclusions.

533. (No. 55): Body fragment; *Domus*, room 6, level 1, found in 2007. **pl. 48/533.**

Max. h 3.2 cm., max. w 2.7 cm., max. th 0.3 cm.

Dark greyish brown (10YR 4/2) slip on exterior; light yellowish brown (2.5Y 6/3) and dark grey (2.5Y 4/1) mottled unslipped surface on interior. Hard, thin paste, non-porous, fired to light yellowish brown (2.5Y 6/3) and dark grey (2.5Y 4/1) mottled fabric with no visible inclusions.

534. (No. 1455): Body fragment; Bath A, room 1, found in 2006. **pl. 48/534.**

Max. h 3.6 cm., max. w 3.3 cm., max. th 0.6 cm. Reddish brown (2.5YR 4/4) shiny slip on exterior, light red (2.5YR 6/6) unslipped surface on interior, hard, thin paste, non-porous, fine, yellowish red (5YR 5/6) fabric with rare lime and sand inclusions.

535. (No. 218): Body fragment; Bath A, room 1, found in 2006. **pl. 48/534.**

Max. h 4.1 cm., max. w 2.6 cm., max. th 0.5 cm.

Dark brown (7.5YR 3/2) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, light brown (7.5YR 6/4) fabric with no visible inclusions.

536. (No. 275): Body fragment; Bath A, Room 14, found in 2007. **pl. 48/536.**

Max. h 4.3 cm., max. w 3.4 cm., max. th 0.3 cm.

Dark reddish brown (5YR 3/2) slip on exterior; red (2.5YR 4/6) slip on upper exterior. Its below part has light red (2.5YR 6/6) unslipped surface on interior. Hard, thin paste, non-porous, fired to light red (2.5YR 6/6) and reddish yellow (5YR 6/6) mottled fabric with no visible inclusions.

537. (No. 338): Body fragment; Bath A, room 1, found in 2007. **pl. 48/537.**

Max. h 3.4 cm., max. w 4.5 cm., max. th 0.5 cm.

Brown (7.5YR 4/2) slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Average hardness; thin paste, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime and rare micaceous inclusions.

538. (No. 1200): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 48/538.**

Max. h 3.7 cm., max. w 4.8 cm., max. th 0.6 cm.

Brown (7.5YR 4/3) and reddish yellow (5YR 6/6) mottled slip on exterior; pink (7.5YR 7/3) unslipped surface on interior. Hard, thin paste, very sparsely porous, fine, pink (7.5YR 7/4) fabric with infrequent calsite, sand and tiny lime inclusions.

539. (No. 1408): Body fragment; Kepez, surface find, found in 2005. **pl. 48/539.**

Max. h 7.8 cm., max. w 7.9 cm., max. th 0.8 cm.

Dark brown (7.5YR 3/2) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with some small grit, sand and lime inclusions.

XII. HELLENISTIC COARSE WARE (pls. 23-25, nos. 541-580)

One of the largest groups of Hellenistic surface finds comprises the wheel-made cooking and plain ware that is classified as "Hellenistic coarse ware". Their typological and clay differences to Roman coarse ware, however, is not very distinctive. Most common forms have a large plain body and have no decoration. They should be locally manufactured.

Most common paste tones are reddish yellow (5YR 6/6-6/8-7/6, 7.5YR 6/6-7/6), yellowish red (5YR 5/6-5/8), red (2.5YR 5/6-5/8), light red (2.5YR 6/6-6/8), brown (7.5YR 5/4, 10YR 5/3), pale brown (10YR 6/3), grey (Gley 1 5/N, 10YR 6/1, 7.5YR 4/1, 5YR 5/1), reddish brown (5YR 5/4), pink (7.5YR 7/4) and light yellowish brown (10YR 6/4). Fine and hard fabric with grit, sand, lime, micaceous and grog in large sizes, visible even on the surface. Non-porous fabric with reddish yellow (5YR 6/6-7/6, 7.5YR 6/6-7/6), very pale brown (10YR 8/2-8/3-7/3), pink (7.5YR 8/3-8/4-7/4), light red (2.5YR 6/8), red (2.5YR 5/6), light reddish brown (5YR 6/4), grey (2.5Y 6/1) and light yellowish brown (10YR 6/4) slips. Wall thickness differs between 4 and 10 mm.

3 of 47 fragments belong to open and 44 to closed forms. 24 of them were found at Kepez, and the rest from Kimistene. There is no Hellenistic coarse ware from Hadrianopolis.

2nd-1st cent. B.C.

OPEN FORMS (pl. 23, no. 541) / **Rim Fragments** (pl. 23, no. 541)

It was not possible to assign any open sherds to any known forms. They belong to wide and large forms, probably for necessary household tasks such as mixing and preparing food; thus perhaps bowls.

540. (No. 1117): Rim fragment; Kimistene, *Acropolis*, found in 2005. **pl. 48/540.**

Max. h 3.8 cm., max. w 4.6 cm., max. th 1.3 cm.

Reddish yellow (5YR 6/6) slip on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent large grit and sand inclusions.

541. (No. 828): Rim fragment; Kimistene, Cistern, eastern slope, found in 2005. **pl. 23/541 and pl. 48/541.**

Max. h 6.4 cm., d of rim 27.0 cm., max. w 12.8 cm., max. th 1.1 cm.

Reddish yellow (5YR 6/6) slip on exterior and interior. Hard, non-porous, fine, red (2.5YR 5/8) fabric with frequent tiny lime inclusions.

542. (No. 1067): Rim fragment; Kepez, found in 2005. **pl. 49/542.**

Max. h 5.5 cm., d of rim 31.0 cm., max. w 8.7 cm., max. th 1.5 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior and interior. Soft, sparsely porous fine, yellowish red (5YR 5/6) fabric with frequent small grit inclusions.

CLOSED FORMS (pls. 23-25, nos. 543-580) / **Rim Fragments** (pls. 23-24, nos. 543-547)

They should be associated with storage or pouring activities in the household. Most of them are smaller sherds belonging to deep vessel forms with a globular or ovoid body, a constricted neck, a slightly thickened everted and outcurved rim and a flat or slightly rounded base. Thus, they could be cooking pots or jugs with a variation in size from from 9.4 to 24 cm cm in rim diameter.

543. (No. 1052): Rim fragment of a jug; Kepez, found in 2005. **pl. 23/543 and pl. 49/543.**

Max. h 3.1 cm., max. w 2.7 cm., max. th 0.7 cm.

Very pale brown (10YR 8/2) slip on exterior and interior. Average hardness; non-porous, fine, reddish yellow (7.5YR 6/6) fabric with frequent tiny lime inclusions.

544. (No. 594): Rim fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 49/544.**

Max. h 5.0 cm., max. w 4.6 cm., max. th 1.0 cm.

Very pale brown (10YR 7/3) slip on exterior and interior rim. Reddish yellow (5YR 6/6) unslipped surface on lower interior. Hard, very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime and some sand inclusions.

545. (No. 949): Rim fragment; Kepez, the surface find in the Cistern, found in 2005. **pl. 23/545 and pl. 49/545.**

Max. h 2.5 cm., d of rim 9.4 cm., max. w 3.5 cm., max. th 0.7 cm.

Reddish yellow (5YR 6/6) slip on exterior and interior. Average hardness; non-porous, fine, light brown (7.5YR 6/6) fabric with some sand inclusions.

546. (No. 1156): Rim fragment; Kepez, the surface find in the Cistern, found in 2005. **pl. 23/546 and pl. 49/546.**

Max. h 2.0 cm., d of rim 13.6 cm., max. w 4.8 cm., max. th 0.4 cm.

Grey (2.5Y 6/1) slip on exterior; light grey (2.5Y 7/1) unslipped surface on interior. Hard, non-porous, fine, grey (10YR 6/1) fabric with some lime and large grit inclusions.

547. (No. 1273): Rim fragment of a casserole (?); Kimistene, *Necropolis*, found in 2005. **pl. 24/547 and pl. 49/547.**

Max. h 2.7 cm., d of rim 24.0 cm., max. w 4.2 cm., max. th 1.3 cm.

Grey (2.5Y 6/1) unslipped surface on exterior; grey (Gley 1 6/N) unslipped surface on interior. Hard, sparsely porous, fine, grey (Gley 1 5/N) fabric with frequent lime and sand inclusions. Parallel: Sagona, Sagona 2004, 127, 441, fig. 118,4 (from Eski Köyeri Tepe 1; numbered as "BPS 30").

Base Fragments of Closed Forms (pl. 24, nos. 548-556)

Ring bases of small jugs or table *amphorae*.

548. (No. 1108): Base fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 24/548 and pl. 49/548.**

Max. h 1.4 cm., d of base 8.0 cm., max. w 6.5 cm., max. th 1.0 cm.

Reddish yellow (5YR 7/6) unslipped surface on exterior and interior. Average hardness; non-porous, fine, yellowish red (5YR 5/6) fabric with frequent tiny lime inclusions.

549. (No. 992): Base fragment; Kepez, found in 2005. **pl. 24/549 and pl. 49/549.**

Max. h 2.9 cm., d of base 8.2 cm., max. w 4.3 cm., max. th 1.2 cm.

Very pale brown (10YR 7/3) slip on exterior; light brownish grey (10YR 6/2) unslipped surface on interior. Average hardness; very sparsely porous, fired to dark grey (10YR 4/1) and pale brown (10YR 6/3) fabric with occasional tiny lime and sand inclusions.

550. (No. 1072): Base fragment; Kepez, found in 2005. **pl. 24/550 and pl. 49/550.**

Max. h 1.6 cm., d of base 8.4 cm., max. w 4.5 cm., max. th 1.0 cm.

Reddish yellow (7.5YR 7/6) unslipped surface all of surface. Average hardness; non-porous, fired to reddish yellow (5YR 6/6) fabric with infrequent tiny lime inclusions.

551. (No. 1228): Base fragment; Kepez, found in 2005. **pl. 24/551 and pl. 49/551.**

Max. h 2.7 cm., d of base 10.0 cm., max. w 8.8 cm., max. th 1.2 cm.

Reddish yellow (7.5YR 7/6) unslipped surface on exterior and interior. Pink (7.5YR 7/4) unslipped surface on interior. Average hardness; very sparsely porous, fine, reddish yellow (7.5YR 7/6) fabric with infrequent small grit inclusions.

552. (No. 1113): Base fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 24/552 and pl. 49/552.**

Max. h 2.7 cm., d of base 10.8 cm., max. w 8.3 cm., max. th 1.4 cm.

Reddish yellow (7.5YR 6/6) slip on exterior. Exterior surface is burnished. Reddish yellow (5YR 6/6) slip on interior. Hard, very sparsely porous, fired to yellowish red (5YR 5/6) and grey (7.5YR 6/1) fabric with frequent tiny lime inclusions.

553. (No. 997): Base fragment; Kimistene, *Acropolis*, found in 2005. **pl. 24/553 and pl. 49/553.**

Max. h 4.9 cm., d of base 11.2 cm., max. w 8.8 cm., max. th 1.2 cm.

Light yellowish brown (10YR 6/4) unslipped surface on exterior; light brown (7.5YR 6/4) unslipped surface on interior. Soft, very sparsely porous, fired to brown (10YR 5/3) fabric with some sand inclusions.

554. (No. 1155): Base fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 24/554 and pl. 49/554.**

Max. h 4.4 cm., d of base 12.4 cm., max. w 11.7 cm., max. th 1.4 cm.

Light yellowish brown (10YR 6/4) thin slip on exterior; light brown (7.5YR 6/4) unslipped surface on interior. Hard, porous, fired to light yellowish brown (10YR 6/4) and

brown (10YR 4/2) fabric with some tiny lime and sand inclusions.

555. (No. 1367): Base fragment; Kimistene, *Acropolis*, found in 2005. **pl. 24/555 and pl. 50/555.**

Max. h 3.5 cm., d of base 12.8 cm., max. w 6.9 cm., max. th 1.1 cm.

Reddish yellow (5YR 6/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Average hardness; sparsely porous, fine, reddish yellow (5YR 6/8) fabric with frequent tiny lime inclusions.

556. (No. 1110): Base fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 24/556 and pl. 50/556.**

Max. h 2.1 cm., d of base 16.0 cm., max. w 7.5 cm., max. th 1.0 cm.

Very pale brown (10YR 8/3) slip on exterior; brown (7.5YR 5/3) unslipped surface on interior. Average hardness; non-porous, fine, brown (7.5YR 5/4) fabric with some tiny lime and occasional micaceous inclusions.

Handle Fragment of Closed Form (pl. 50, no. 557)

Vertical handle.

557. (No. 448): Handle fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 50/557.**

Max. h 8.0 cm., max. w 3.9 cm., max. th 2.9 cm.

Pink (7.5YR 8/3) slip on all of surface. hard, porous, fine, reddish yellow (5YR 6/6) fabric with some lime and occasional grog inclusions.

Body Fragment of Closed Form (pl. 25, nos. 579-580)

Some of them are decorated with simple painting or relieving.

558. (No. 761): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/558.**

Max. h 1.6 cm., max. w 1.9 cm., max. th 0.6 cm.

Reddish yellow (5YR 7/6) unslipped surface on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime and rare grog inclusions.

559. (No. 748): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/559.**

Max. h 1.9 cm., max. w 2.2 cm., max. th 0.7 cm.

Pink (7.5YR 8/4) slip on exterior; light red (2.5YR 7/6) unslipped surface on interior. Hard, non-porous, fine, yellowish red (5YR 5/8) fabric with rare lime inclusions.

560. (No. 770): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/560.**

Max. h 2.7 cm., max. w 2.2 cm., max. th 0.6 cm.

Reddish yellow (5YR 7/6) unslipped surface on exterior and interior. Hard, very sparsely porous, fine, reddish yellow (5YR 7/6) fabric with rare medium lime inclusions.

561. (No. 1055): Body fragment; Kepez, found in 2005. **pl. 50/561.**

Max. h 2.9 cm., max. w 3.2 cm., max. th 0.6 cm. Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Hard, non-porous, fine, red (2.5YR 5/6) fabric with some lime and rare medium grit inclusions.

562. (No. 779): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/562.**

Max. h 2.7 cm., max. w 3.1 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/8) fabric with some lime, medium grit and rare micaceous inclusions.

563. (No. 785): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/563.**

Max. h 3.3 cm., max. w 3.3 cm., max. th 0.7 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/8) fabric with some lime, small grit and rare micaceous inclusions.

564. (No. 729): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/564.**

Max. h 2.5 cm., max. w 3.6 cm., max. th 1.2 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Average hardness; non-porous, fine, yellowish red (5YR 5/6) fabric with some sand inclusions.

565. (No. 1177): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 50/565.**

Max. h 2.8 cm., max. w 3.7 cm., max. th 1.0 cm.

Reddish yellow (7.5YR 7/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Average hardness; non-porous, fine, red-

dish yellow (5YR 6/8) fabric with infrequent tiny lime inclusions.

566. (No. 778): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/566.**

Max. h 4.2 cm., max. w 2.8 cm., max. th 0.6 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Hard, non-porous, fine, reddish yellow (5YR 6/8) fabric with some lime, small grit and rare micaceous inclusions.

567. (No. 777): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavated area under the temple's podium, found in 2005. **pl. 50/567.**

Max. h 3.9 cm., max. w 3.6 cm., max. th 0.7 cm.

Light red (2.5YR 6/8) slip on exterior; light red (2.5YR 7/6) unslipped surface on interior. Hard, thin paste, non-porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime inclusions.

568. (No. 1196): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Dereemail creek, found in 2005. **pl. 50/568.**

Max. h 4.6 cm., max. w 4.0 cm., max. th 0.9 cm.

Pink (7.5YR 7/4) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fired to reddish yellow (5YR 6/6) and grey (7.5YR 5/1) fabric with occasional micaceous and rare lime inclusions.

569. (No. 1230): Body fragment; Kepez, found in 2005. **pl. 50/569.**

Max. h 5.0 cm., max. w 4.7 cm., max. th 1.0 cm.

Reddish yellow (7.5YR 7/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Hard, non-porous, fired to yellowish red (5YR 5/6) fabric with frequent tiny lime inclusions.

570. (No. 1289): Body fragment; Kimistene, *Acropolis*, found in 2005. **pl. 50/570.**

Max. h 4.1 cm., max. w 5.1 cm., max. th 1.0 cm.

Reddish yellow (2.5YR 6/6) unslipped surface on exterior and interior. Hard, non-porous, fine, yellowish red (5YR 5/6) fabric with infrequent tiny lime and sand inclusions.

571. (No. 1137): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 50/571.**

Max. h 4.9 cm., max. w 5.6 cm., max. th 1.0 cm.

Pink (7.5YR 7/4) unslipped surface on upper exterior; its below part has very pale brown (10YR 8/2) slip. Reddish yellow (2.5YR 6/6) unslipped surface on interior. A band in red (2.5YR 5/6) on exterior. Exterior surface is burnished. Hard, non-porous, fine, red (2.5YR 5/6) fabric with rare lime inclusions.

Parallel: Zolotarev 2005, 197, 207, fig. 9, 3 (a bulbous jug with flat or concave base, a short neck and a double-barrel handle and decorated with encircling, red-painted bands; 3rd century B.C.).

572. (No. 989): Body fragment; Kepez, found in 2005. **pl. 50/572.**

Max. h 5.1 cm., max. w 5.3 cm., max. th 0.4 cm.

Reddish yellow (5YR 7/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Hard, very sparsely porous, fired to red (2.5YR 5/8) and pale brown (10YR 6/3) fabric with infrequent tiny lime, rare sand inclusions.

573. (No. 1229): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 50/573.**

Max. h 6.8 cm., max. w 4.2 cm., max. th 1.2 cm.

Reddish yellow (5YR 6/6) unslipped surface on exterior and interior. Hard, sparsely porous, fine, reddish yellow (5YR 6/6) fabric with some tiny lime, medium grit inclusions.

574. (No. 463): Body fragment; Kimistene, *Acropolis*, southern slope, just below the summit, up to Deresemail creek, found in 2005. **pl. 50/574.**

Max. h 3.0 cm., max. w 8.2 cm., max. th 0.9 cm.

Red (2.5YR 5/6) slip on exterior; reddish yellow (5YR 6/4) unslipped surface on interior. A band in pinkish white (7.5YR 8/2) on exterior slip. Hard, very sparsely porous, fine, reddish yellow (7.5YR 6/6) fabric with some tiny lime inclusions.

575. (No. 1297): Body fragment; Kimistene, *Acropolis*, temple slope, illegally excavated pit, found in 2005. **pl. 51/575.**

Max. h 7.1 cm., max. w 4.7 cm., max. th 0.8 cm.

Reddish yellow (5YR 6/6) slip on exterior; pink (5YR 7/4) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fine, light reddish brown (5YR 6/4) fabric with frequent tiny lime, occasional sand inclusions.

576. (No. 863): Body fragment; Kimistene, *Acropolis*, temple slope, illegal excavation area, altar with *boucranon*, found in 2005. **pl. 51/576.**

Max. h 7.3 cm., max. w 5.8 cm., max. th 0.8 cm.

Pink (7.5YR 7/4) slip on exterior; very pale brown (10YR 7/4) unslipped surface on inte-

rior. Exterior surface is burnished. Hard, non-porous, fired to very pale brown (10YR 7/4) and light red (2.5YR 6/8) fabric with frequent tiny lime and occasional sand inclusions.

577. (No. 1164): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 51/577.**

Max. h 6.6 cm., max. w 7.9 cm., max. th 0.9 cm.

Reddish yellow (5YR 6/6) thin slip on exterior; reddish yellow (7.5YR 7/6) unslipped surface on interior. Exterior surface is burnished. Hard, non-porous, fired to yellowish red (5YR 5/6) and reddish yellow (7.5YR 6/6) fabric with some tiny lime and micaceous inclusions.

578. (No. 1379): Body fragment; Kepez, *Necropolis*, found in 2005. **pl. 51/578.**

Max. h 6.5 cm., max. w 8.2 cm., max. th 1.1 cm.

Light brown (7.5YR 6/3) unslipped surface on exterior; light red (2.5YR 6/8) unslipped surface on interior. Traces of carbon on exterior. Hard, non-porous, light red (2.5YR 6/6) fabric with frequent tiny lime and occasional sand inclusions.

579. (No. 1151): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 25/579 and pl. 51/579.**

Max. h 6.7 cm., max. w 9.5 cm., max. th 1.0 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (7.5YR 6/6) unslipped surface on interior. Hard, very sparsely porous, fired to reddish yellow (7.5YR 6/6) and brown (7.5YR 4/2) fabric with some tiny lime, medium grit and micaceous inclusions.

580. (No. 726): Body fragment; Kimistene, *Acropolis*, temple's terrace, illegally excavat-

ed area under the temple's podium, found in 2005. **pl. 25/580 and pl. 51/580.**

Max. h 7.7 cm., max. w 8.5 cm., max. th 1.0 cm.

Reddish yellow (5YR 7/6) slip on exterior; reddish yellow (5YR 6/6) unslipped surface on interior. Hard, non-porous, fine, reddish yellow (5YR 6/8) fabric with frequent tiny lime, medium grit and micaceous inclusions.

581. (No. 1293): Body fragment; Kepez, found in 2005. **pl. 51/581.**

Max. h 6.4 cm., max. w 9.9 cm., max. th 0.9 cm.

Very pale brown (10YR 8/3) abrasion slip on exterior; light reddish brown (5YR 6/4) unslipped surface on interior. Hard, non-porous, fine, yellowish red (5YR 5/6) fabric with frequent tiny lime inclusions.

582. (No. 1162): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 51/582.**

Max. h 7.5 cm., max. w 10.1 cm., max. th 0.9 cm.

Very pale brown (10YR 8/2) slip on exterior; reddish yellow (7.5YR 6/6) unslipped surface on interior. Average hardness; very sparsely porous, fine, reddish yellow (5YR 6/6) fabric with frequent tiny lime, medium grit and micaceous inclusions.

583. (No. 1154): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 52/583.**

Max. h 11.2 cm., max. w 8.4 cm., max. th 0.6 cm.

Very pale brown (10YR 8/2) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, porous, fine, pink (7.5YR 7/4) fabric with frequent tiny lime, rare micaceous and sand inclusions.

584. (No. 697): Body fragment; Kimistene, *Acropolis*, temple's eastern slope, surface find, found in 2005. **pl. 52/584.**

Max. h 9.2 cm., max. w 9.2 cm., max. th 0.3 cm.

Reddish yellow (5YR 6/6) slip on exterior; pink (7.5YR 7/4) unslipped surface on interior. Hard, very sparsely porous, fired to yellowish red (5YR 5/6) and grey (5YR 5/1) fabric with frequent large grit and lime inclusions.

585. (No. 1474): Body fragment; Kepez, in the rock-cut grave, found in 2005. **pl. 52/585.**

Max. h 4.6 cm., max. w 10.3 cm., max. th 1.4 cm.

Light brown (7.5YR 6/4) unslipped surface on exterior and interior. Soft, sparsely porous, fine, brown (7.5YR 5/4) fabric with frequent tiny lime, sand and some medium grit inclusions.

586. (No. 1153): Body fragment; Kepez, surface find in the Cistern, found in 2005. **pl. 52/586.**

Max. h 9.4 cm., max. w 8.4 cm., max. th 1.5 cm.

Very pale brown (10YR 8/3) slip on exterior; reddish yellow (5YR 7/6) unslipped surface on interior. Hard, non-porous, fine, light red (2.5YR 6/8) fabric with frequent tiny lime and some large grit inclusions in its interior surface.

CONCLUSIONS

In our surveys it was difficult to distinguish the characteristics of Middle and Late Iron Age sherds as well as their differences to each other. The lack of architectural evidence in the region is also making the characterization of Iron Age settlements in southwestern Paphlagonia difficult. Unfortunately very few sherds were found in any stratigraphic contexts; most of them are from the surface surveys. Kimistene is one of very few places in Paphlagonia where we have both locally manufactured Iron Age painted and grey ware with a limited typological repertory. It is, however, interesting to note that both wares do not occur in the same find spots: grey ware has a concentration in the stratified levels of the temple terrace, but painted ware was only found on the slopes of Kimistene's *Acropolis*. One of the very few stratified data for our ceramics comes from beneath the Roman temple's podium on Kimistene's *Acropolis* which has been dug out illegally at the beginning of the 2000s. Here we have at least three strata of c. 2 m deep, including mudbrick architecture and numerous grey ware sherds.

As the similarity of the ceramic evidence of southwestern Paphlagonia with that of Boğazköy, Gordion, Oluz Höyük, İkiztepe, Alışar IV, Kaman-Kalehöyük and Çadır Höyük shows, in the Iron Age southwestern Paphlagonia definitely had contact with the ceramic traditions of the Central Anatolian Plateau and the Central Black Sea area. The Late Iron Age is often associated with the Achaemenid presence in Paphlagonia (Matthews 2009, 155-156; and for Achaemenid presence in Paphlagonia: Johnson 2010). In our surveys we have almost no indication for the physical existence of the Achaemenids in our survey area, as the Achaemenid rule is hard to discern through its material culture. In both the Iron Age and the Hellenistic period imported pottery is very rare; most of the products should be locally manufactured. Our Iron Age and Hellenistic surface material

shows a continuity of form and decoration from the preceding Iron Age into the Hellenistic era, as also attested on the Konya plain and in the Amasya region (Matthews 2009, 173; Dönmez 2005a, 69).

As Matthews indicates (Matthews 2009, 173), Alexander's march and the progress of the Hellenistic age across Anatolia had no significant material impact upon the inhabitants of Inner Paphlagonia. Beside that, our knowledge about Hellenistic Paphlagonia is extremely limited: Strabo wrote that before his time Paphlagonia was ruled by several kings (12.3.41). In alliance with the Bithynian king, Nicomedes III Euergetes, Mithradates VI conquered Paphlagonia in 108/7 B.C. It seems that during the Hellenistic period the Kimistene region had almost no contact with the coastal Greek cities, although the first Greek influences should have begun in this period. Thus, we should expect a closed and isolated administration in southwestern Paphlagonia during this period.

Most of our Hellenistic pottery results depend on Kimistene. Hellenistic material from this hill-top site proves that this site was settled beginning at least in the Iron Age and continued through the entire Hellenistic period without a break. It should have had a specific (religious?) function during the Hellenistic period; perhaps the Roman temple in Kimistene had an Iron Age and Hellenistic predecessor in wooden form. Since Hellenistic settlements in the area are rare, the material from Kimistene is immensely important. Kepez should also have had a specific function as a Hellenistic grave site, but the use of this site continued until the Early Byzantine period.

In the Hellenistic period locally manufactured pottery in southwestern Paphlagonia was very conservative in terms of typology and decoration and this did not change for a long time. Their clay characteristics with either red or brown fabric are very homogeneous. They mostly consist of basic open forms, such as dining vessels (incurved

rim bowls, fish plates, everted rim bowls, dishes etc.), imitated from western and northern workshops, sometimes with banded decoration. As in the Iron Age, Hellenistic finds from southwestern Paphlagonia are also connected with Central and Northern Anatolian Hellenistic pottery traditions. Hellenistic sherds from Kimistene are similar to the finds from Oluz Höyük in Amasya. The pottery from Kimistene and the rest of southwestern Paphlagonia, especially the painted examples, indicates religious-ritual activities. Thus, they do not really reflect daily Hellenistic life in this part of the ancient world.

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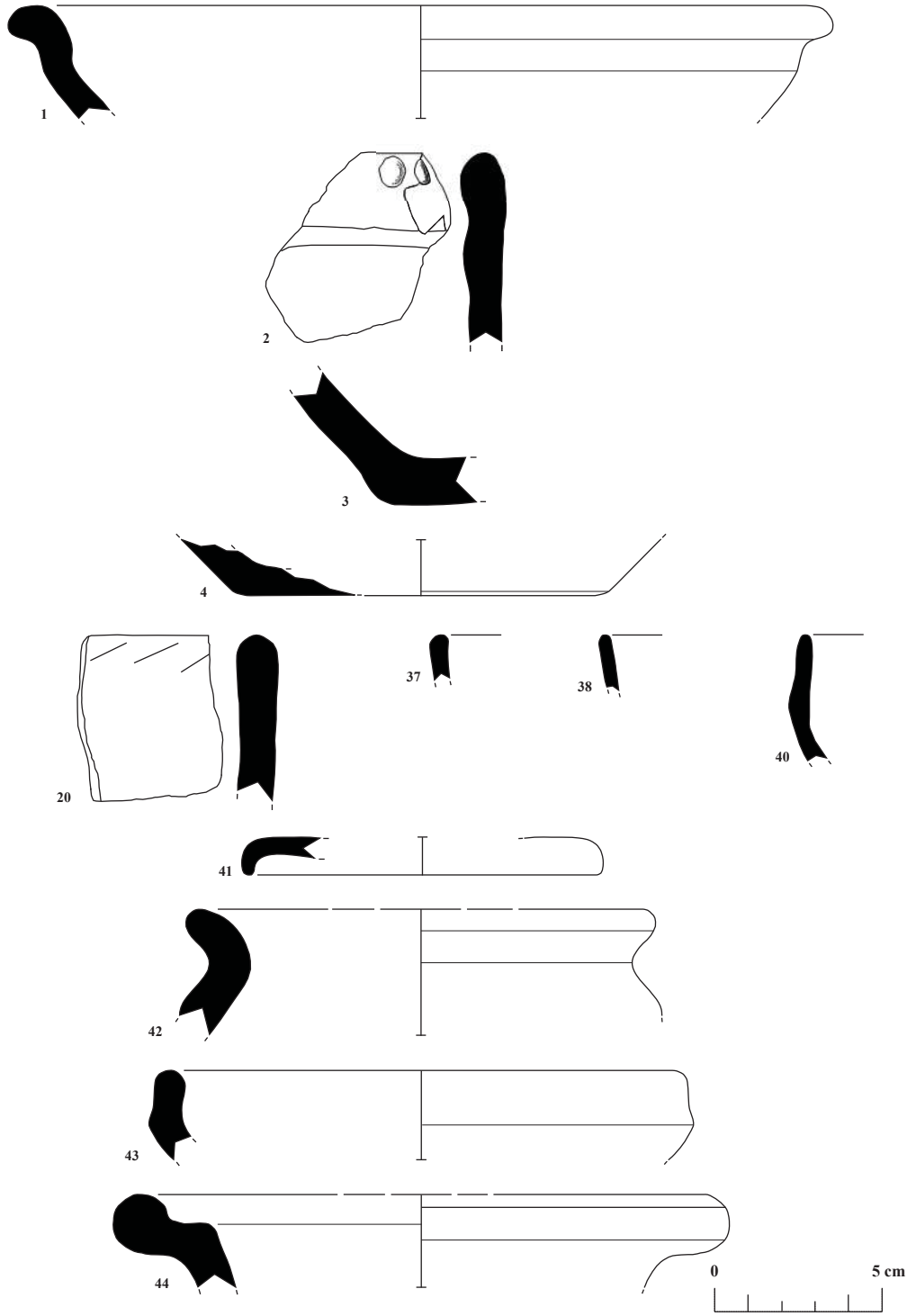
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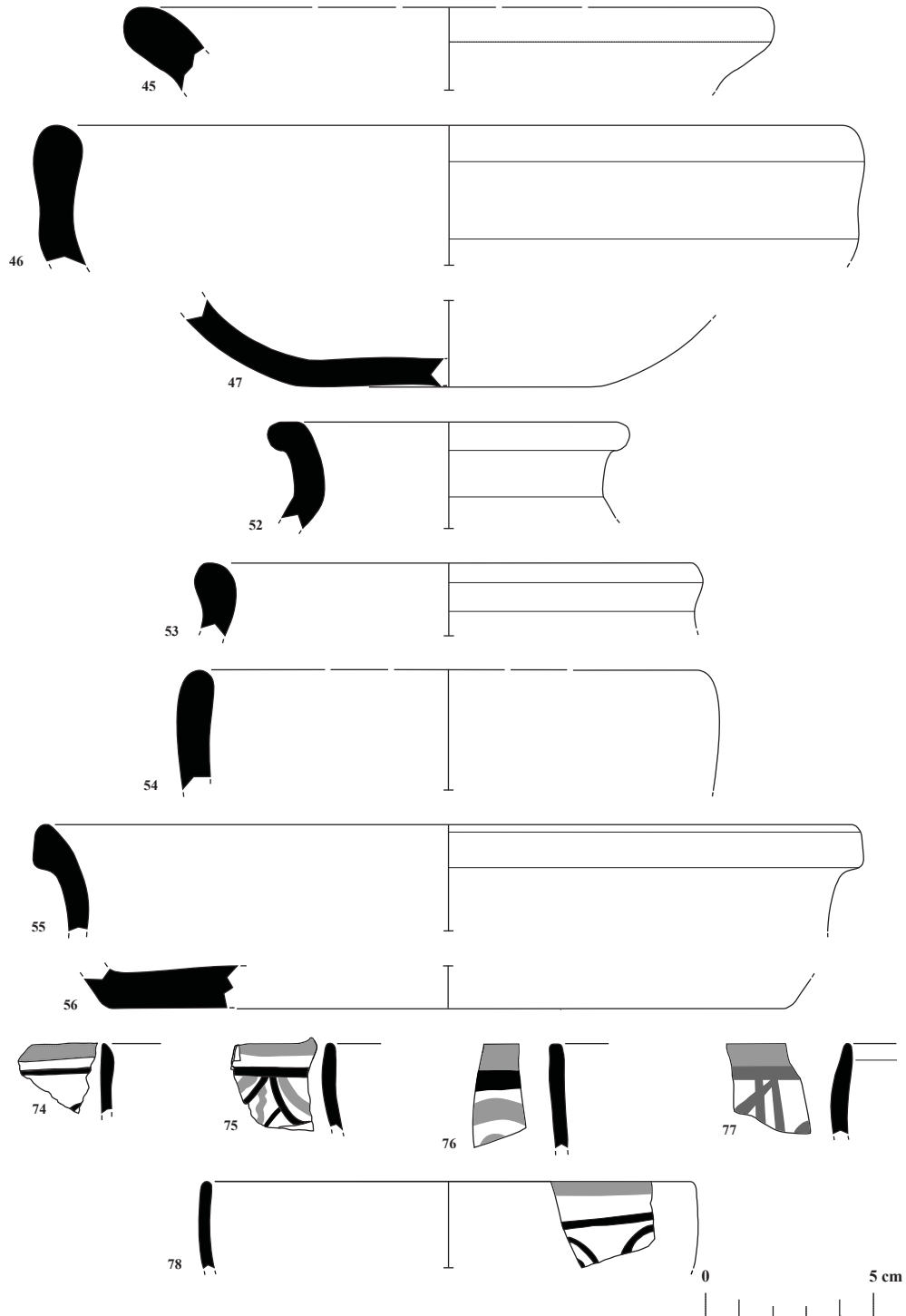
GVOZDENO DOBA I HELENISTIČKA KERAMIKA IZ JUGOZAPADNE PAFLAGONIJE

KLJUČNE REČI: PAFLAGONIJA, KIMISTENA, HADRIJANOPOLIS, CRNO MORE, MALA AZIJA, TURSKA, GVOZDENO DOBA, FRIGIJSKI, HELENISTIČKI.

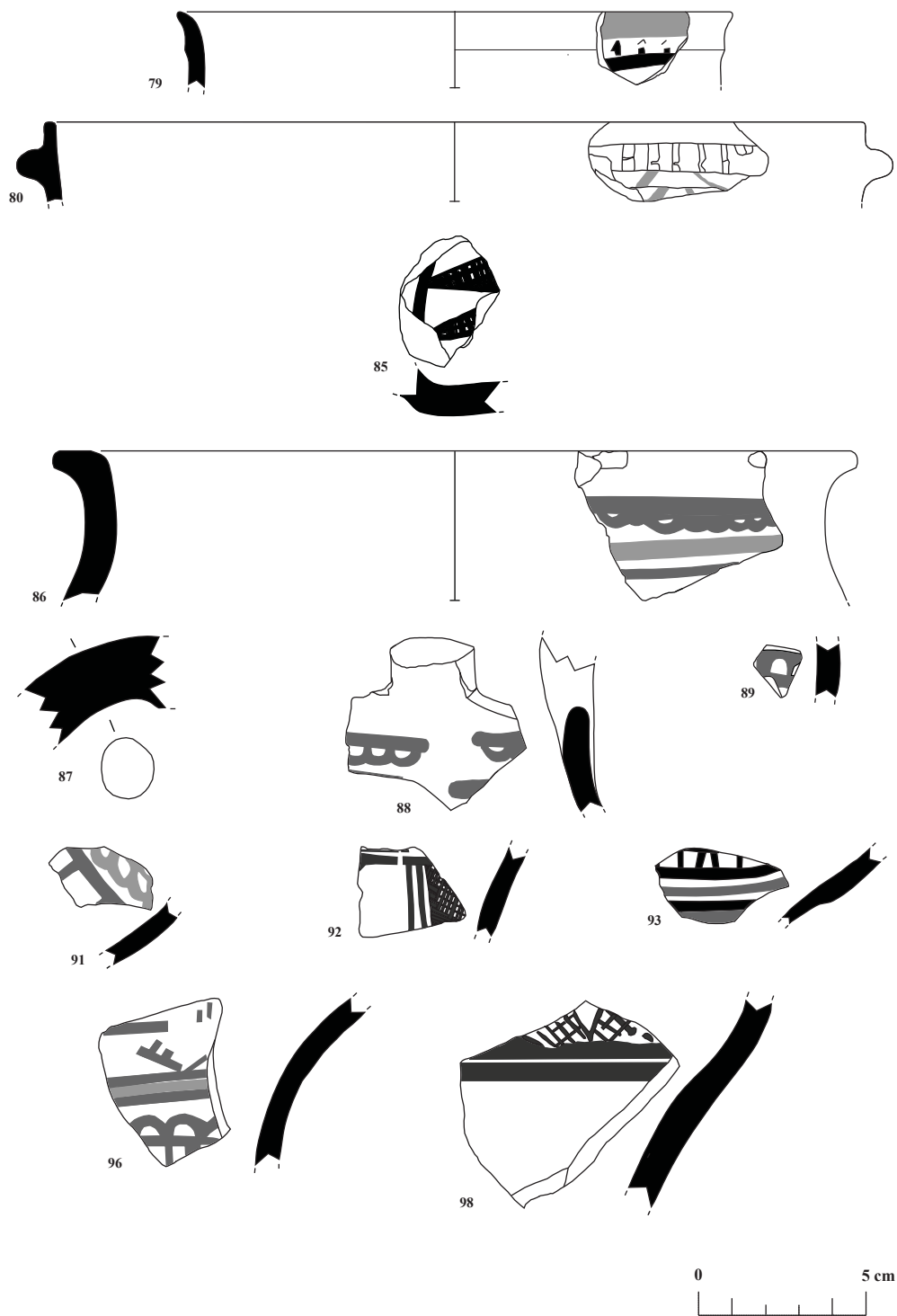
Paflagonija je stara oblast na crnomorskoj obali središnje severne Anadolije, koja se na zapadu graničila sa Bitinijom, na istoku sa Pontskom kraljevinom, a na jugu sa Galatijom. Arheološka ekipa sa univerziteta Dokuz Eylül iz Izmiru je između 2005. i 2008. izvršila rekonosciranje, kao i iskopavanje u jugozapadnom delu Paflagonije. U ovom obimnom radu, dat je detaljan prikaz keramičkih nalaza i perioda gvozdene doba i Helenizma, a koji su otkriveni tokom napred navedenih istraživanja. Prikazana je tipologija različitih keramičkih fragmenata, uglavnom sakupljenih sa površine. Za razliku od ostalih lokaliteta iz perioda kojima se ovde bavimo, jasnije informacije potiču sa Kimistene, lokaliteta na visoravni smeštenoj unutar istraživane oblasti u jugozapadnoj Paflagoniji. Ova studija je dovela do razdvajanja dveju keramičkih grupa: iz perioda gvozdene doba i iz Helenizma, koja usled toga predstavlja prvu detaljnu tipologiju helenističke keramike iz turskog crnomorskog priobalja.



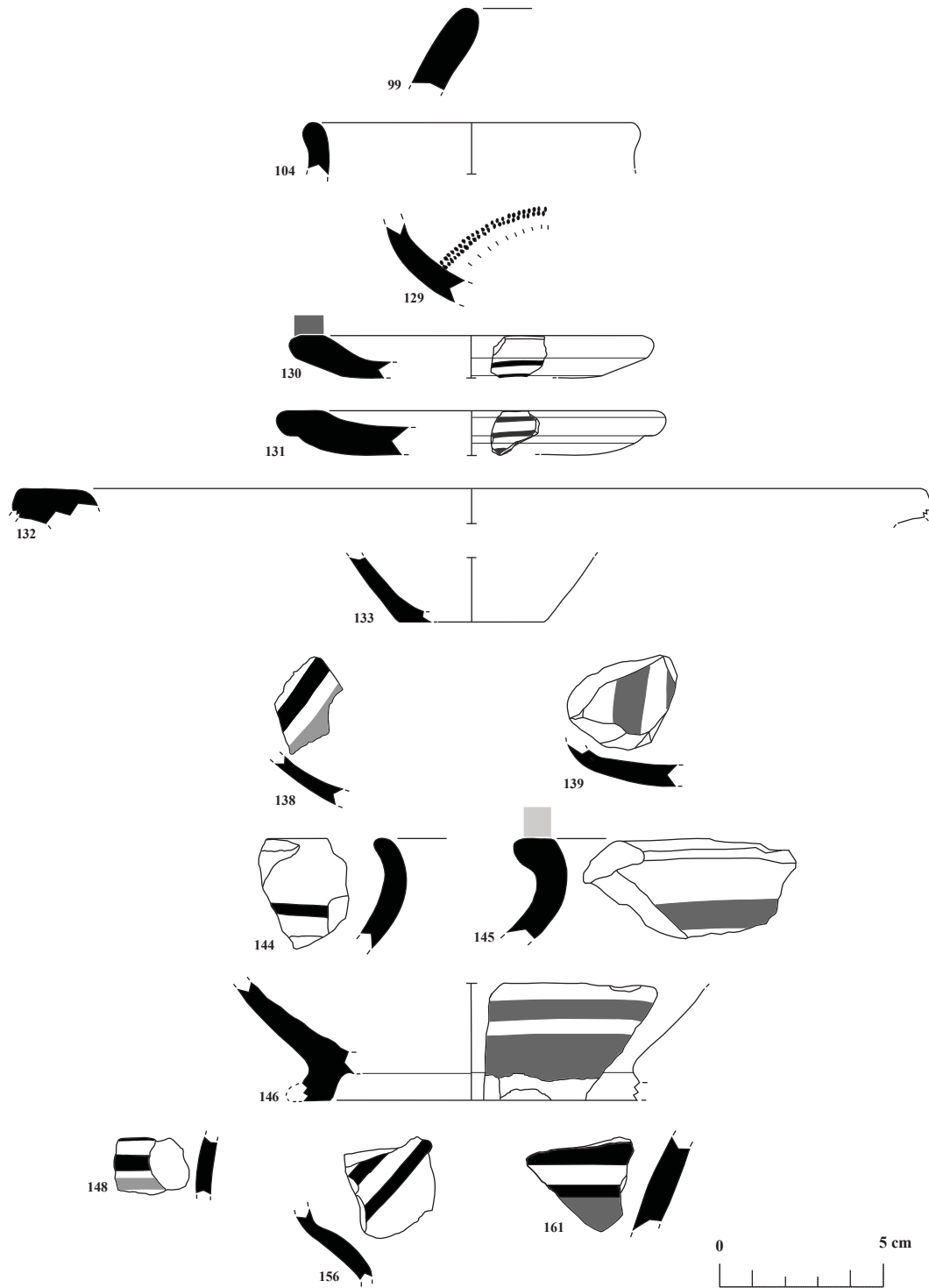
Pl. 1: Nos. 1-20: Pre-Iron Age pottery; nos. 1-2: Rim fragments; nos. 3-4: Base fragments of open forms; no. 20: A rim fragment of a closed form; and nos. 37-44: Iron Age grey ware, rim fragments of open forms.



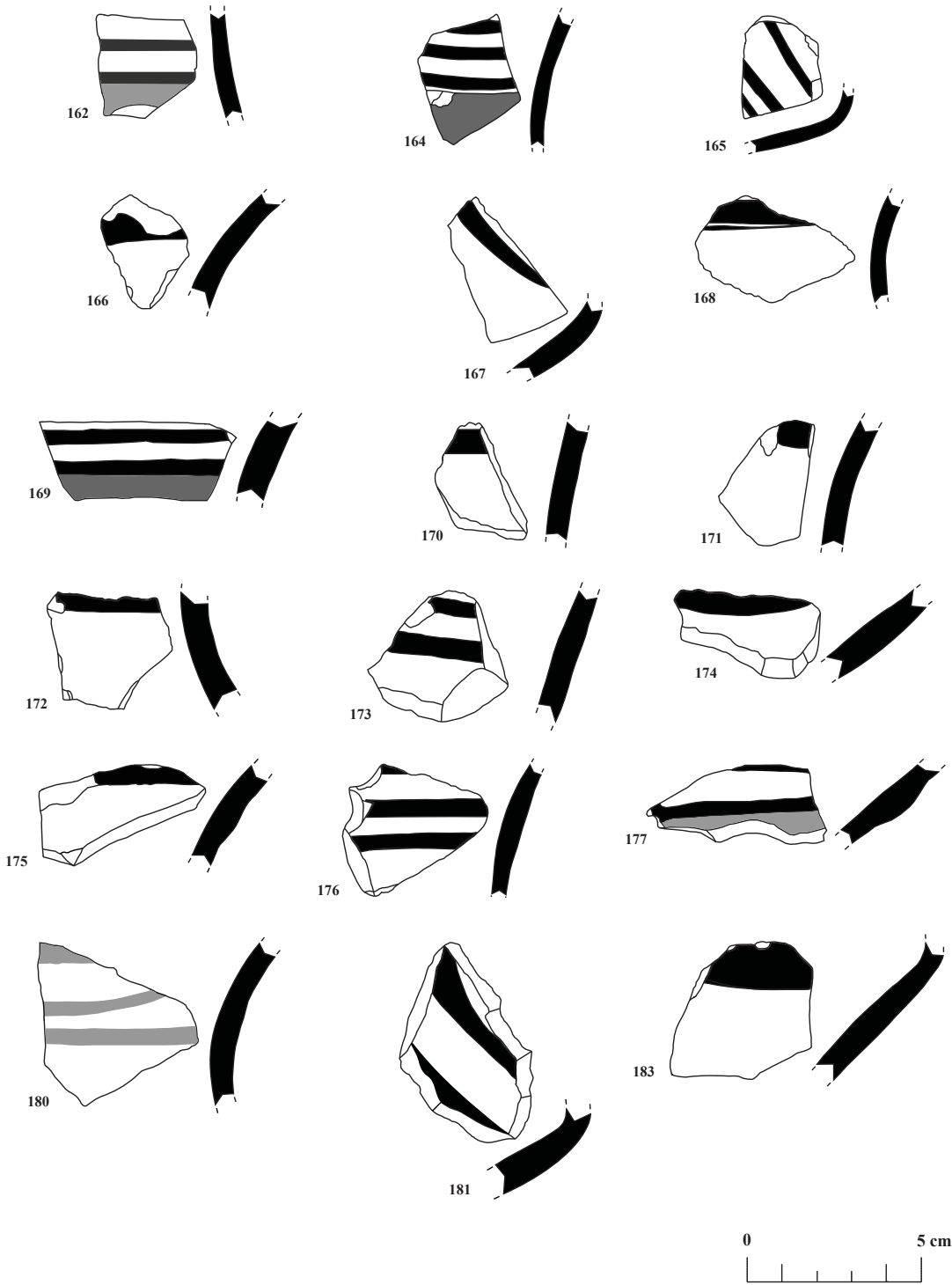
Pl. 2: Nos. 45-56: Iron Age grey ware; nos. 45-46: Rim fragments of open forms; no. 47: A base fragment of open forms; nos. 52-55: Rim fragments of closed forms; no. 56: A base fragment of a closed form; and nos. 74-78: Iron Age painted ware, rim fragments of a bowl form.



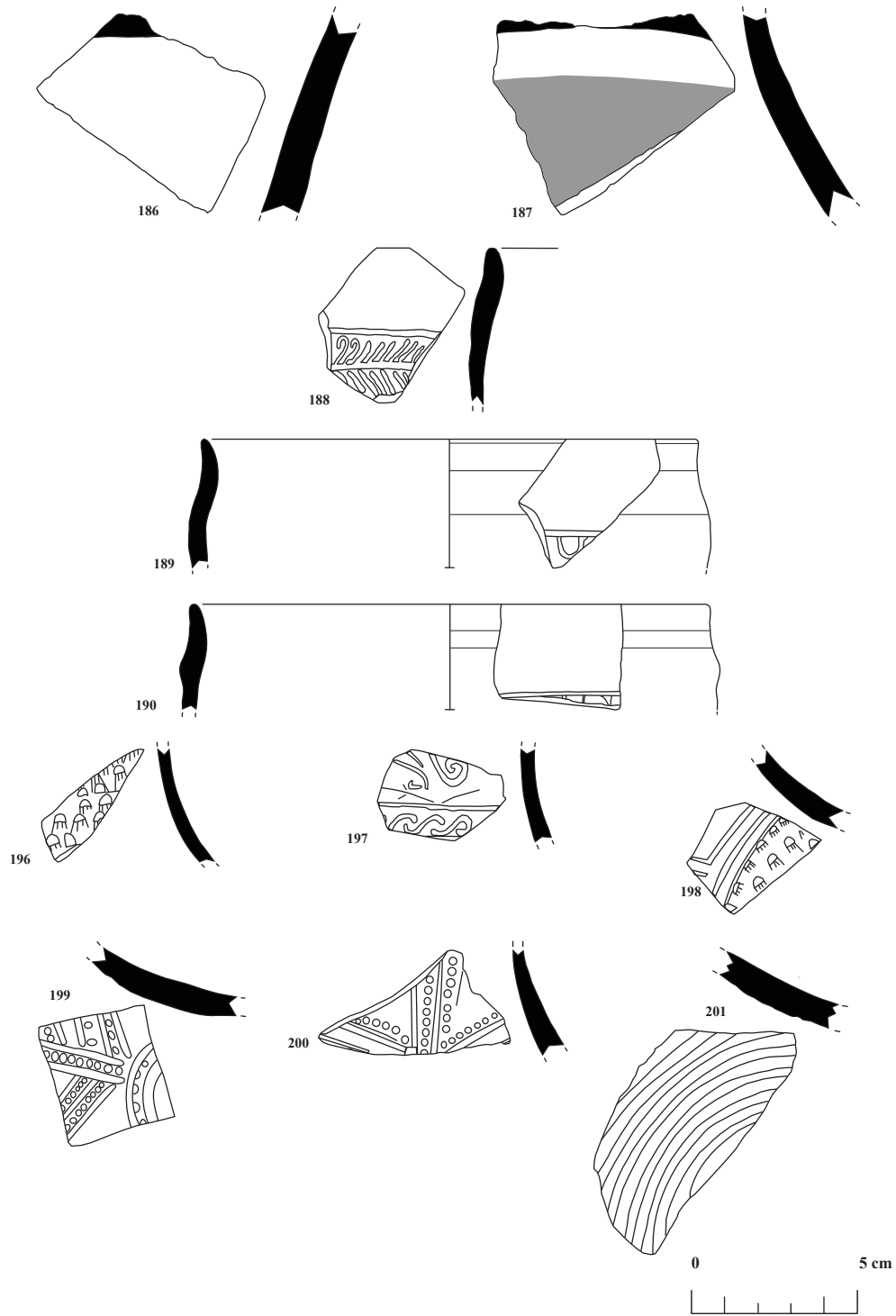
Pl. 3: Nos. 79-98: Iron Age painted ware; nos. 79-80: rim fragments of a bowl form; no. 85: A body fragment of open forms; no. 86: A rim fragment of closed forms; nos. 87-88: Handle fragments of closed forms; and nos. 89-98: Body fragments of closed forms.



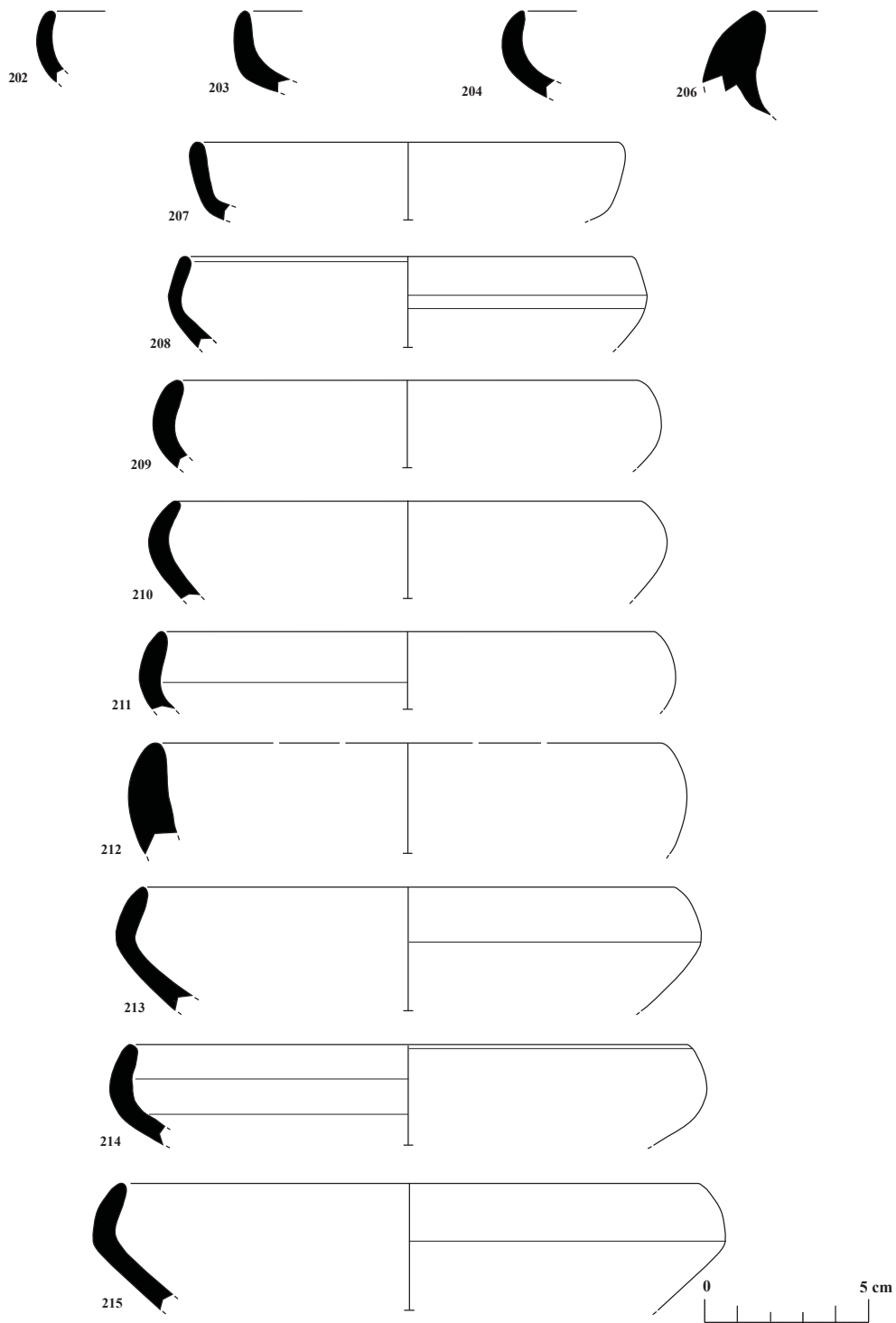
Pl. 4: Nos. 99-104: Iron Age coarse ware; no. 99: A rim fragment of open forms; nos. 100-103: Body fragments of open forms; no. 104: Rim fragment of closed forms; nos. 106-128: Body fragments of closed forms; no. 129: A Pontic *skyphos* fragment; nos. 130-161: Hellenistic painted ware; nos. 130-132: Rim fragments of open forms; no. 133: A base fragment of open forms; nos. 138-139: Body fragments of open forms; nos. 144-145: Rim fragments of closed forms; no. 146: A base fragment of closed forms; and nos. 148-161: Body fragments of closed forms.



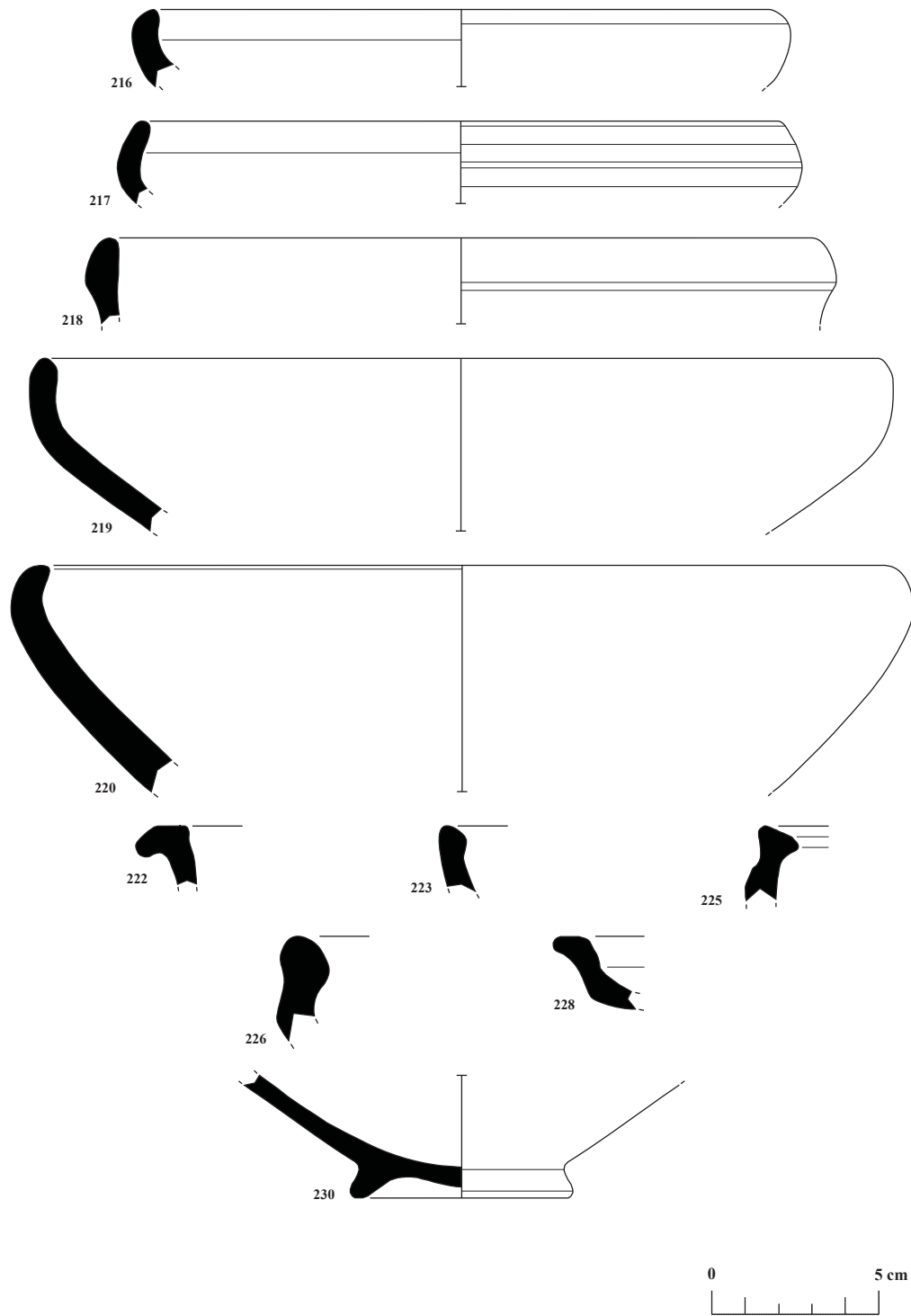
Pl. 5: Nos. 162-183: Hellenistic painted ware, body fragments of closed forms.



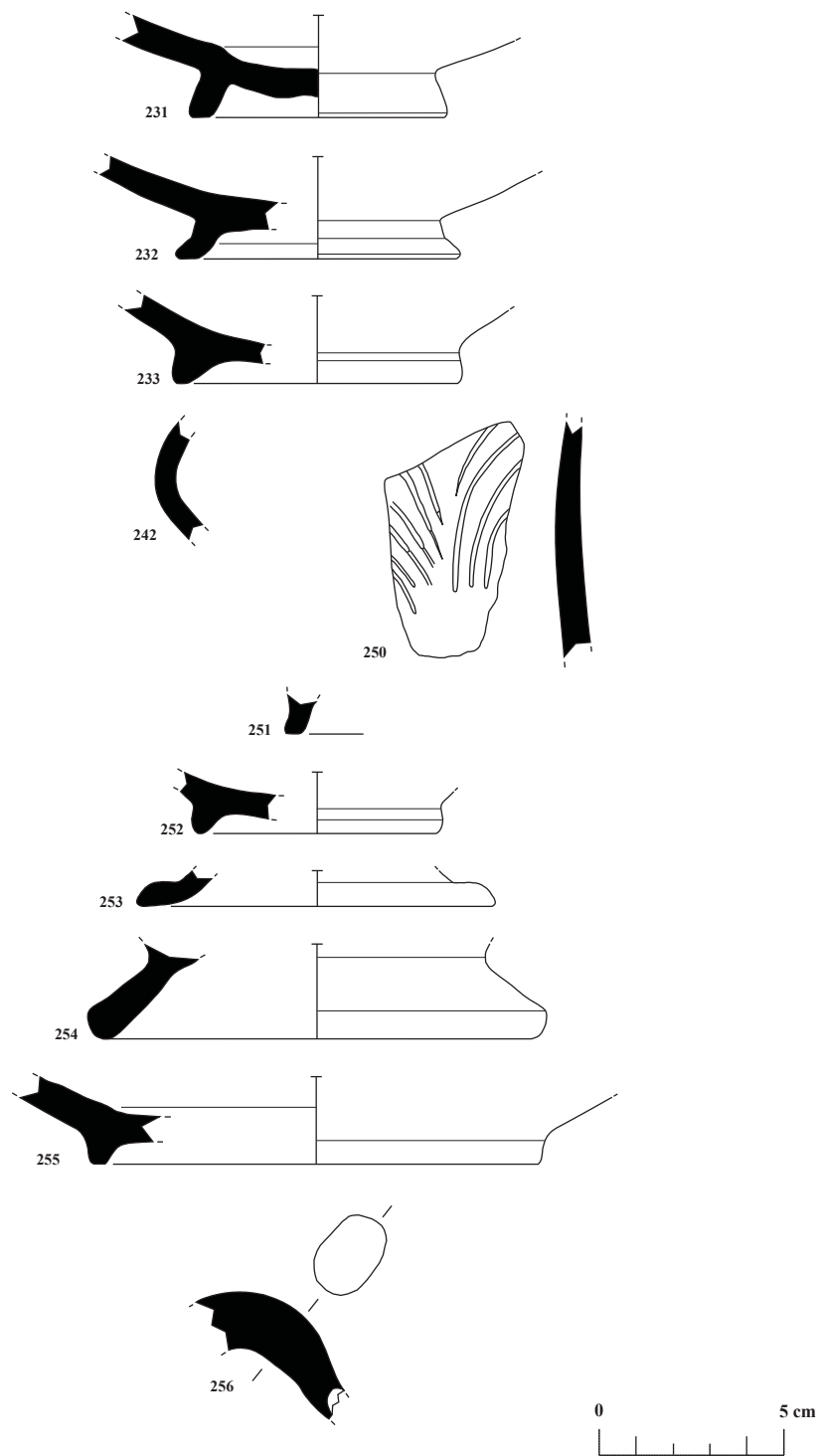
Pl. 6: Nos. 186-187: Hellenistic painted ware, body fragments of closed forms; nos. 188-201: Hellenistic relief ware; nos. 188-190: Rim fragments of a bowl form; and nos. 196-201: Body fragments of open forms.



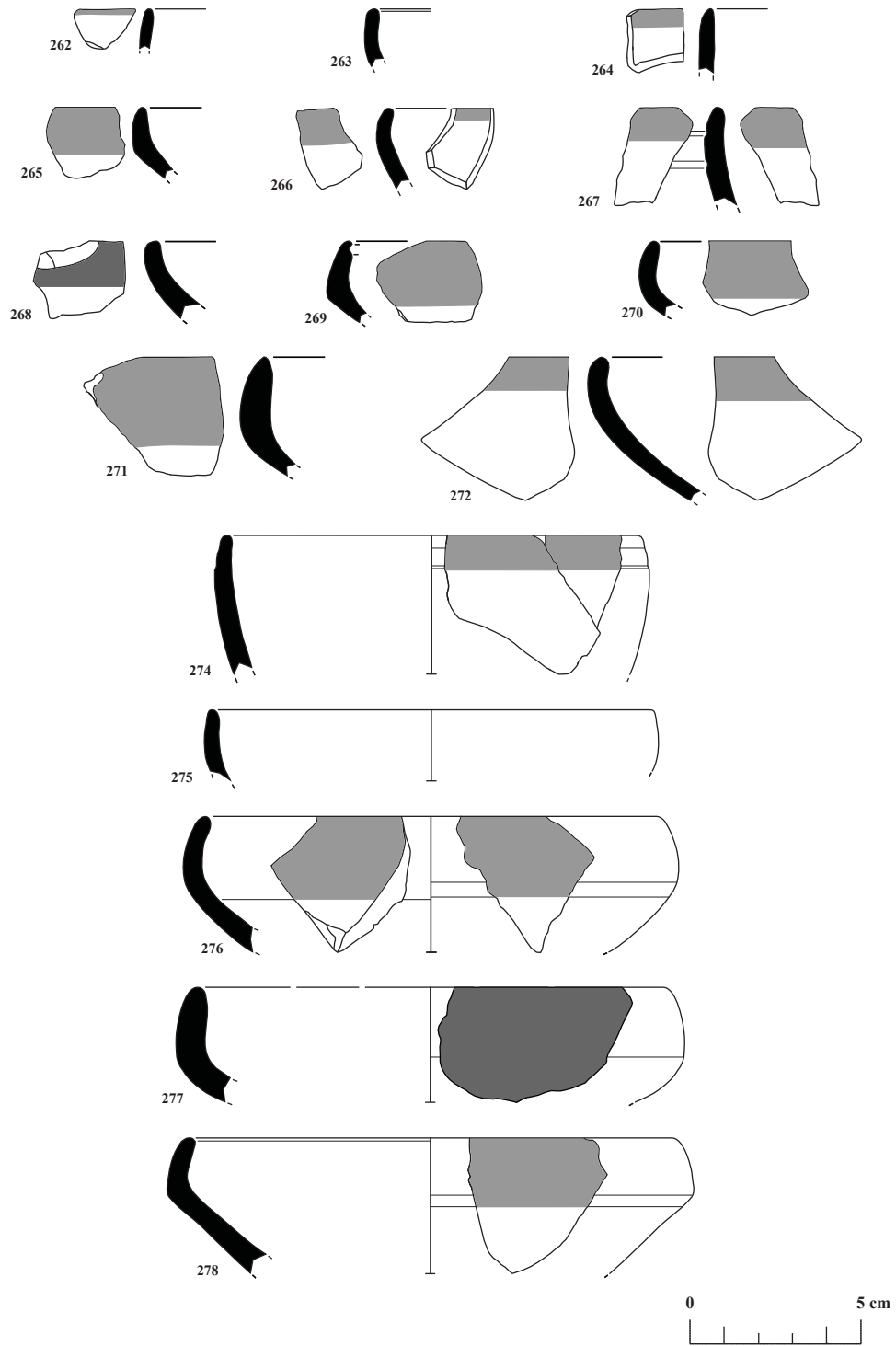
Pl. 7: Nos. 202-215: Hellenistic burnished ware, rim fragments of a bowl form.



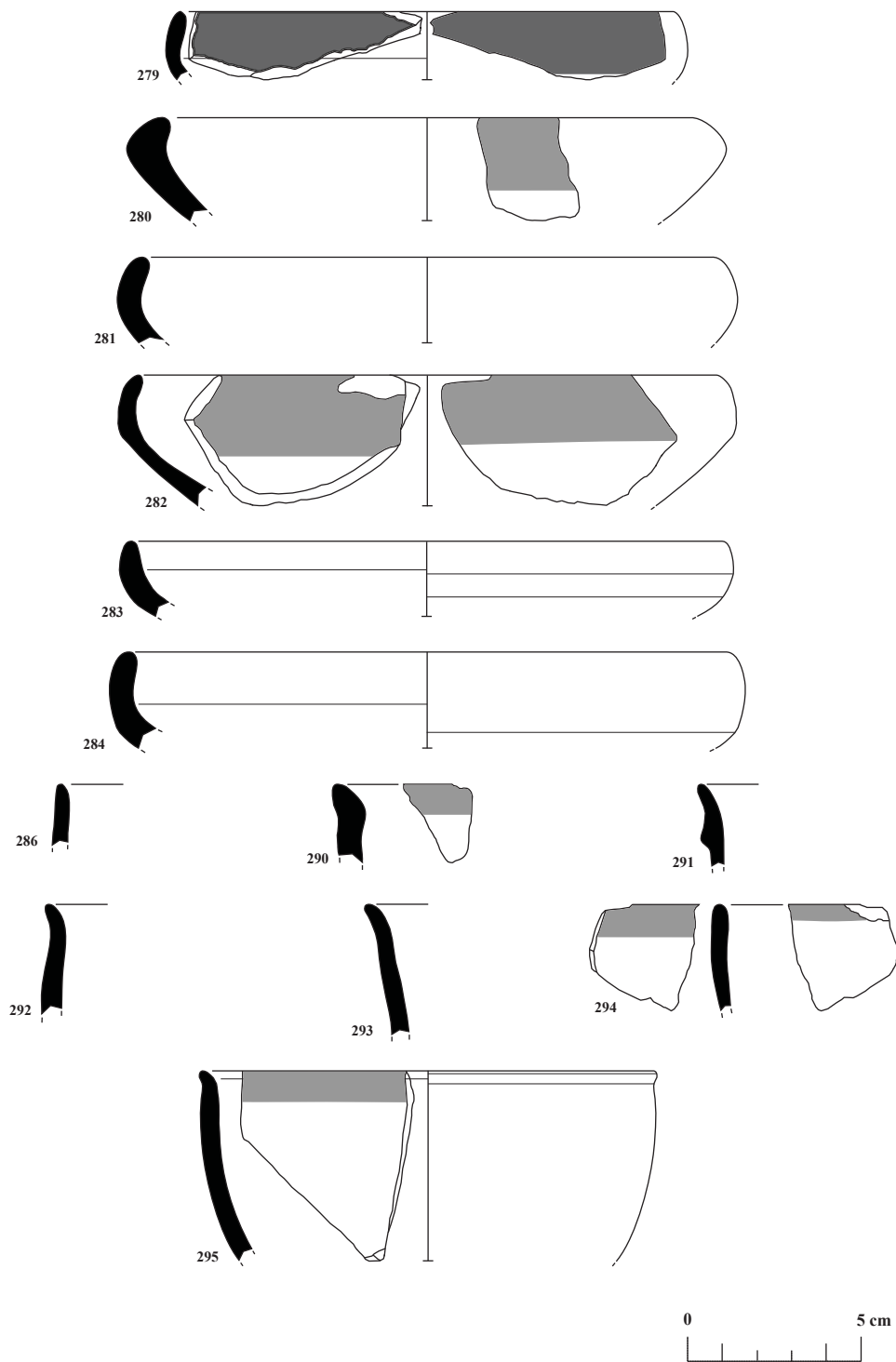
Pl. 8: Nos. 216-230: Hellenistic burnished ware; nos. 216-220: Rim fragments of a bowl form; nos. 222-228: Other rim fragments; and no. 230: A base fragment of open forms.



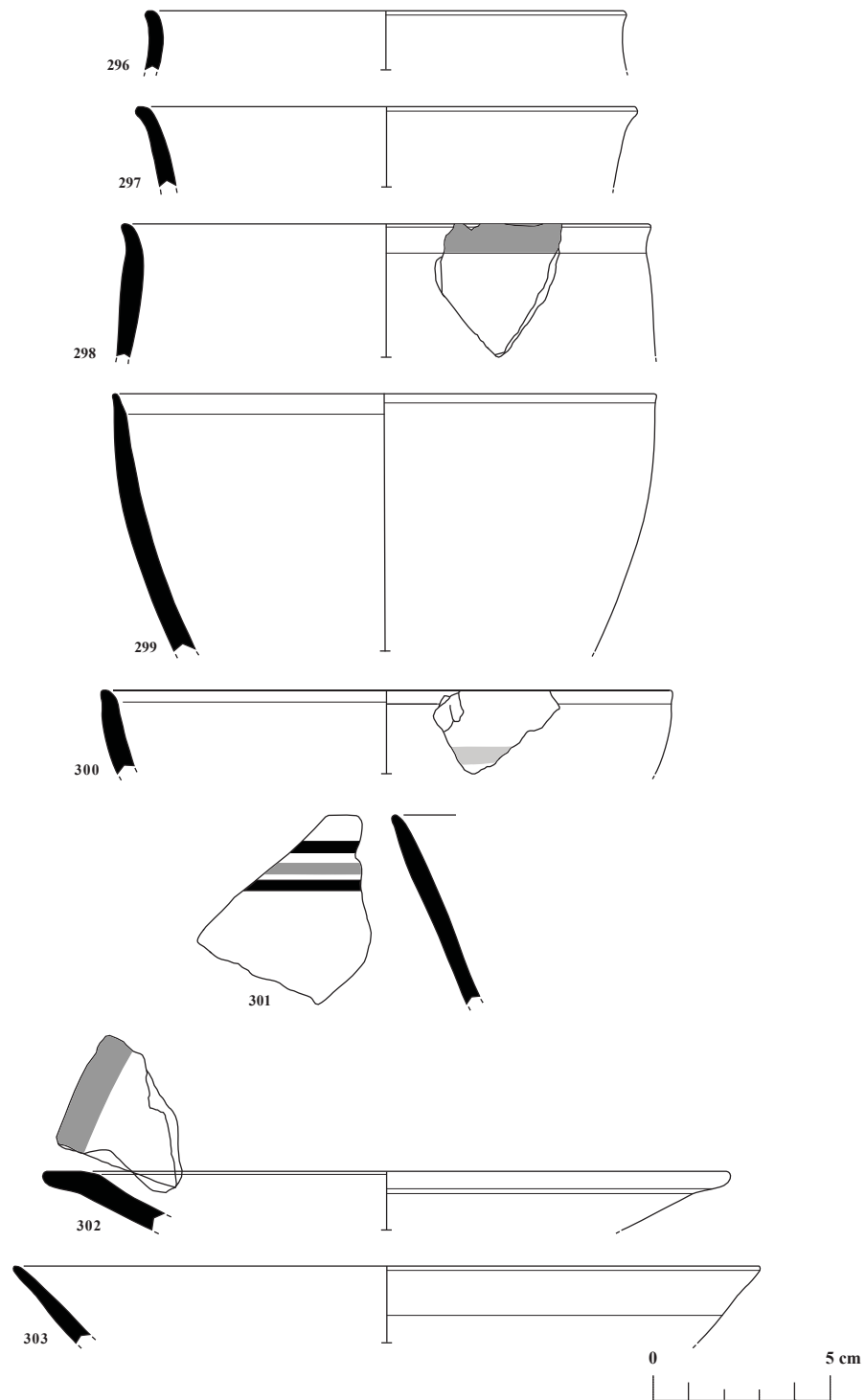
Pl. 9: Nos. 231-256: Hellenistic burnished ware; nos. 231-233: Base fragments of open forms; no. 242: A body fragment of open forms; no. 250: A body fragment of a *rhyton*; nos. 251-255: Base fragments of closed forms; and no. 256: A handle fragment of closed forms.



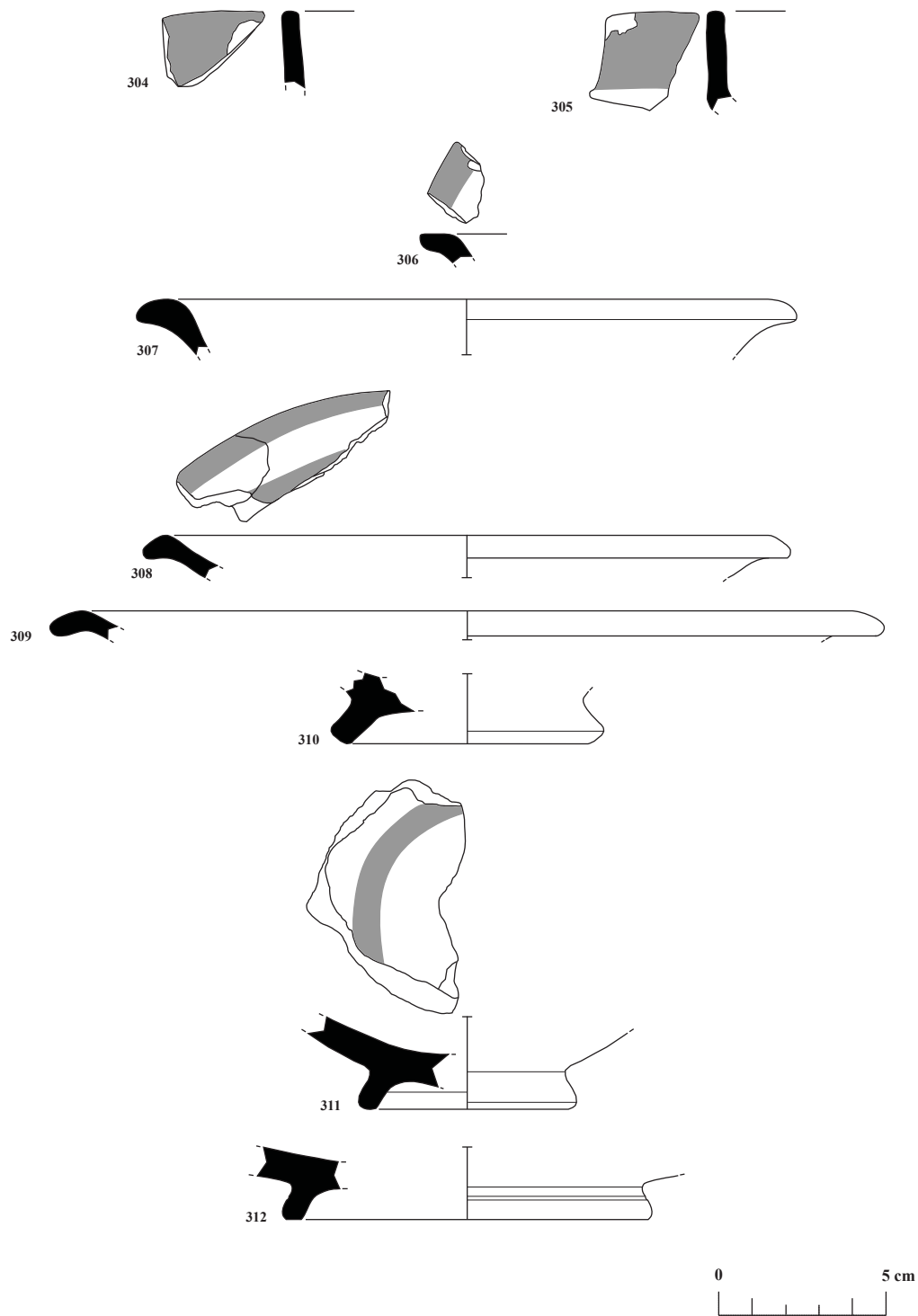
Pl. 10: Nos. 262-278: Red-painted Kepez group, bowl form 1.



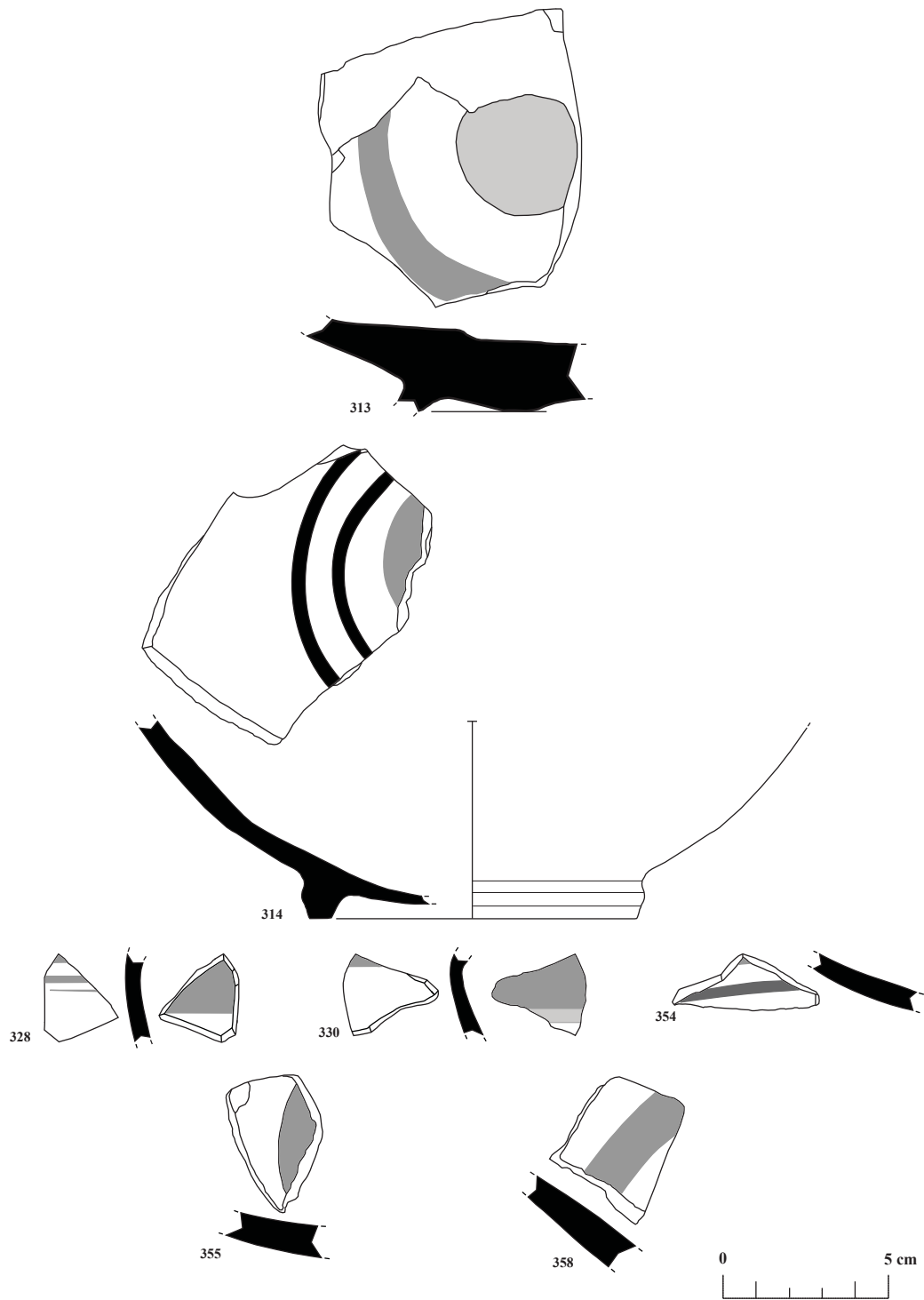
Pl. 11: Nos. 279-295: Red-painted Kepez group; nos. 279-284: Bowl form 1; and nos. 286-295: Bowl form 2.



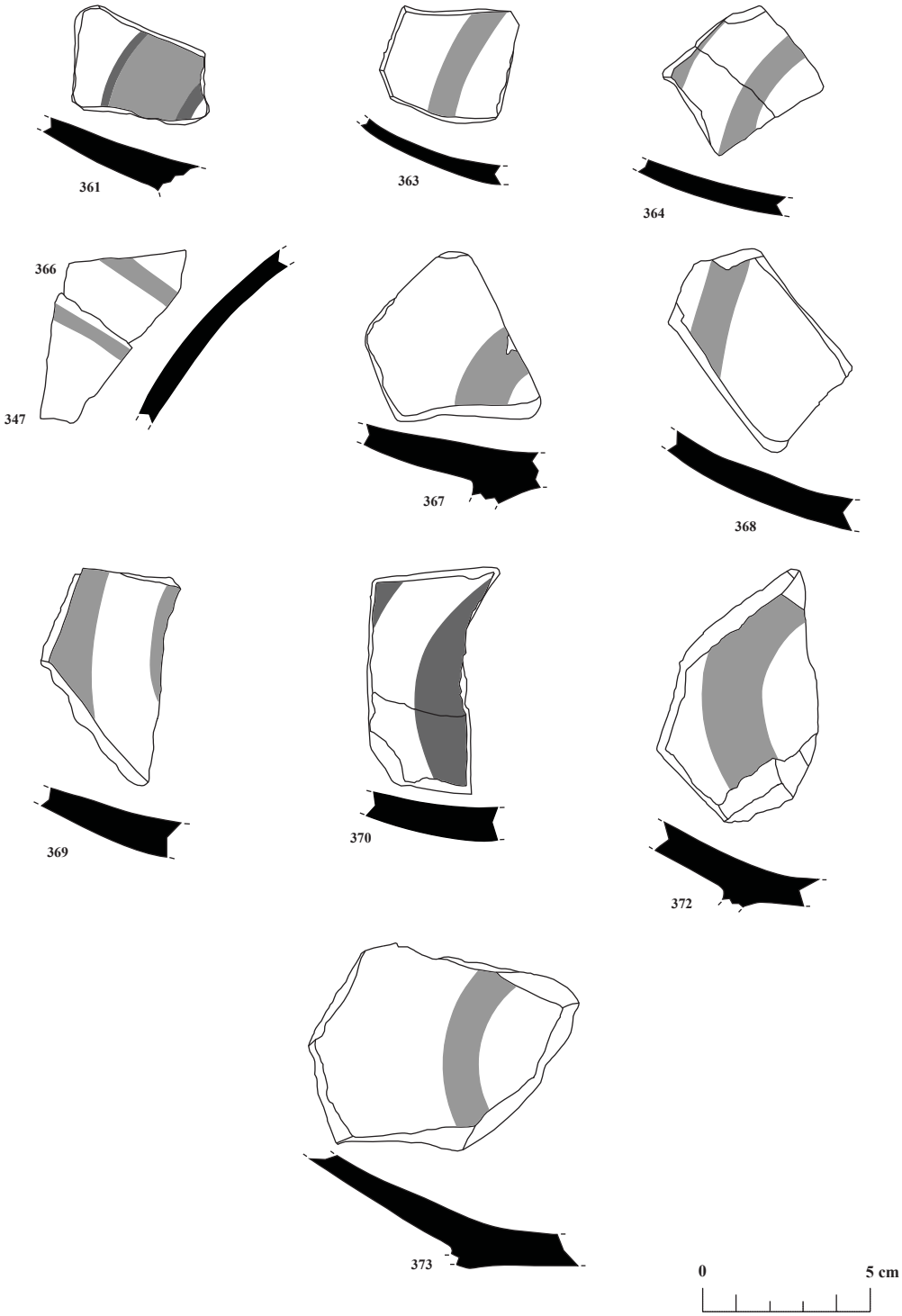
Pl. 12: Nos. 296-303: Red-painted Kepez group; nos. 296-300: Bowl form 2; and nos. 301-303: Dish form 1.



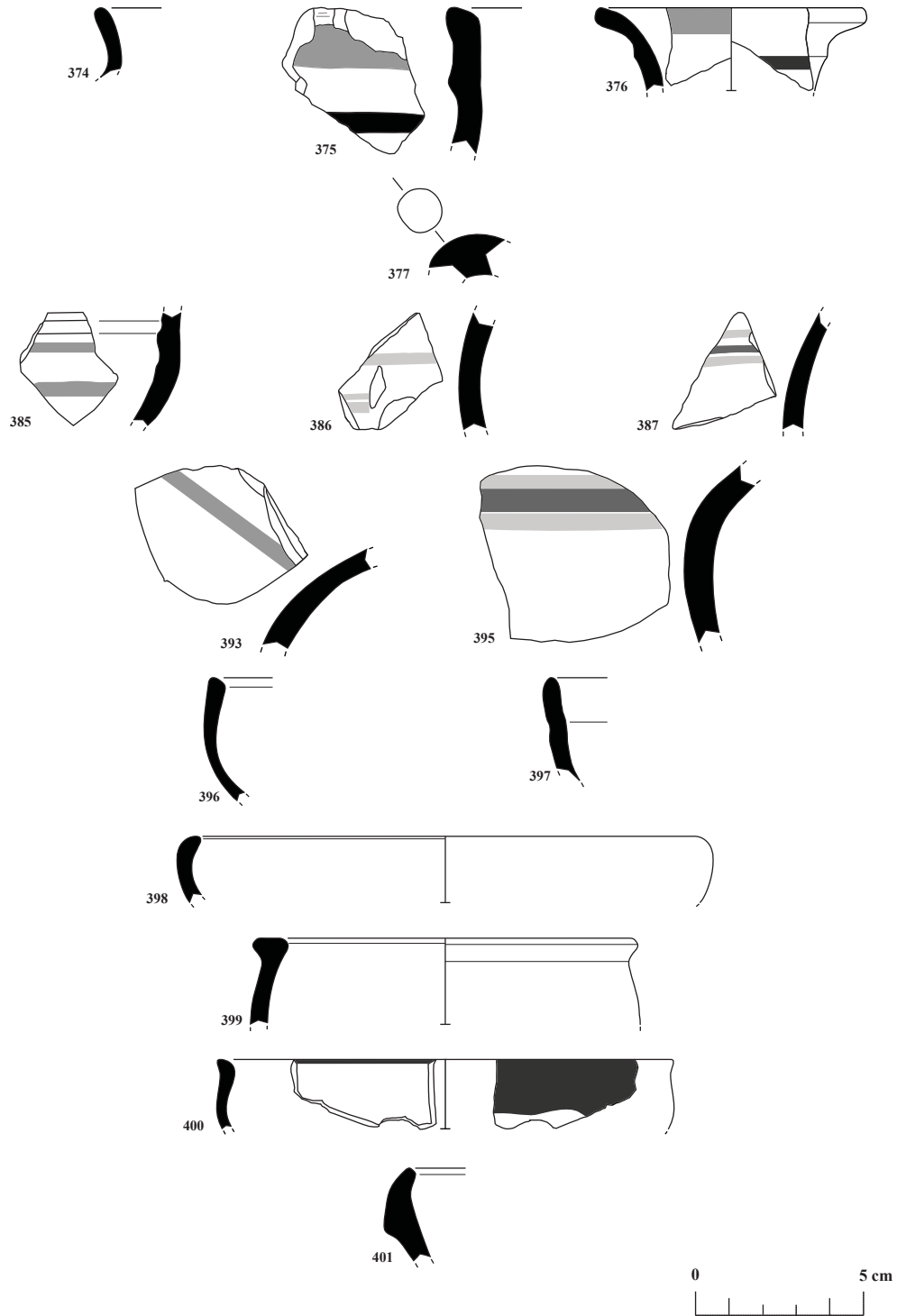
Pl. 13: Nos. 304-312: Red-painted Kepez group; nos. 304-305: Dish form 2; nos. 306-309: Plate; and nos. 310-312: Base fragments of open forms.



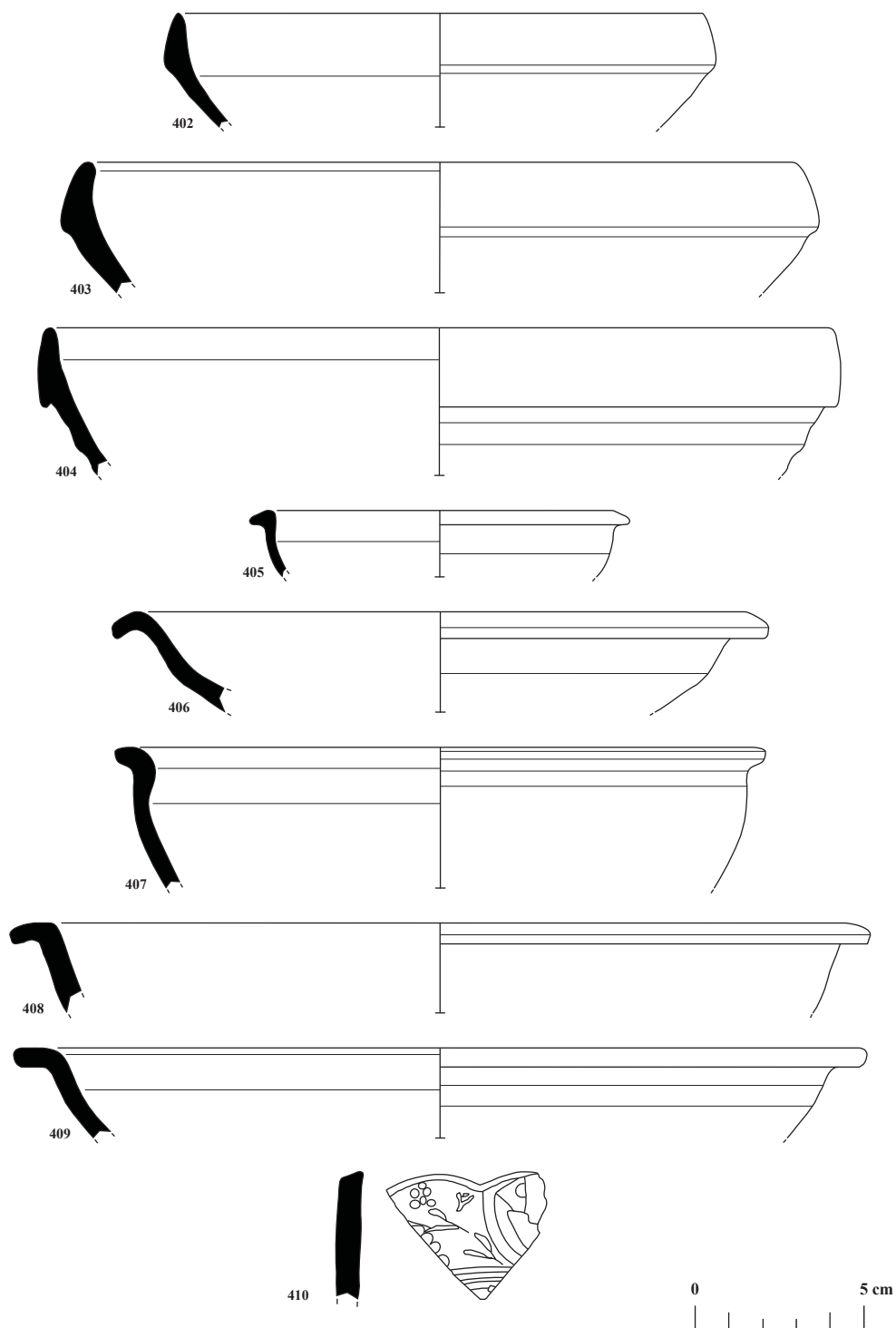
Pl. 14: Nos. 313-358: Red-painted Kepez group; nos. 313-314: Base fragments of open forms; and nos. 328- 358: Body fragments of open forms.



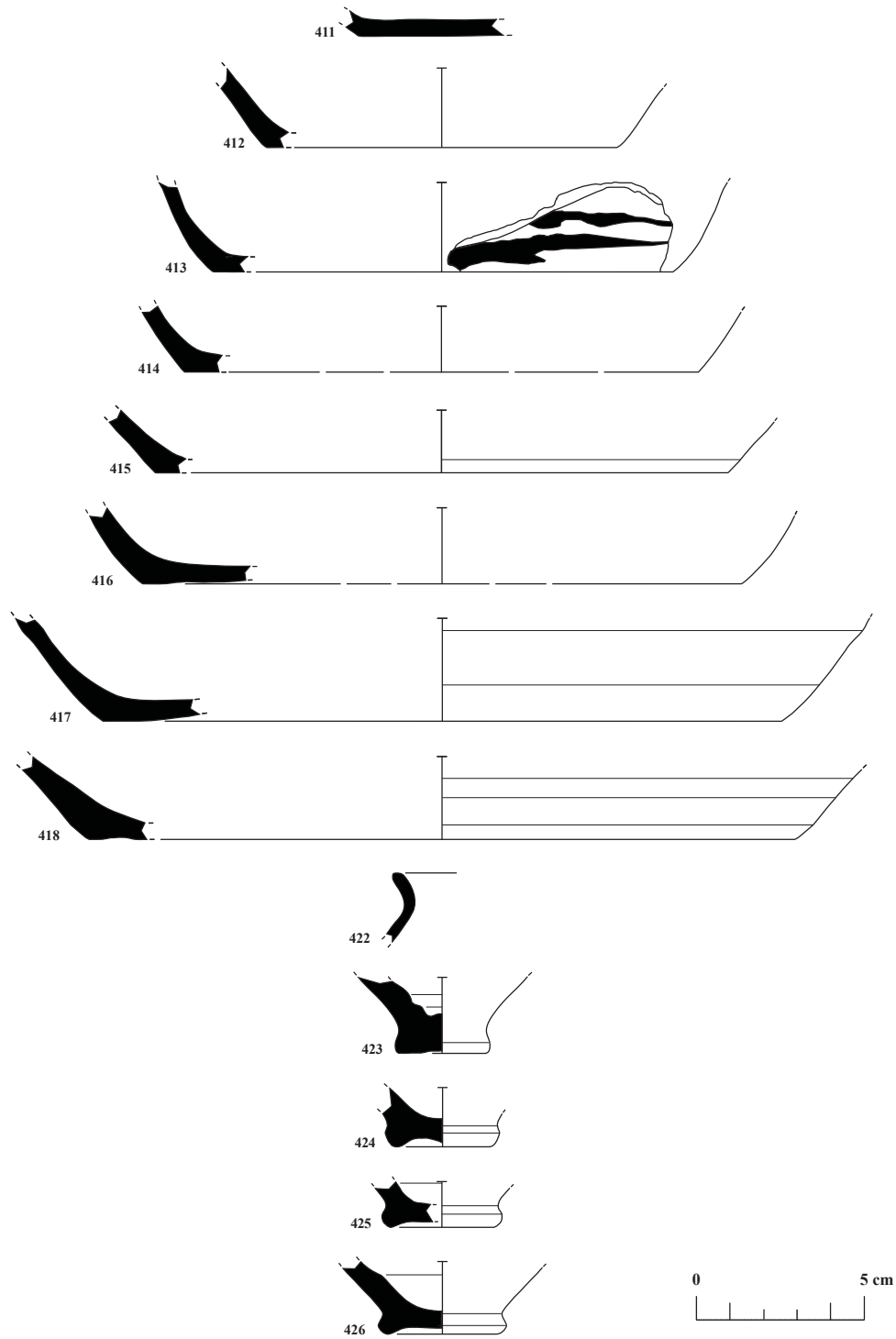
Pl. 15: Nos. 361-373: Red-painted Kepez group, body fragments of open forms.



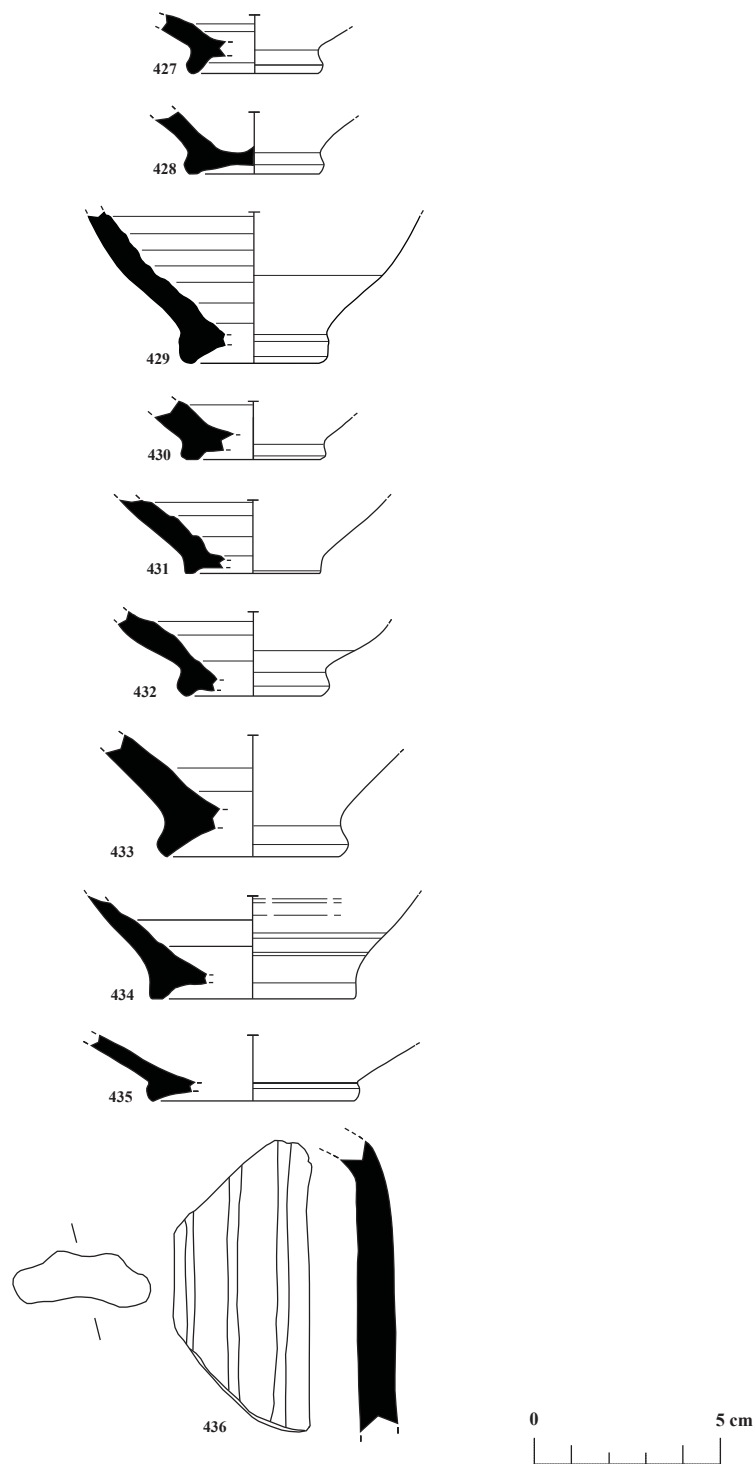
Pl. 16: Nos. 374-395: Red-painted Kepez group; nos. 374-376: Rim fragments of closed forms; no. 377: A handle fragment of closed forms; nos. 385-395: Body fragments of closed forms; nos. 396-401: Late Hellenistic-Early Roman grey ware; nos. 396-398: Bowl form 1; nos. 399-400: Bowl form 2; and no. 401: Dish form 1.



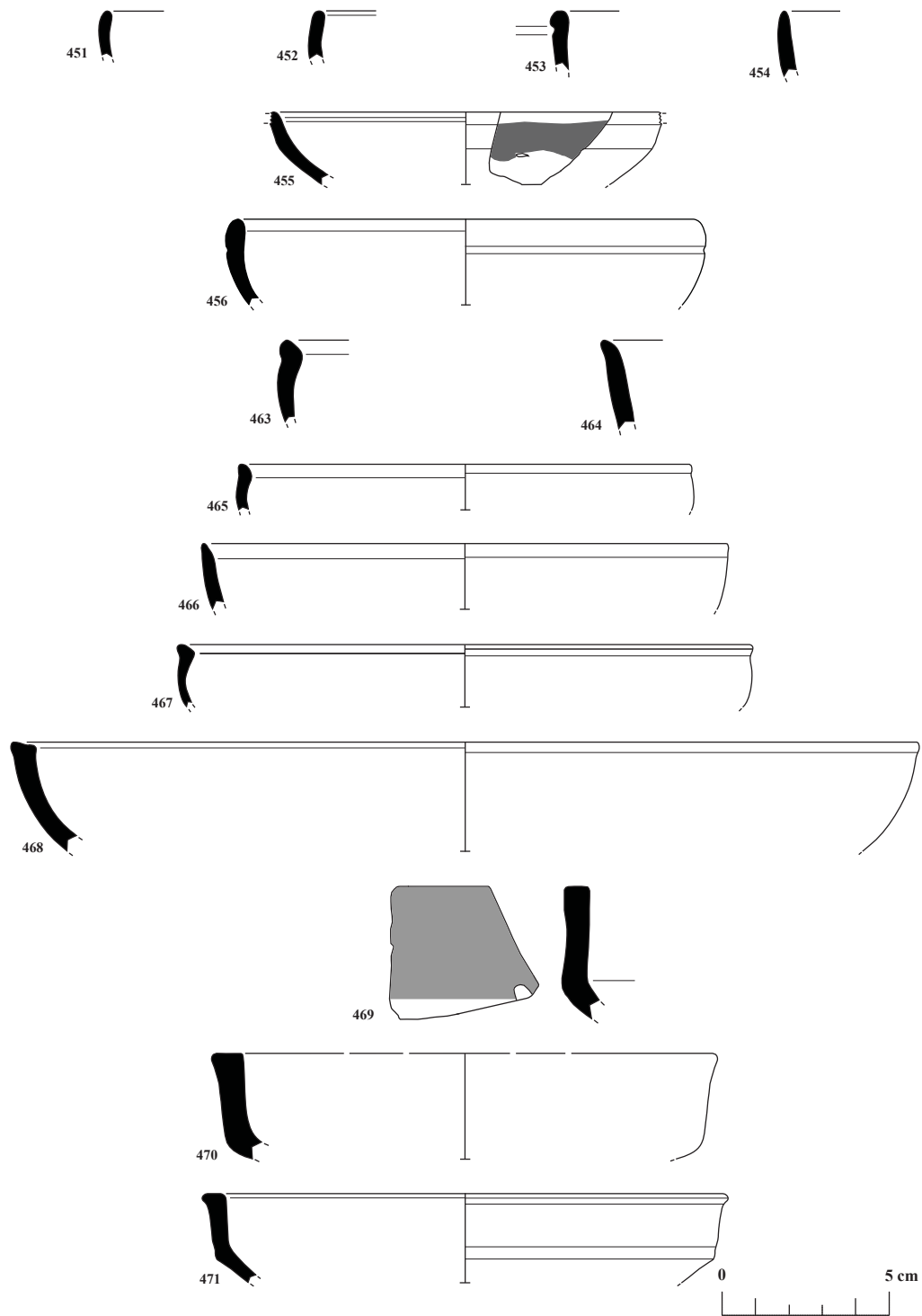
Pl. 17: Nos. 402-410: Late Hellenistic-Early Roman grey ware; nos. 402-404: Dish form 1; nos. 405-409: Dish form 2; and no. 410: A rim fragment of a plate.



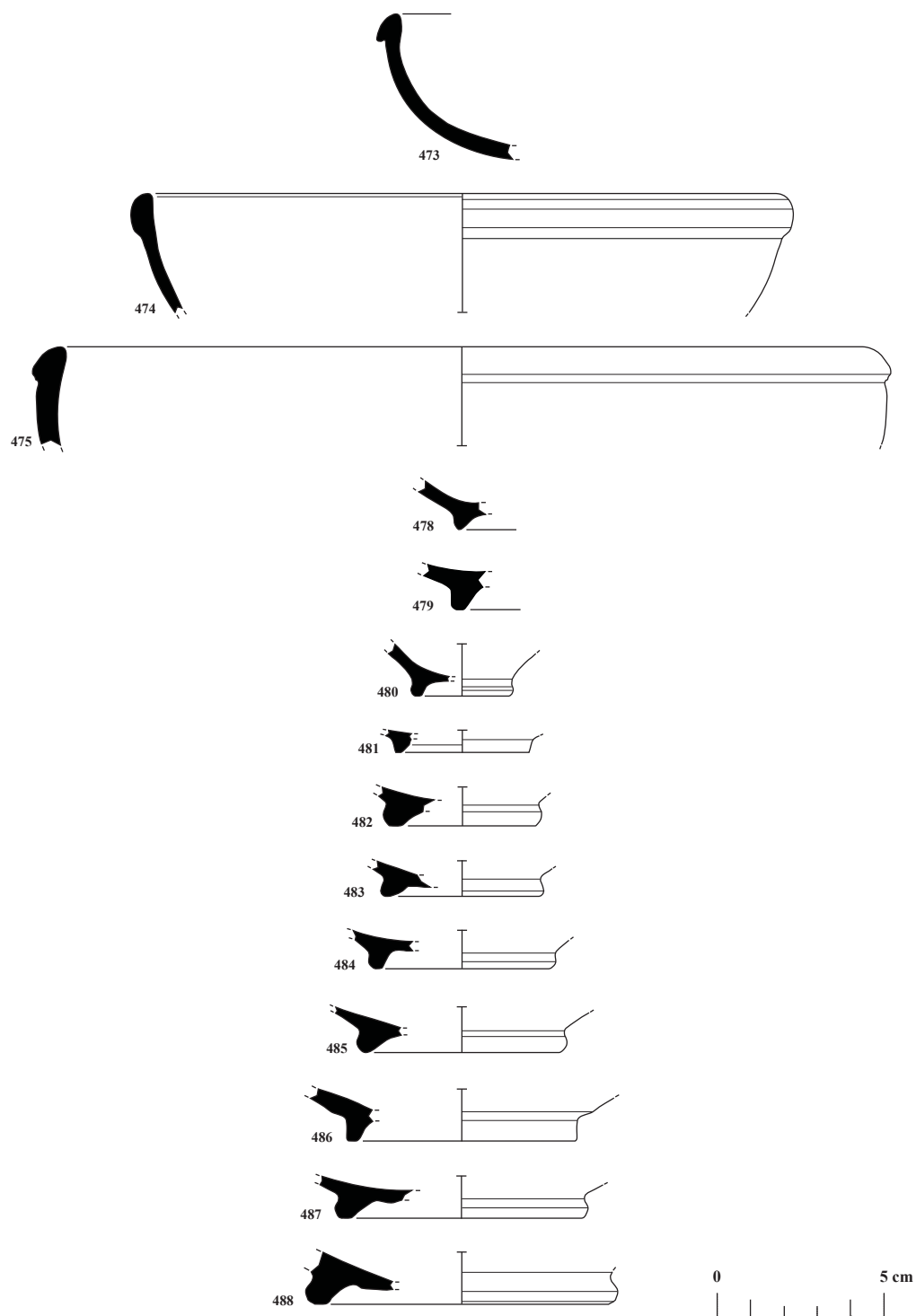
Pl. 18: Nos. 411- 426: Late Hellenistic-Early Roman grey ware; nos. 411-418: Base fragments of open forms; no. 422: A Rim fragment of a juglet; and nos. 423-426: Base fragments of closed forms.



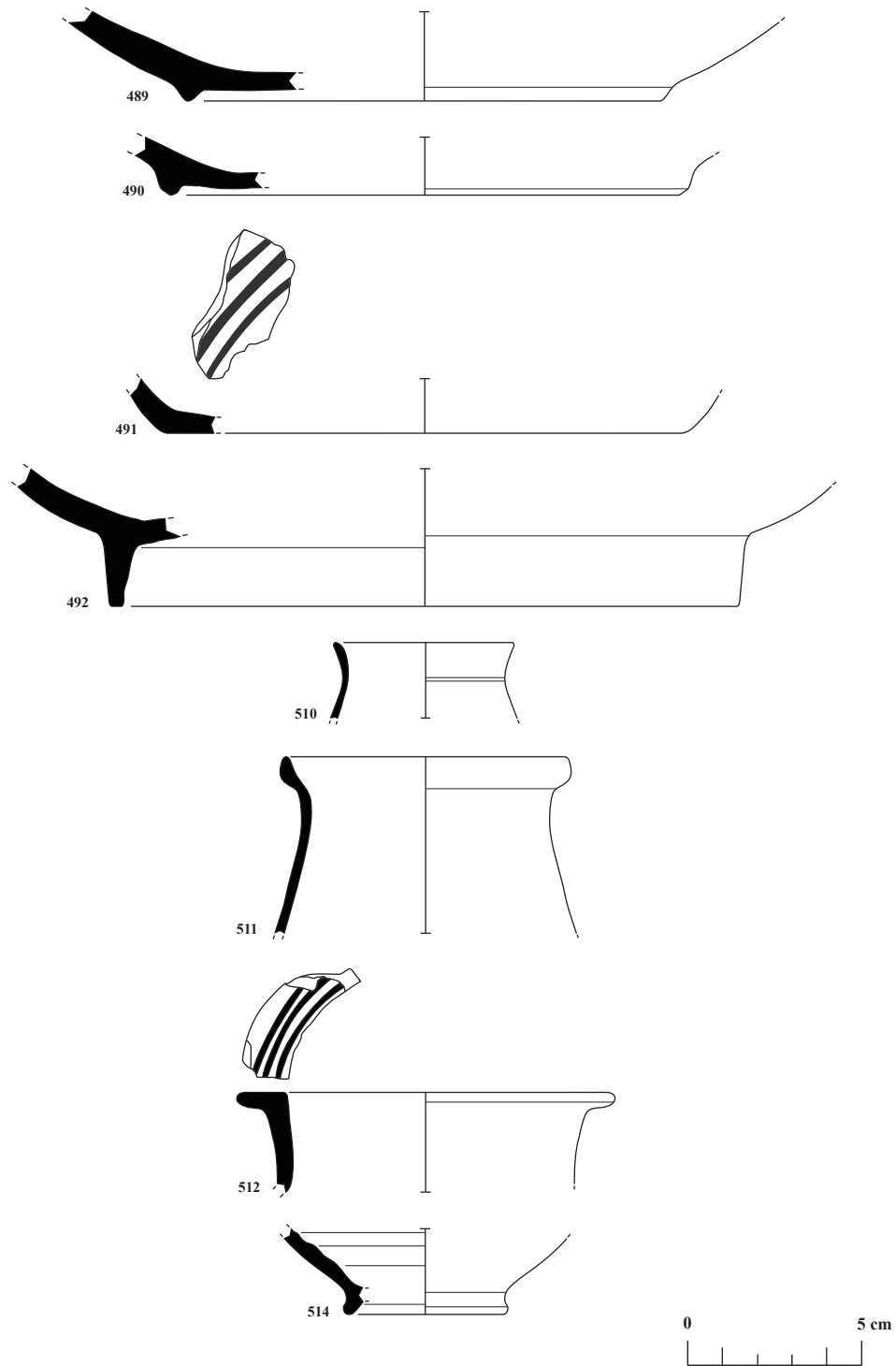
Pl. 19: Nos. 427-436: Late Hellenistic-Early Roman grey ware; nos. 427-435: Base fragments of closed forms; and no. 436: A handle fragment of closed forms.



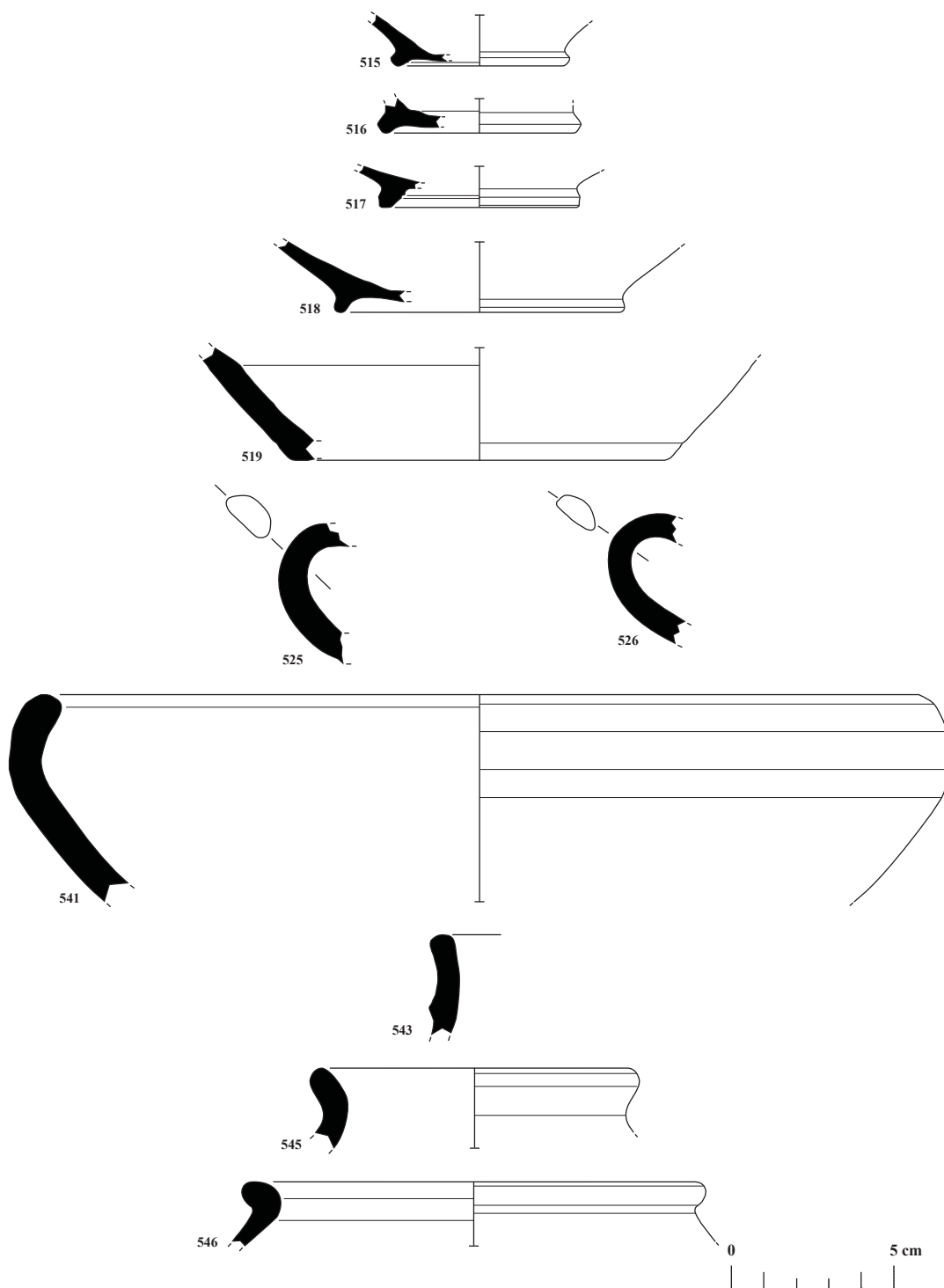
Pl. 20: Nos. 451-471: Late Hellenistic-Early Roman brown-slipped ware; nos. 451-456: Bowl form 1; nos. 463-468: Bowl form 2; and nos. 469-471: Dish.



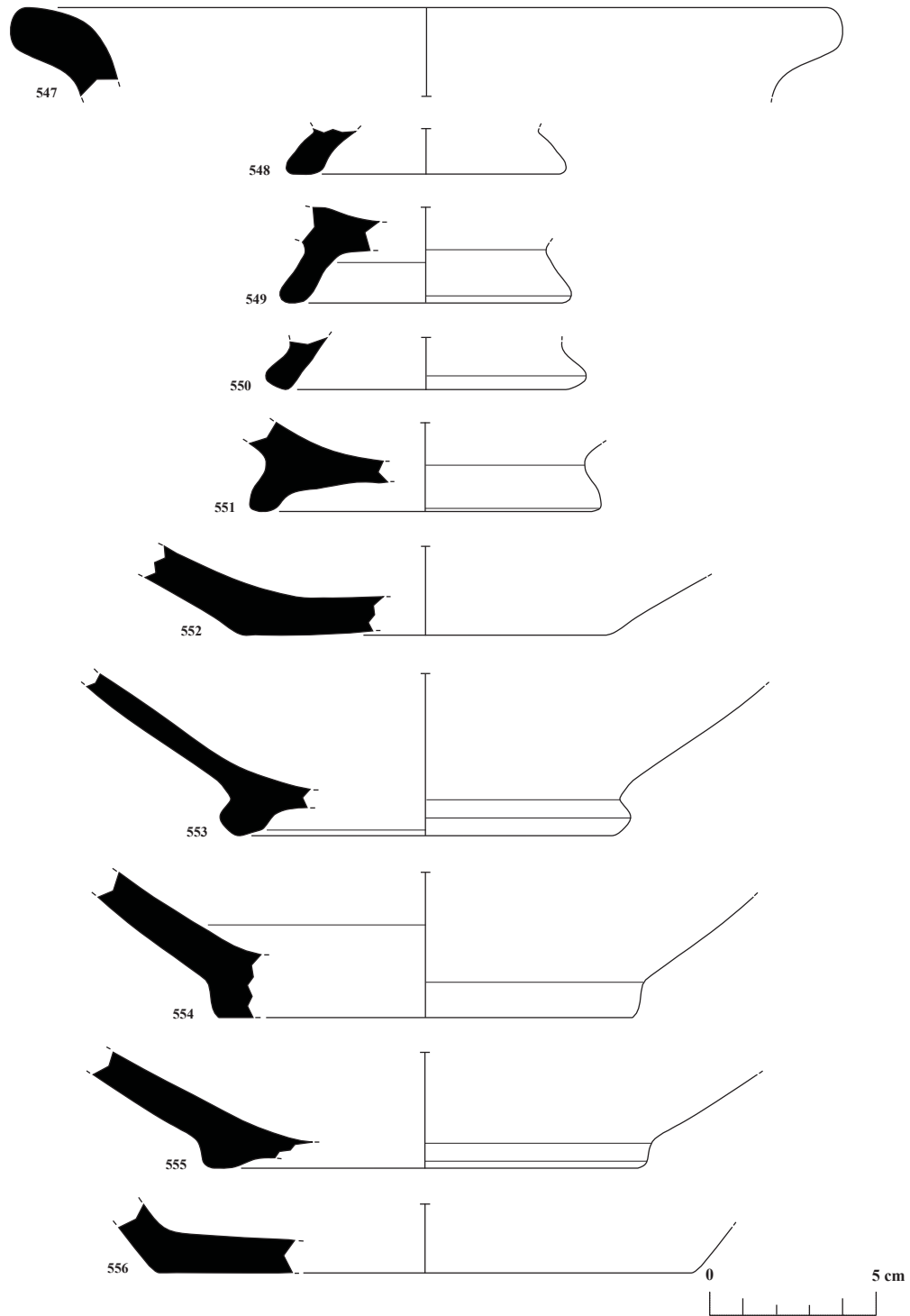
Pl. 21: Nos. 473-488: Late Hellenistic-Early Roman brown-slipped ware; nos. 473-475: Other rim forms; and nos. 478-488: Base fragments of open forms.



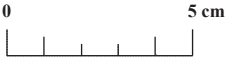
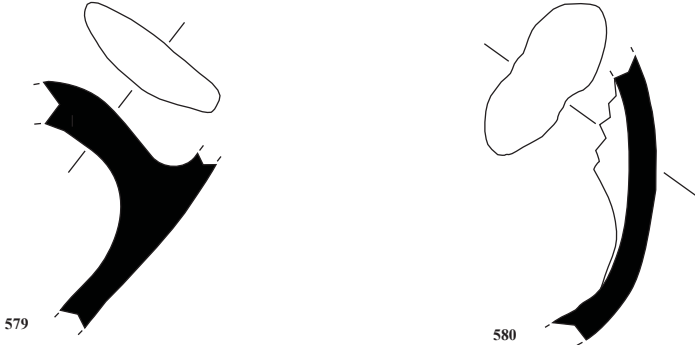
Pl. 22: Nos. 489-514: Late Hellenistic-Early Roman brown-slipped ware; nos. 489-492: Base fragments of open forms; nos. 510-512: Juglet; and no. 514: A base fragment of closed forms.



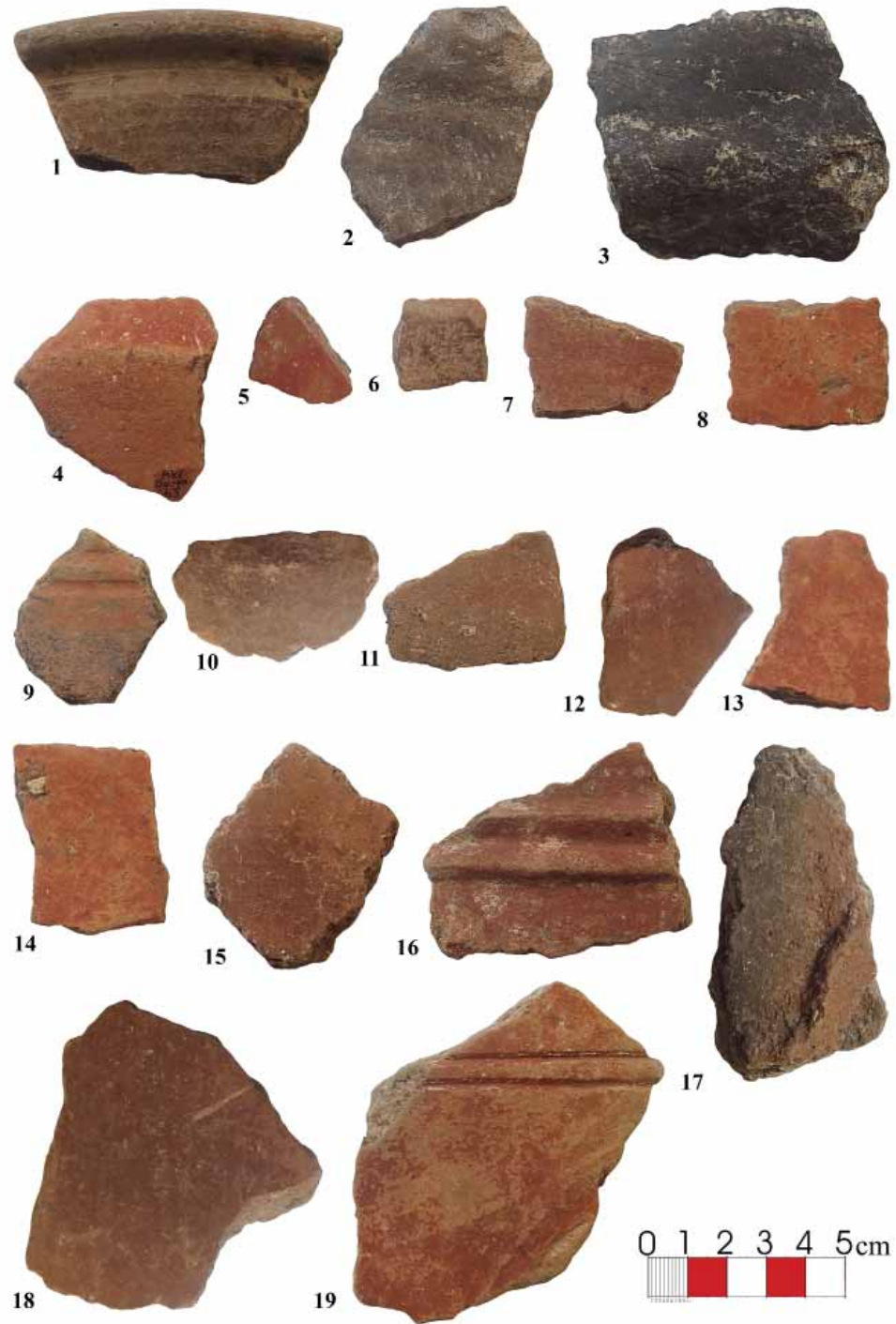
Pl. 23: Nos. 515-526: Late Hellenistic-Early Roman brown-slipped ware; nos. 515-519: Base fragments of closed forms; nos. 525-526: Handle fragments of closed forms; nos. 541-546: Hellenistic Coarse Ware; no. 541: A rim fragment of open forms; and nos. 543-546: Rim fragments of closed forms.



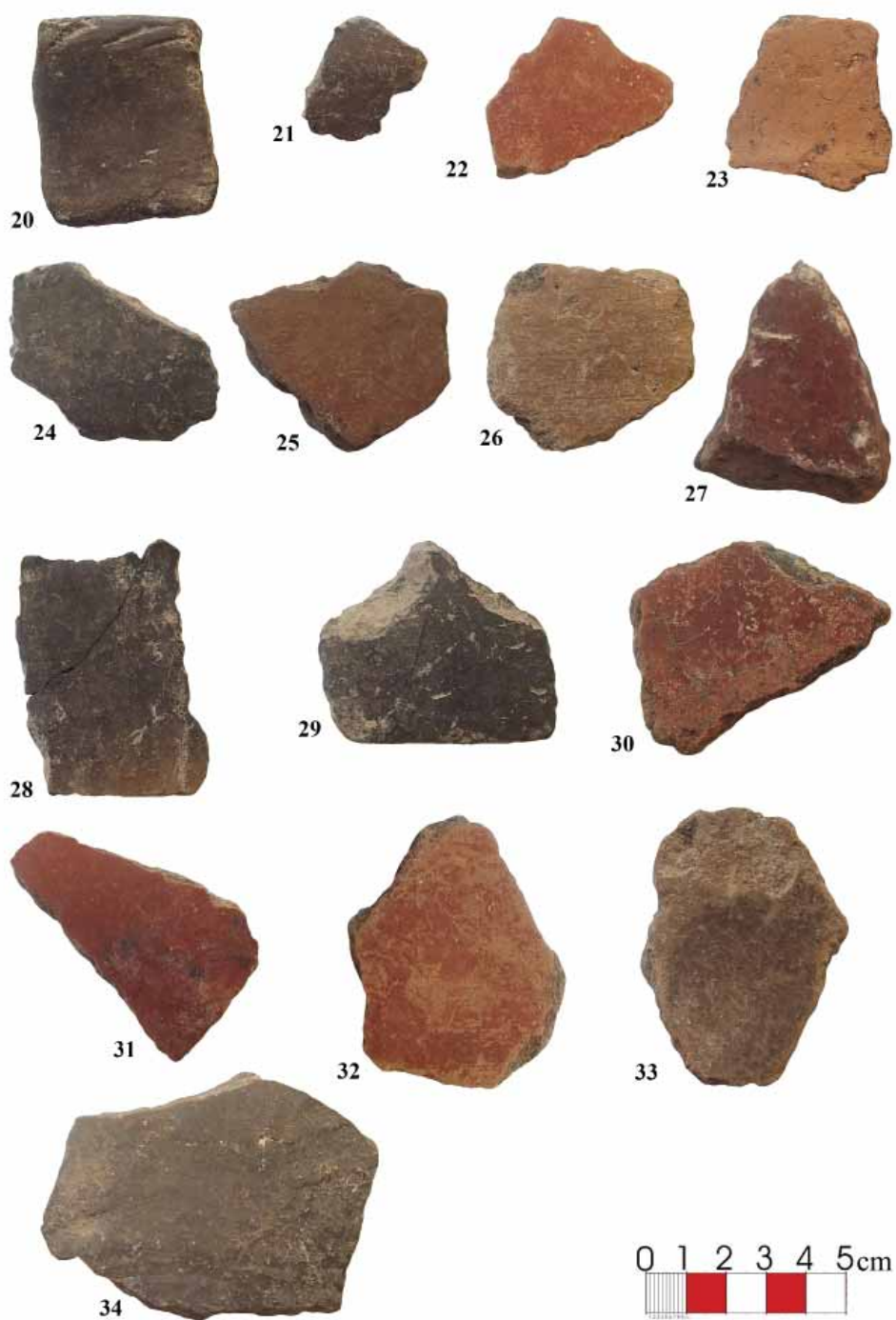
Pl. 24: Nos. 547-556: Hellenistic coarse ware; no. 547: A rim fragment of closed forms; and nos. 548-556: Base fragments of closed forms.



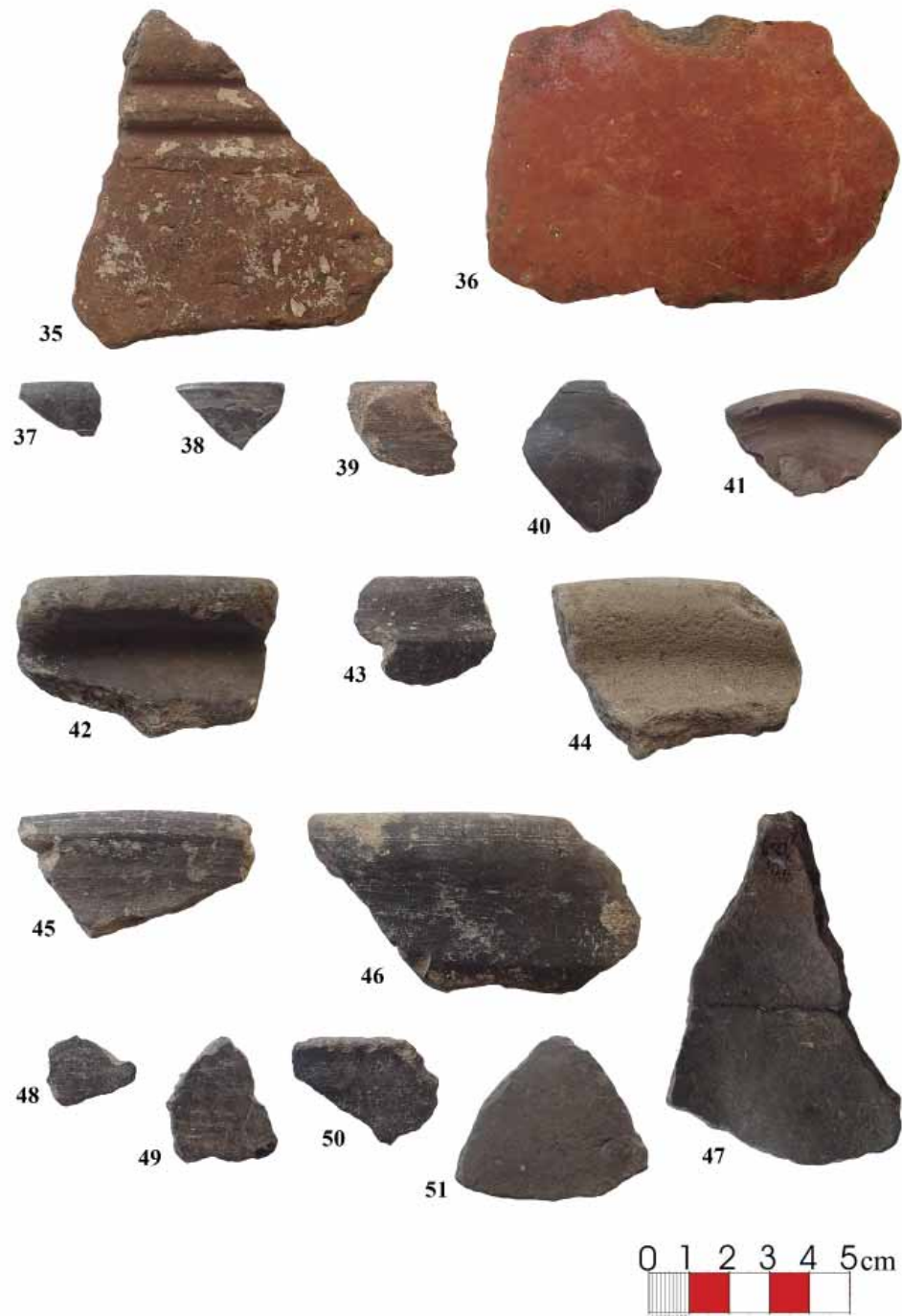
Pl. 25: Nos. 579-580: Hellenistic coarse ware, body fragments of closed forms.



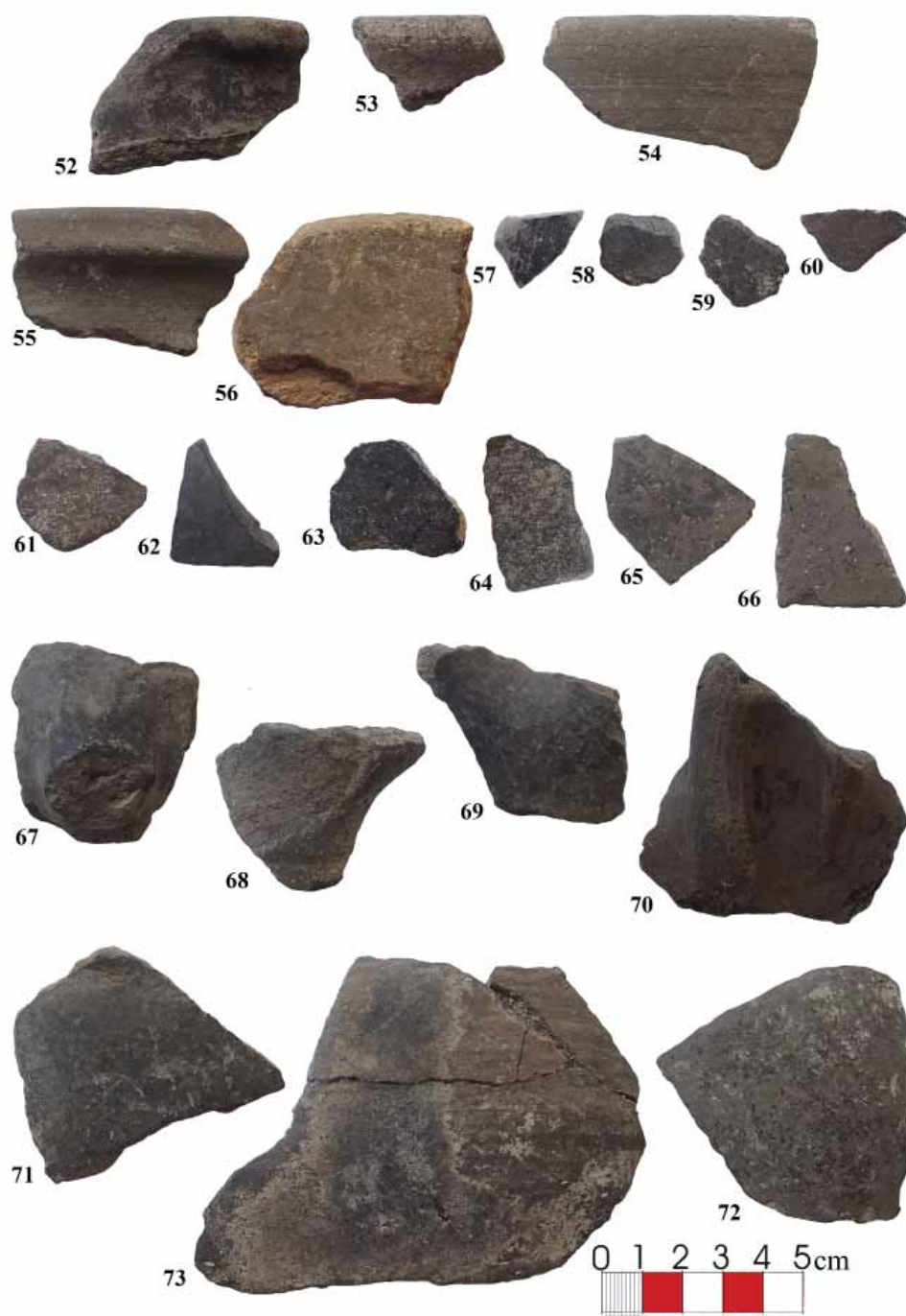
Pl. 26: Nos. 1-19: Pre-Iron Age pottery; nos. 1-2: Rim fragments; nos. 3-4: Base fragments of open forms; and nos. 5-19: Body fragments of open forms.



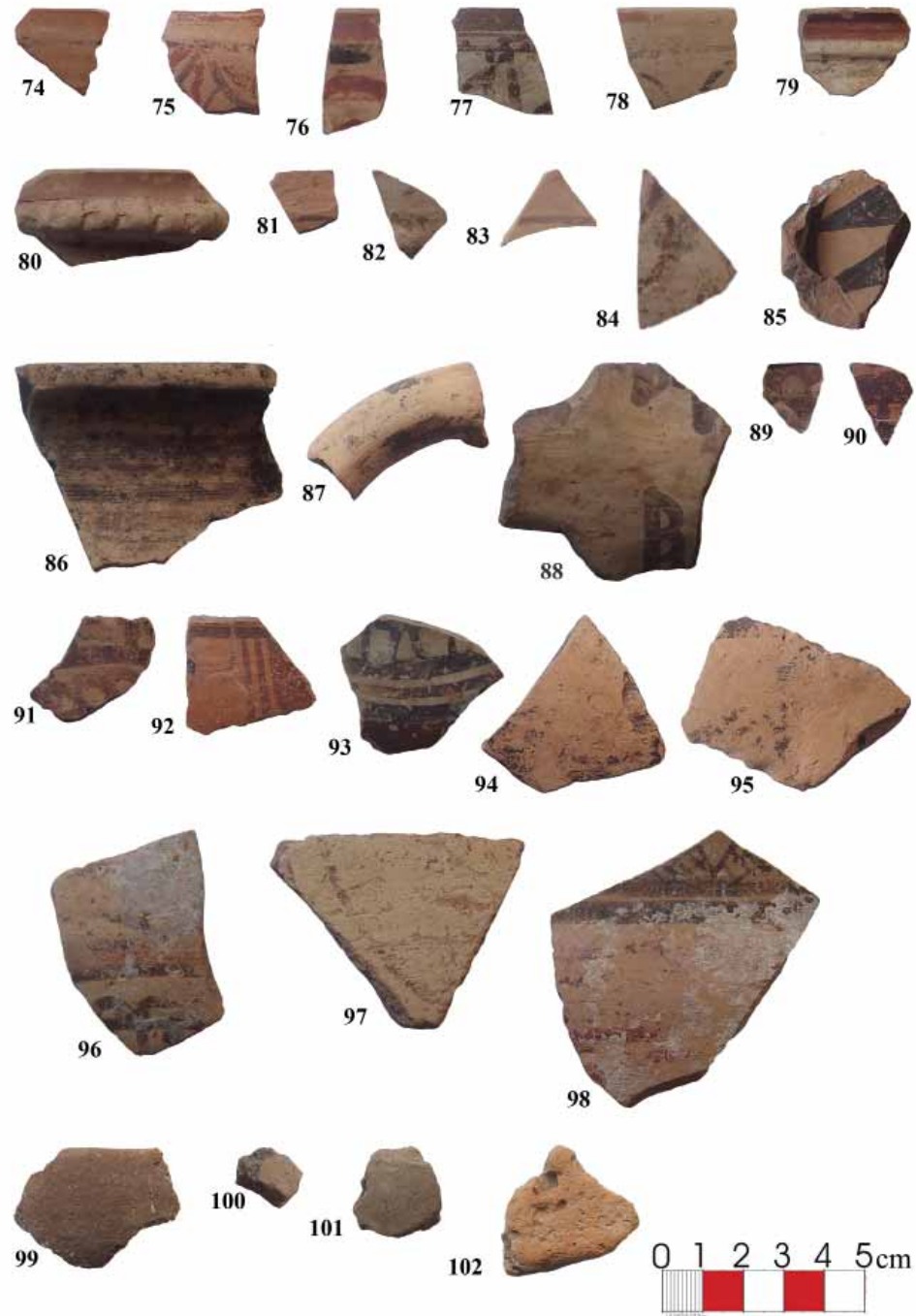
Pl. 27: Nos. 20-34: Pre-Iron Age pottery; no. 20: A rim fragment of closed forms; and nos. 21-34: Body fragments of closed forms.



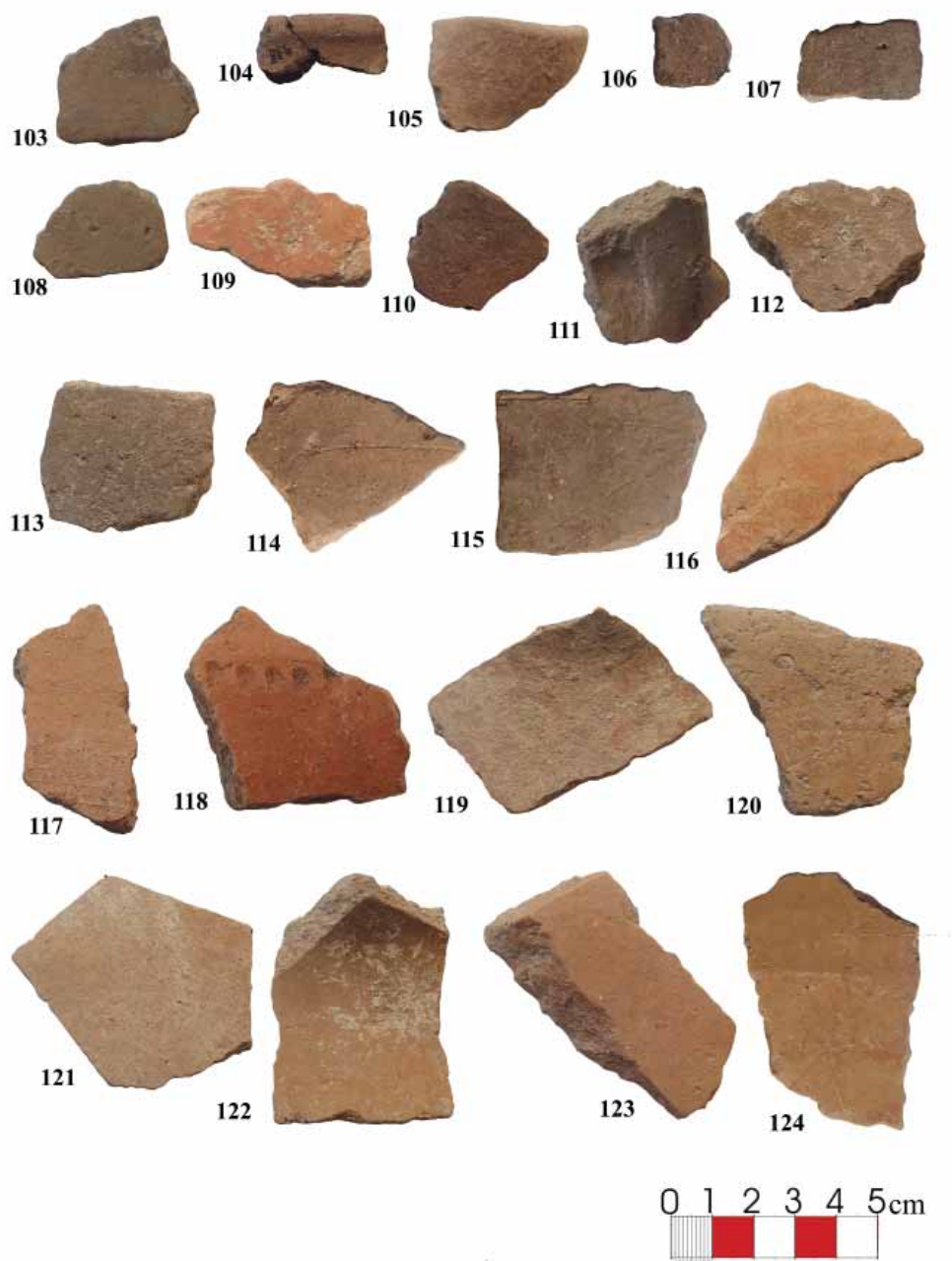
Pl. 28: Nos. 35-36: Pre-Iron Age pottery, body fragments of closed forms; nos. 37-51: Iron Age grey ware; nos. 37-46: Rim fragments of open forms; no. 47: A base fragment of open forms; and nos. 48-51: Body fragments of open forms.



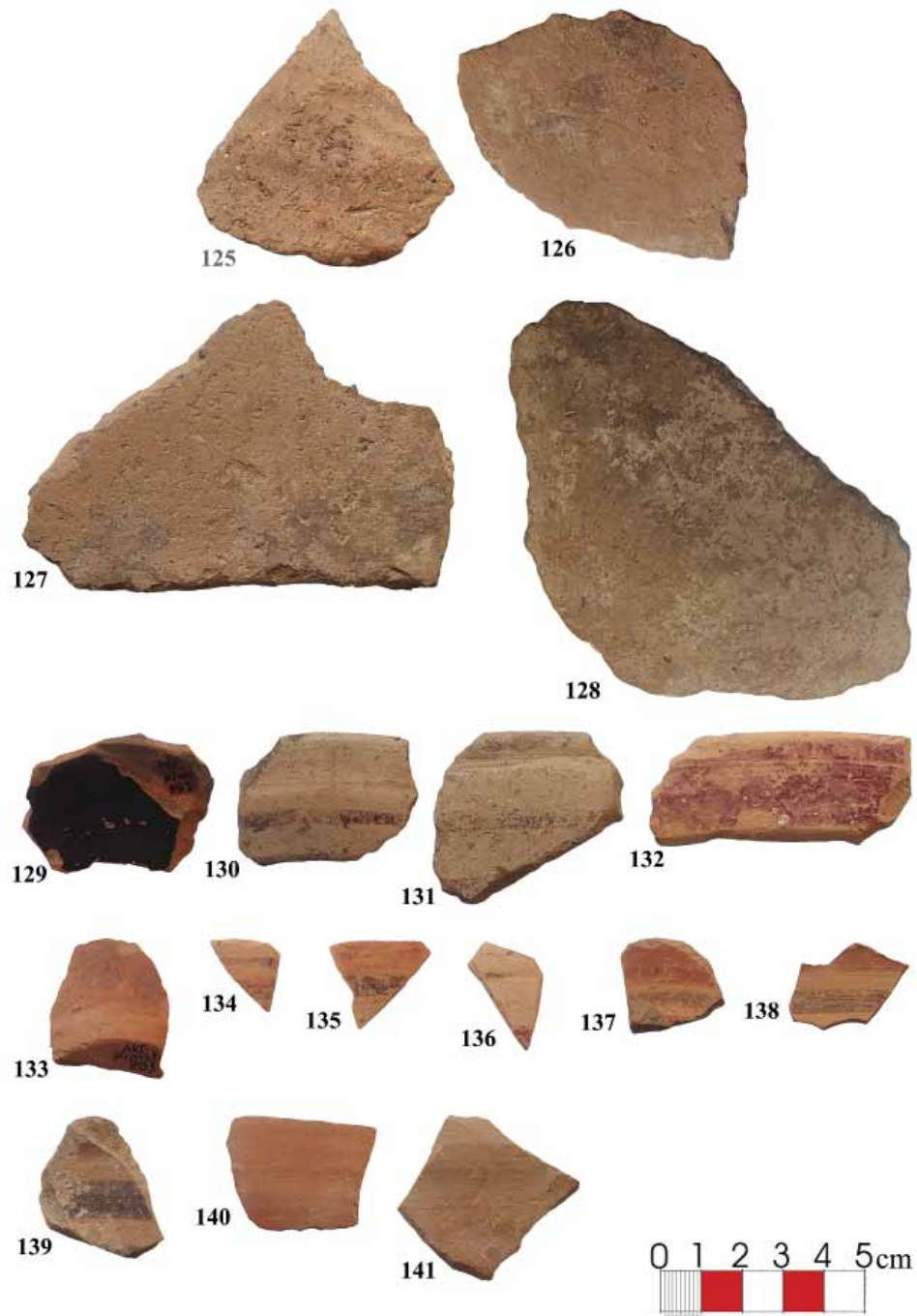
Pl. 29: Nos. 52-73: Iron Age grey ware; nos. 52-55: Rim fragments of closed forms; no. 56: A base fragment of closed forms; and nos. 57-73: Body fragments of closed forms.



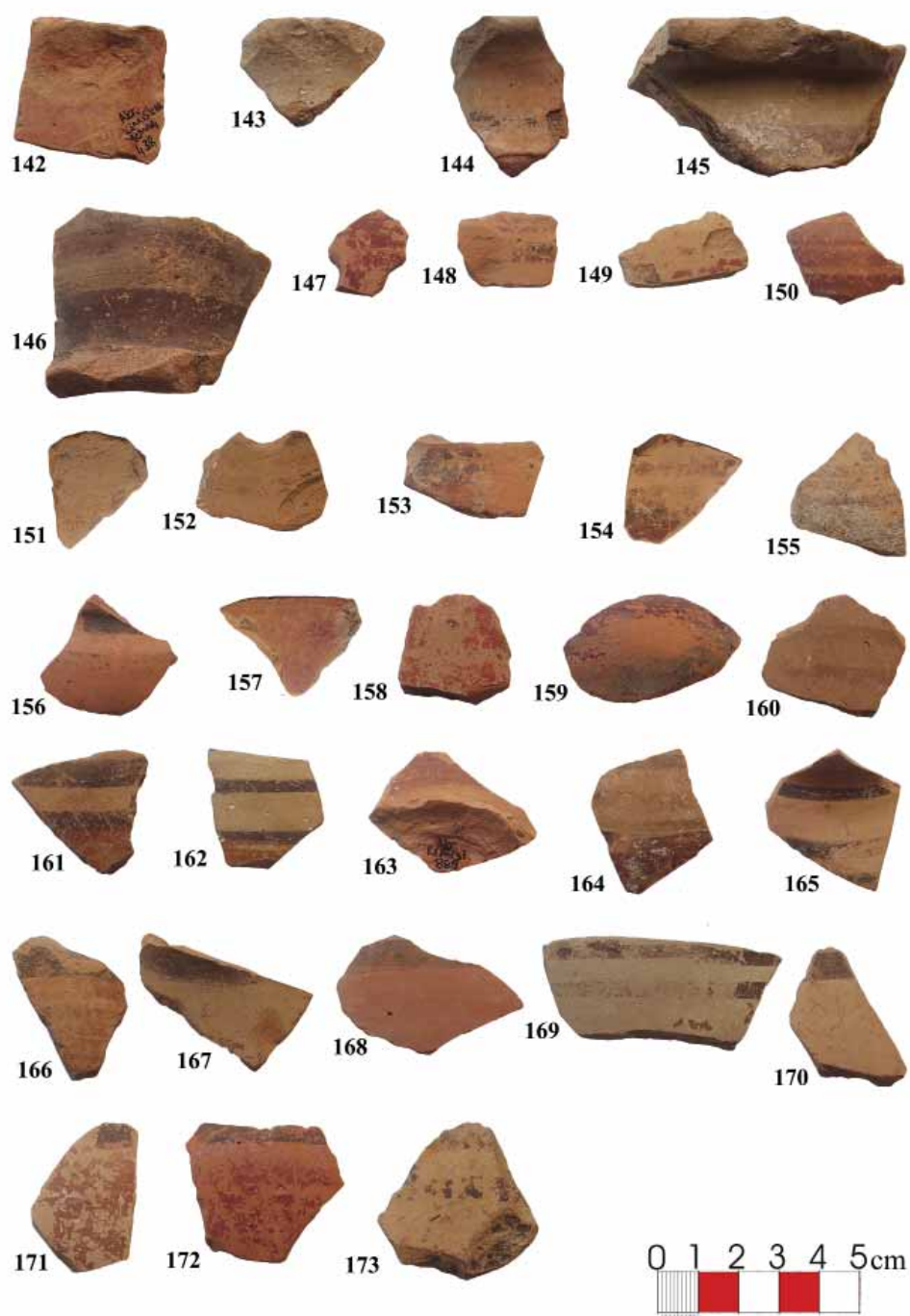
Pl. 30: Nos. 74-98: Iron Age painted ware; nos. 74-80: Rim fragments of a bowl form; nos. 81-85: Body fragments of open forms; no. 86: A rim fragment of closed forms; nos. 87-88: Handle fragments of closed forms; nos. 89-98: Body fragments of closed forms; nos. 99-102: Iron Age coarse ware; no. 99: A rim fragment of open forms; and nos. 100-102: Body fragments of open forms.



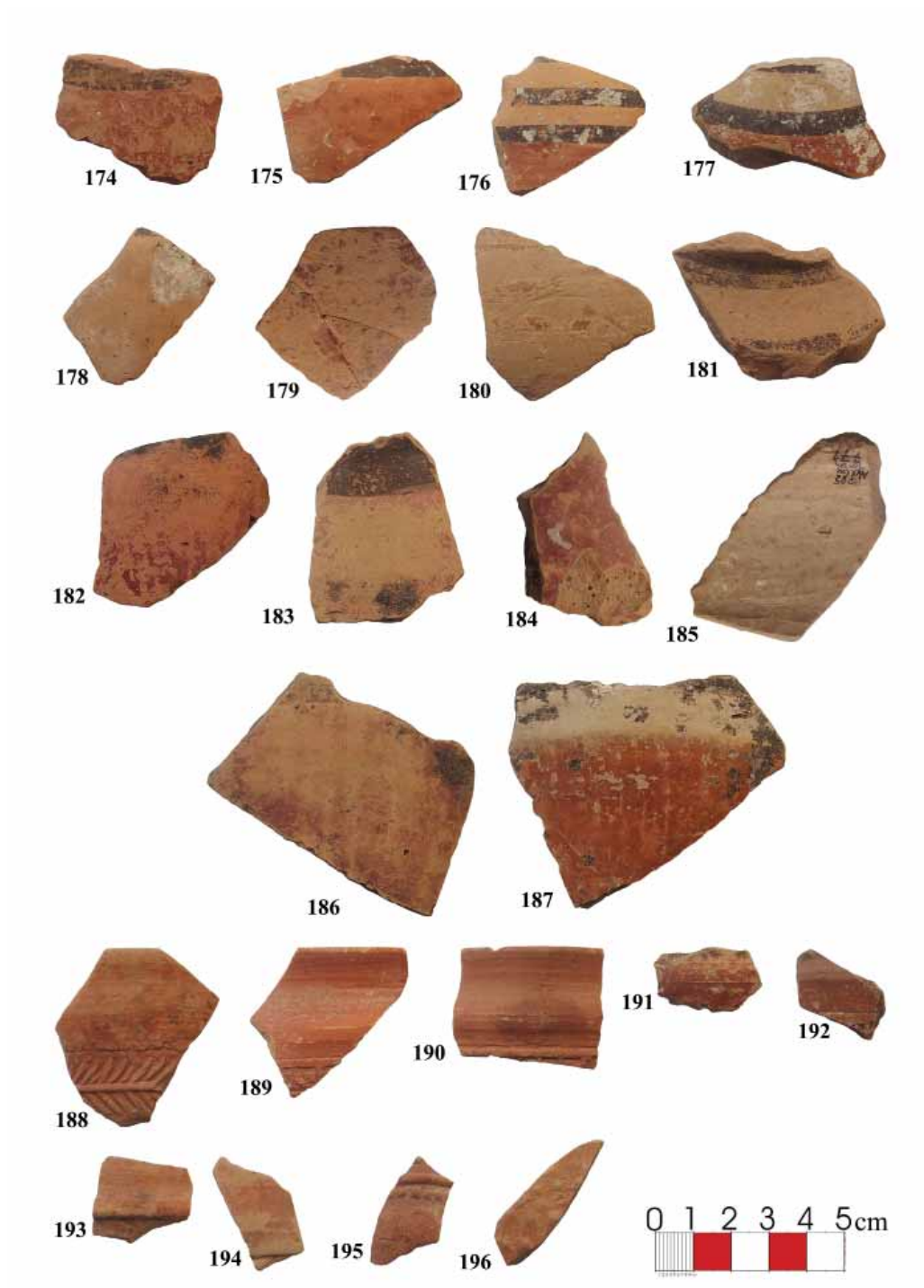
Pl. 31: Nos. 103-124: Iron Age coarse ware; no. 103: A body fragment of open forms; nos. 104-105: Rim fragments of closed forms; and nos. 106-124: Body fragments of closed forms.



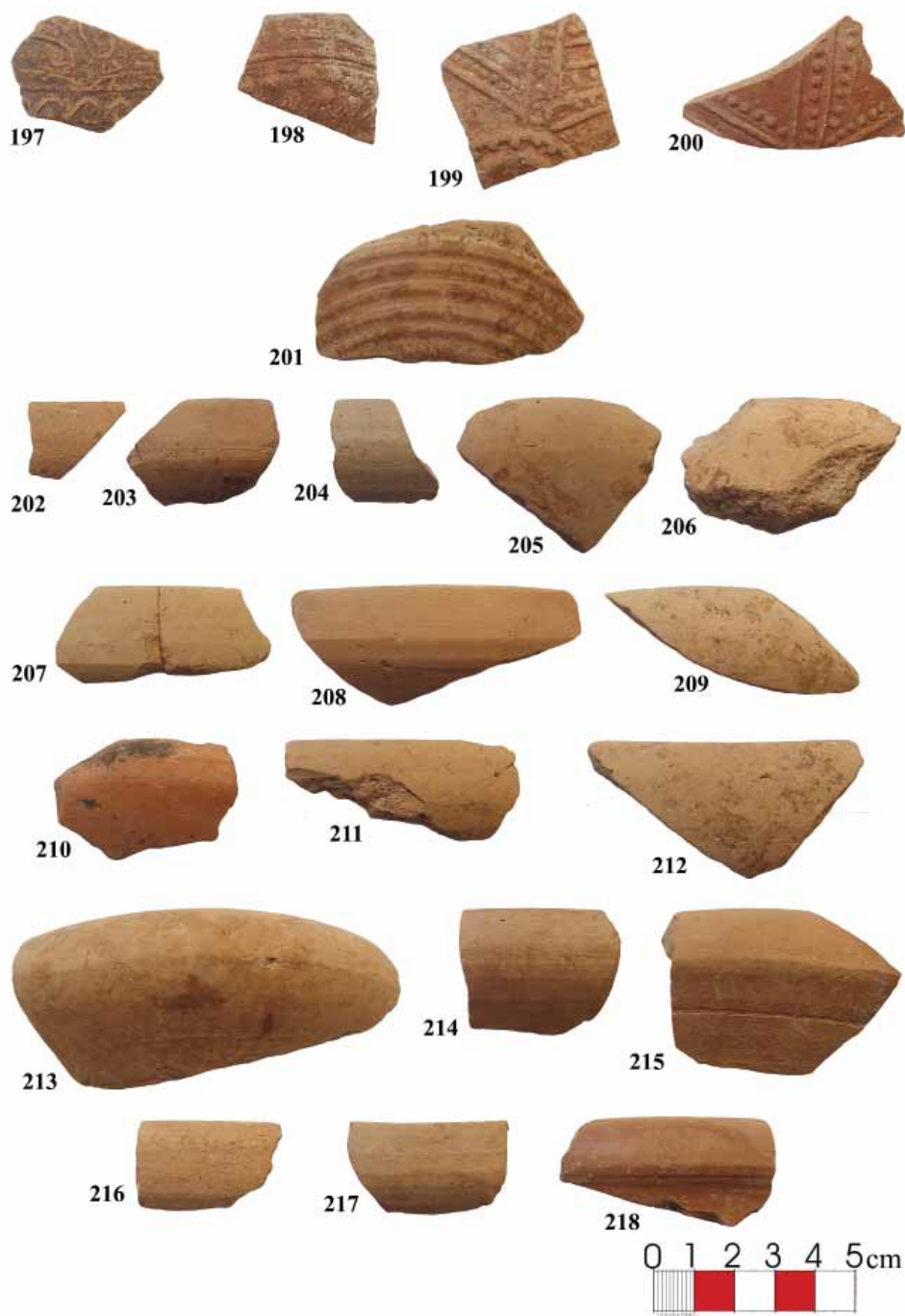
Pl. 32: Nos. 125-128: Iron Age coarse ware, body fragments of closed forms; no. 129: A Pontic *skyphos* fragment; nos. 130-141: Hellenistic Painted Ware; nos. 130-132: Rim fragments of open forms; no. 133: A base fragment of open forms; and nos. 134-141: Body fragments of open forms.



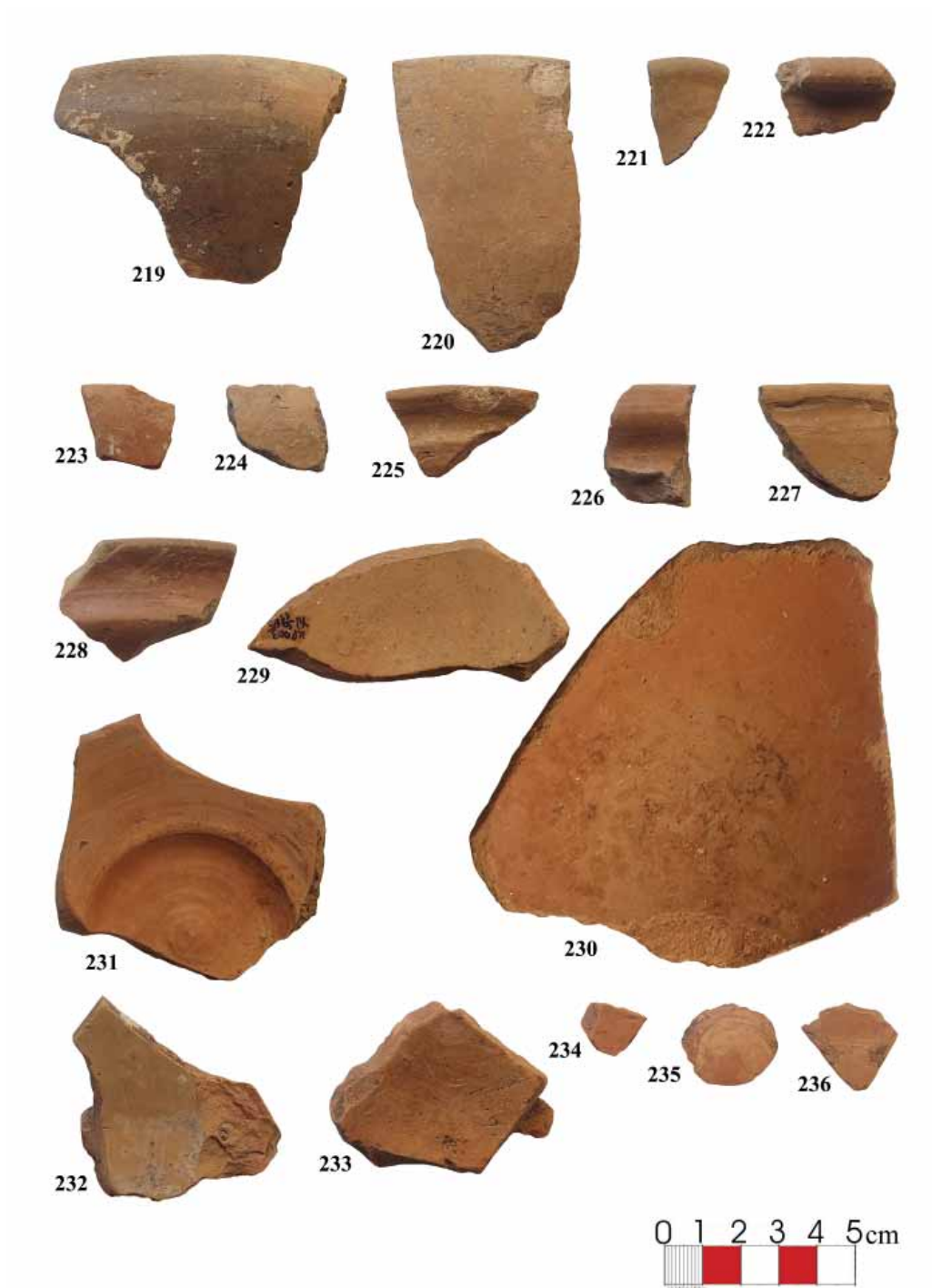
Pl. 33: Nos. 142-173: Hellenistic painted ware; no. 142: A body fragment of open forms; nos. 143-145: Rim fragments of closed forms; no. 146: A base fragment of closed forms; and nos. 147-173: Body fragments of closed forms.



Pl. 34: Nos. 174-187: Hellenistic painted ware, body fragments of closed forms; nos.188-196: Hellenistic relief ware; nos. 188-190: Rim fragments of a bowl form; and nos. 191-196: Body fragments of open forms.



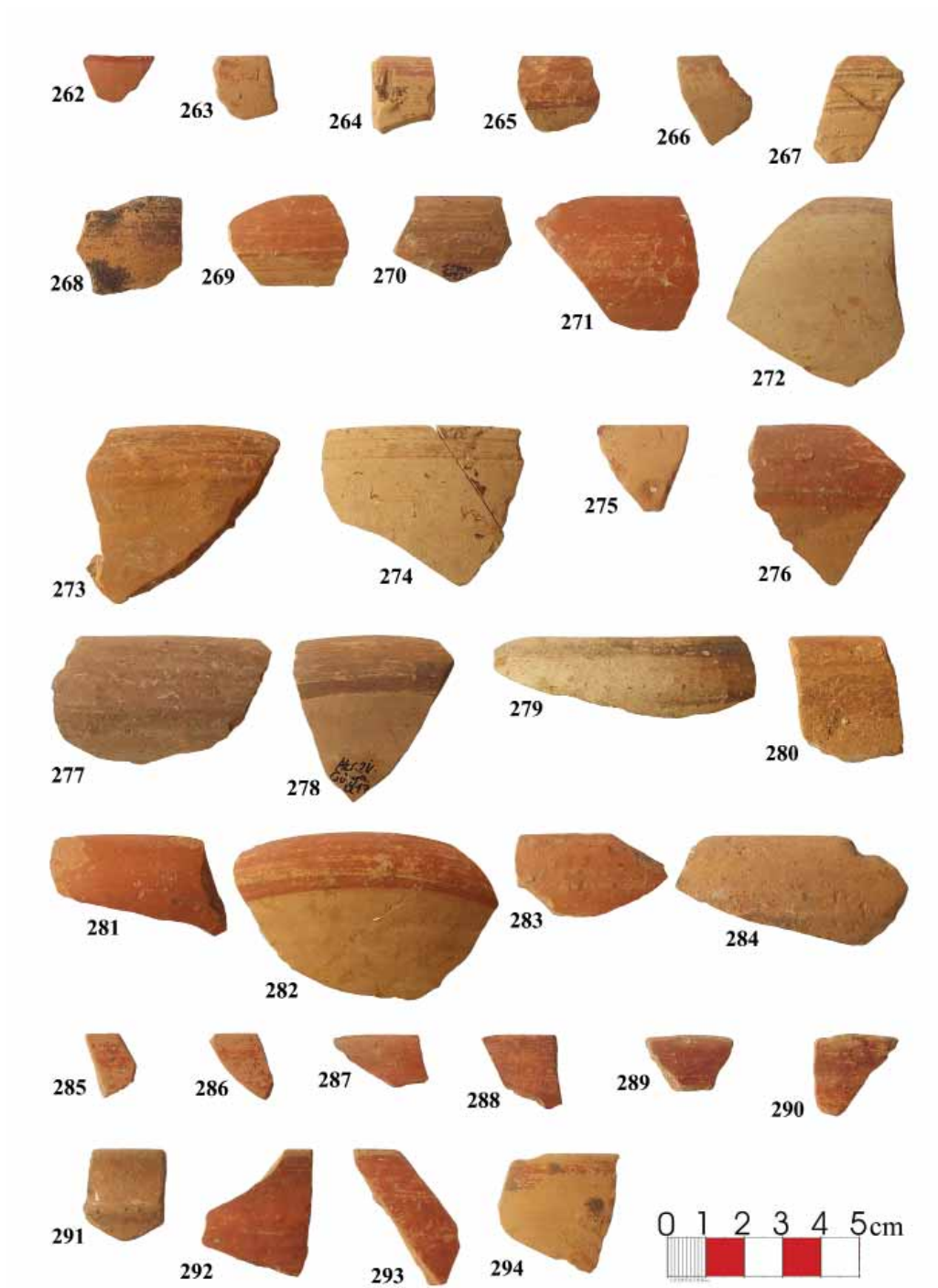
Pl. 35: Nos. 197-201: Hellenistic relief ware, body fragments of open forms; and nos. 202-218: Hellenistic burnished ware, rim fragments of a bowl form.



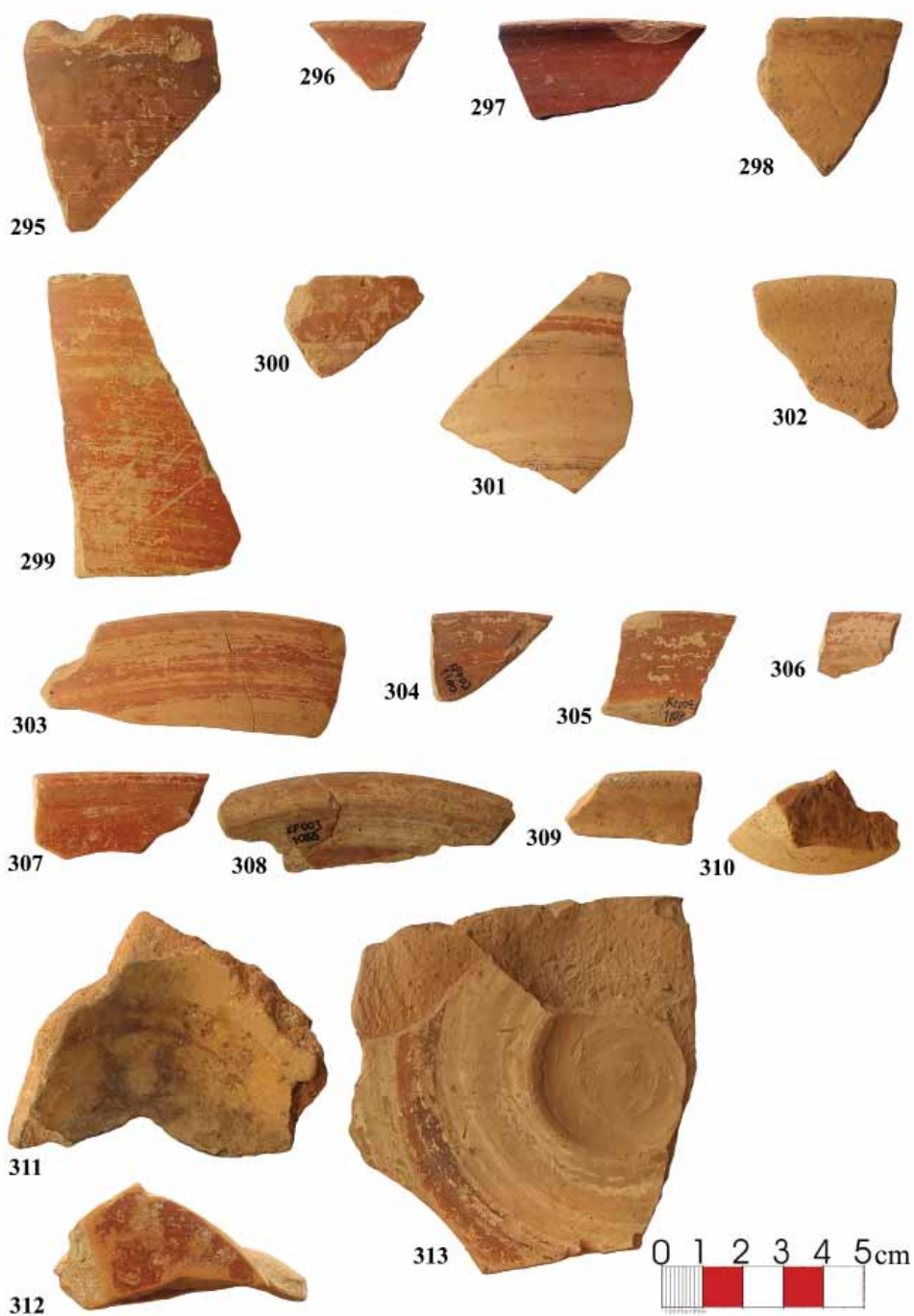
Pl. 36: Nos. 219-236: Hellenistic burnished ware; nos. 219-220: Rim fragments of a bowl form; nos. 221-228: Other rim fragments; nos. 229-233: Base fragments of open forms; and nos. 234-236: Body fragments of open forms.



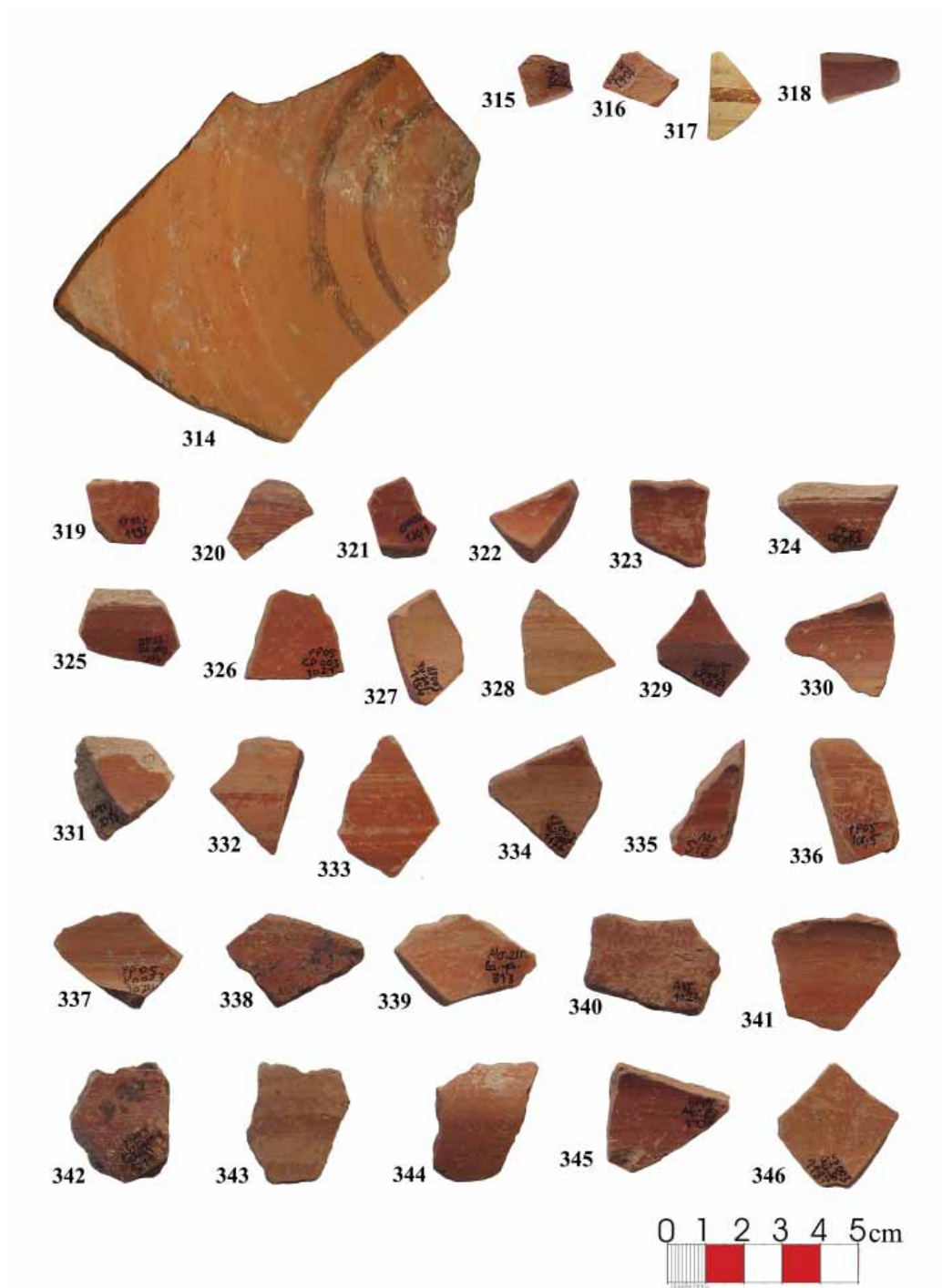
Pl. 37: Nos. 237-261: Hellenistic burnished ware; nos. 237-249: Body fragments of open forms; no. 250: A body fragment of a *rhyton*; nos. 251-255: Base fragments of closed forms; no. 256: A handle fragment of closed forms; and nos. 257-261: Body fragments of closed forms.



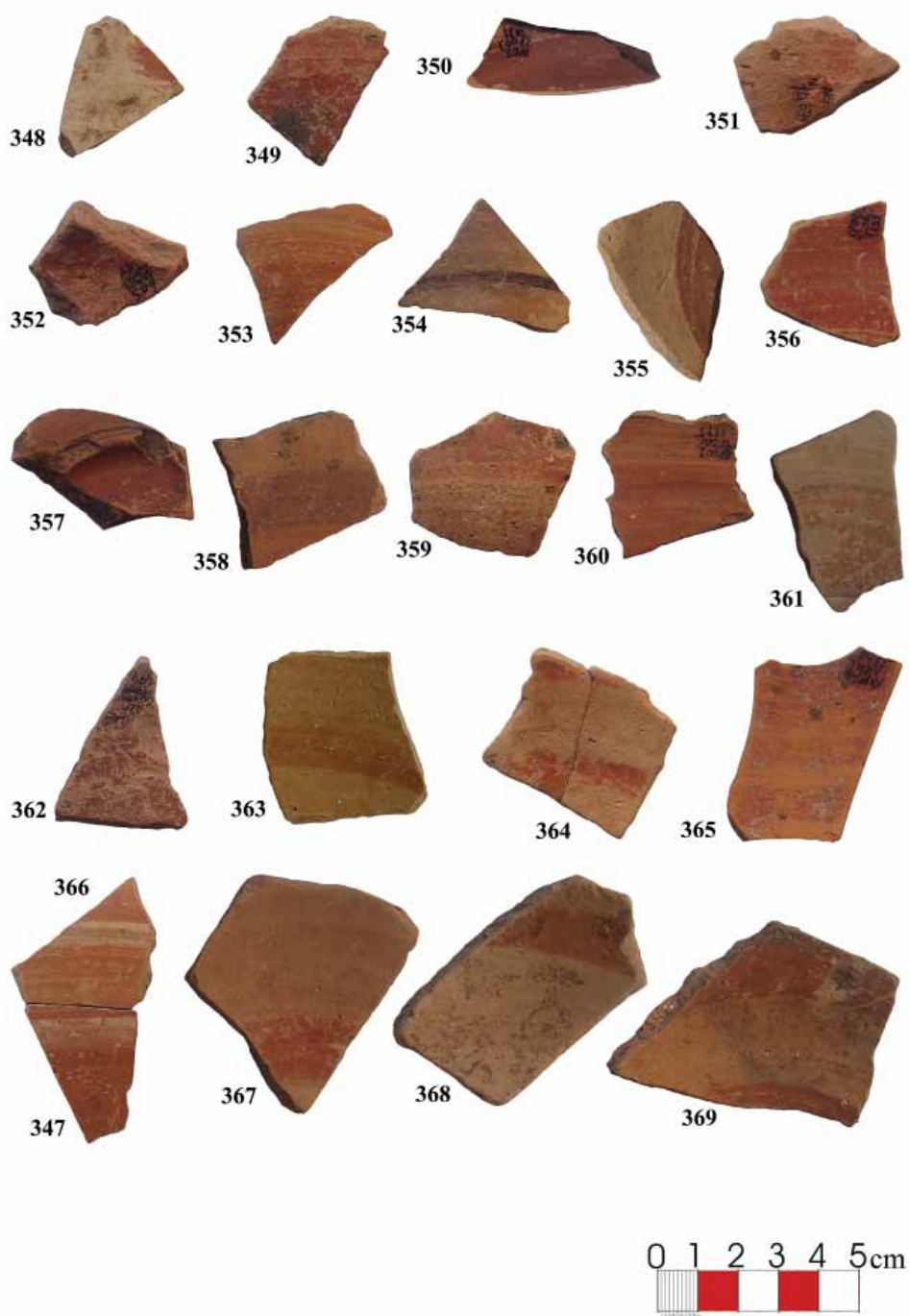
Pl. 38: Nos. 262-294: Red-painted Kepez group; nos. 262-284: Bowl form 1; and nos. 285-294: Bowl form 2.



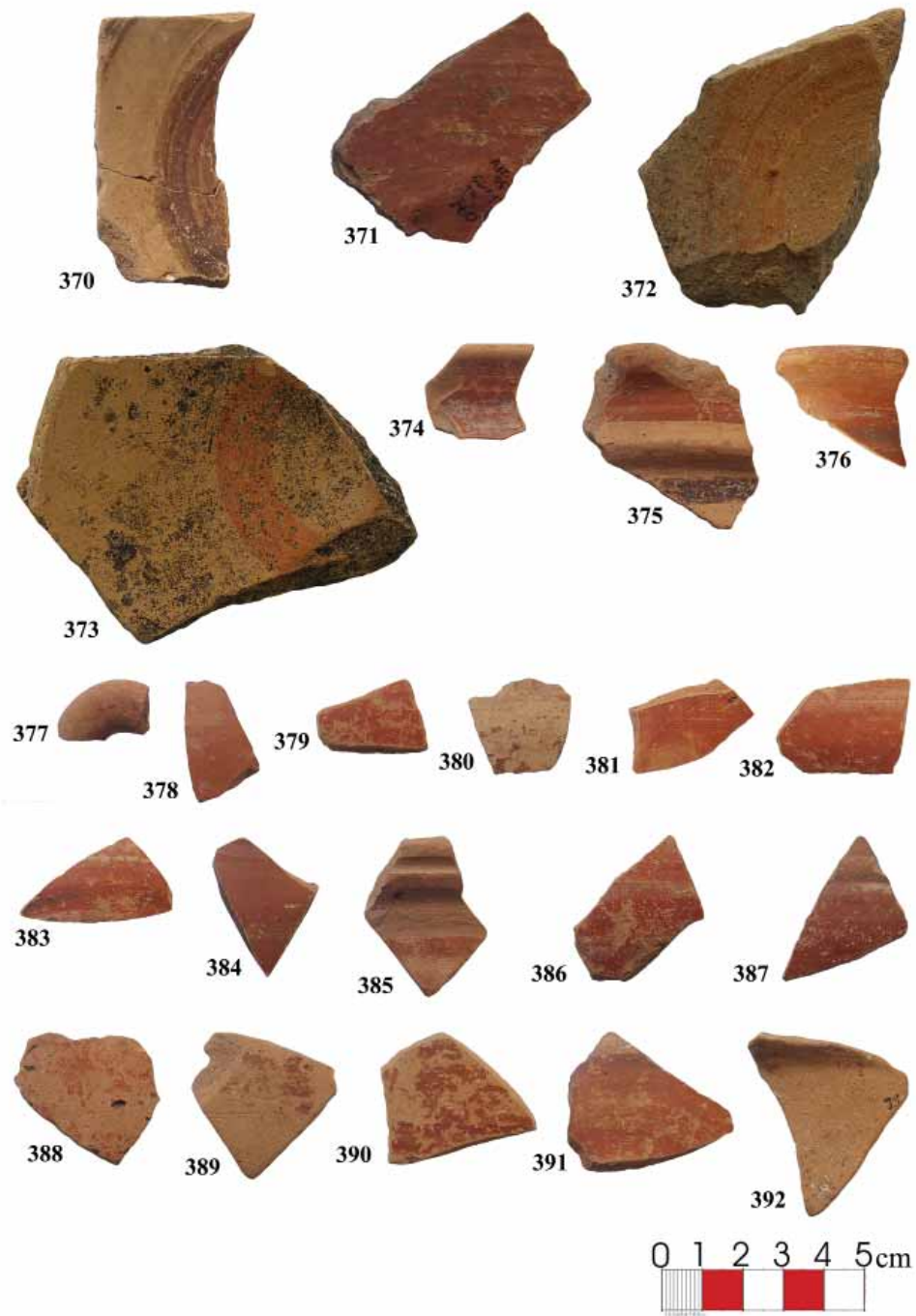
Pl. 39: Nos. 295-313: Red-painted Kepez group; nos. 295-300: Bowl form 2; nos. 301-303: Dish form 1; nos. 304-305: Dish form 2; nos. 306-309: Plate; and nos. 310-313: Base fragments of open forms.



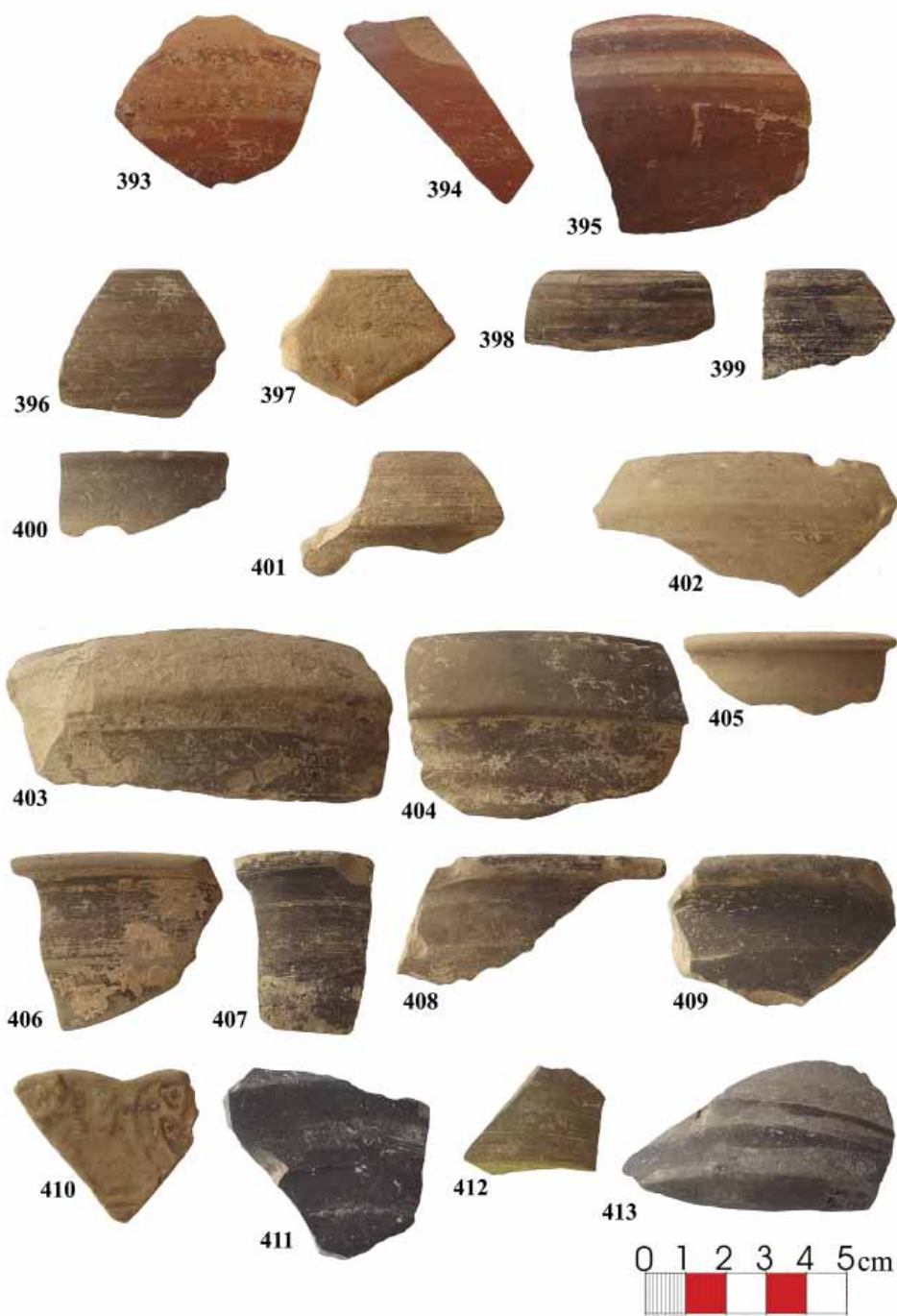
Pl. 40: Nos. 314-346: Red-painted Kepez group; no. 314: A base fragment of open forms; and nos. 315-346: Body fragments of open forms.



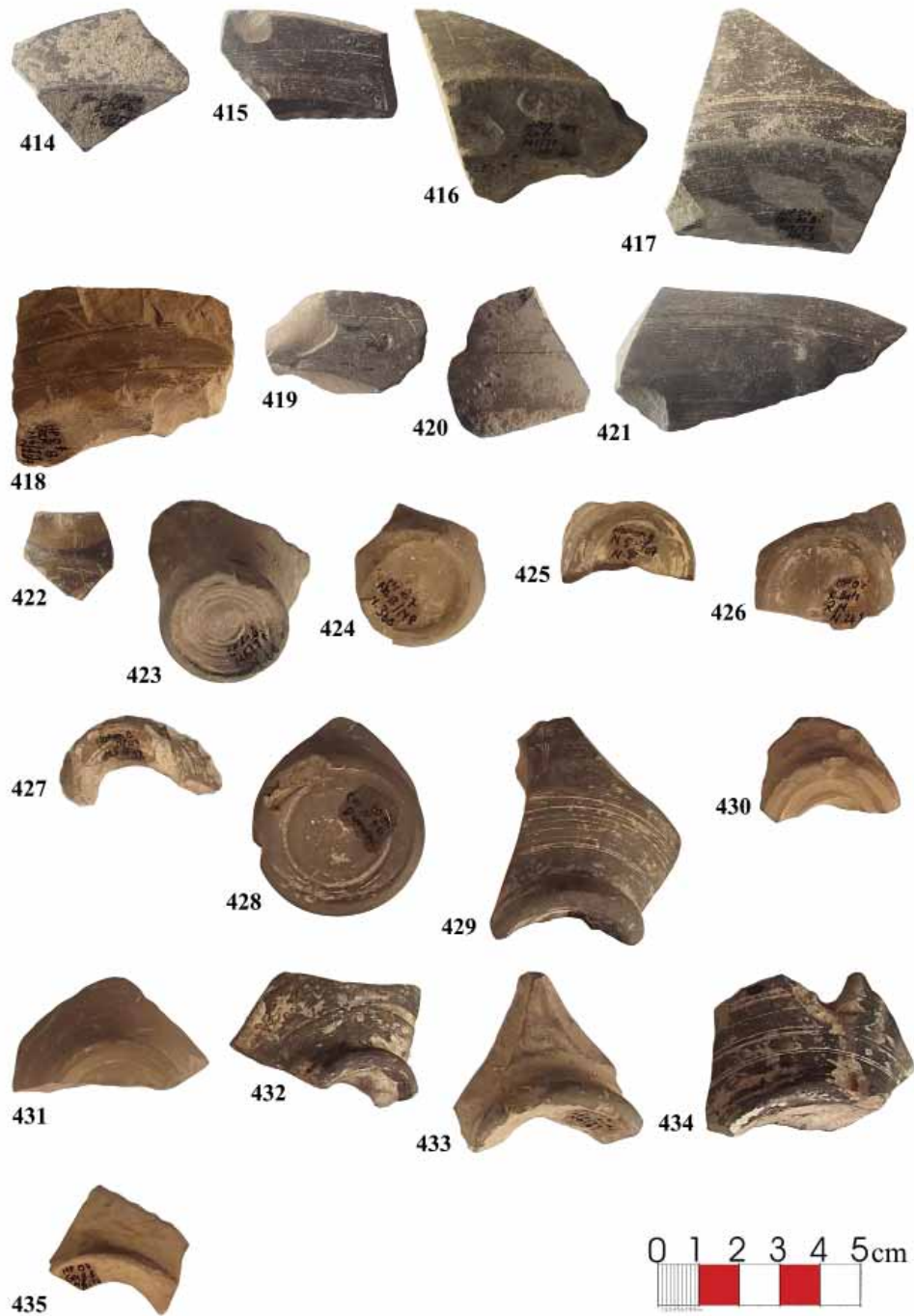
Pl. 41: Nos. 347- 369: Red-painted Kepez group, body fragments of open forms.



Pl. 42: Nos. 370-392: Red-painted Kepez group; nos. 370-373: Body fragments of open forms; nos. 374-376: Rim fragments of closed forms; no. 377: A handle fragment of closed forms; and nos. 378-392: Body fragments of closed forms.



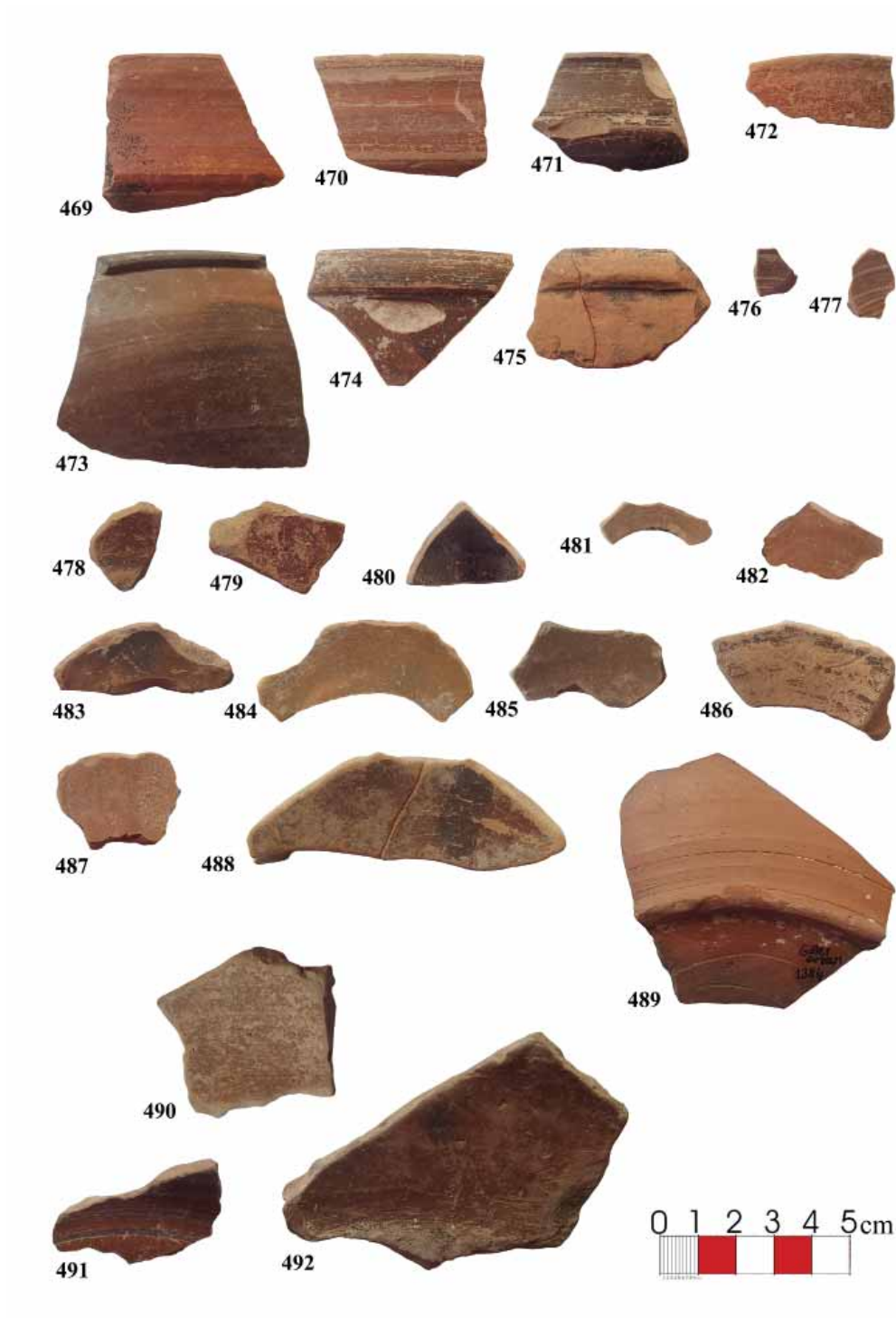
Pl. 43: Nos. 393-395: Red-painted Kepez group; nos. 393-395: Body fragments of closed forms; nos. 396-413: Late Hellenistic-Early Roman grey ware; nos. 396-398: Bowl form 1; nos. 399-400: Bowl form 2; nos. 401-404: Dish form 1; nos. 405-409: Dish form 2; no. 410: A rim fragment of a plate; and nos. 411-413: Base fragments of open forms.



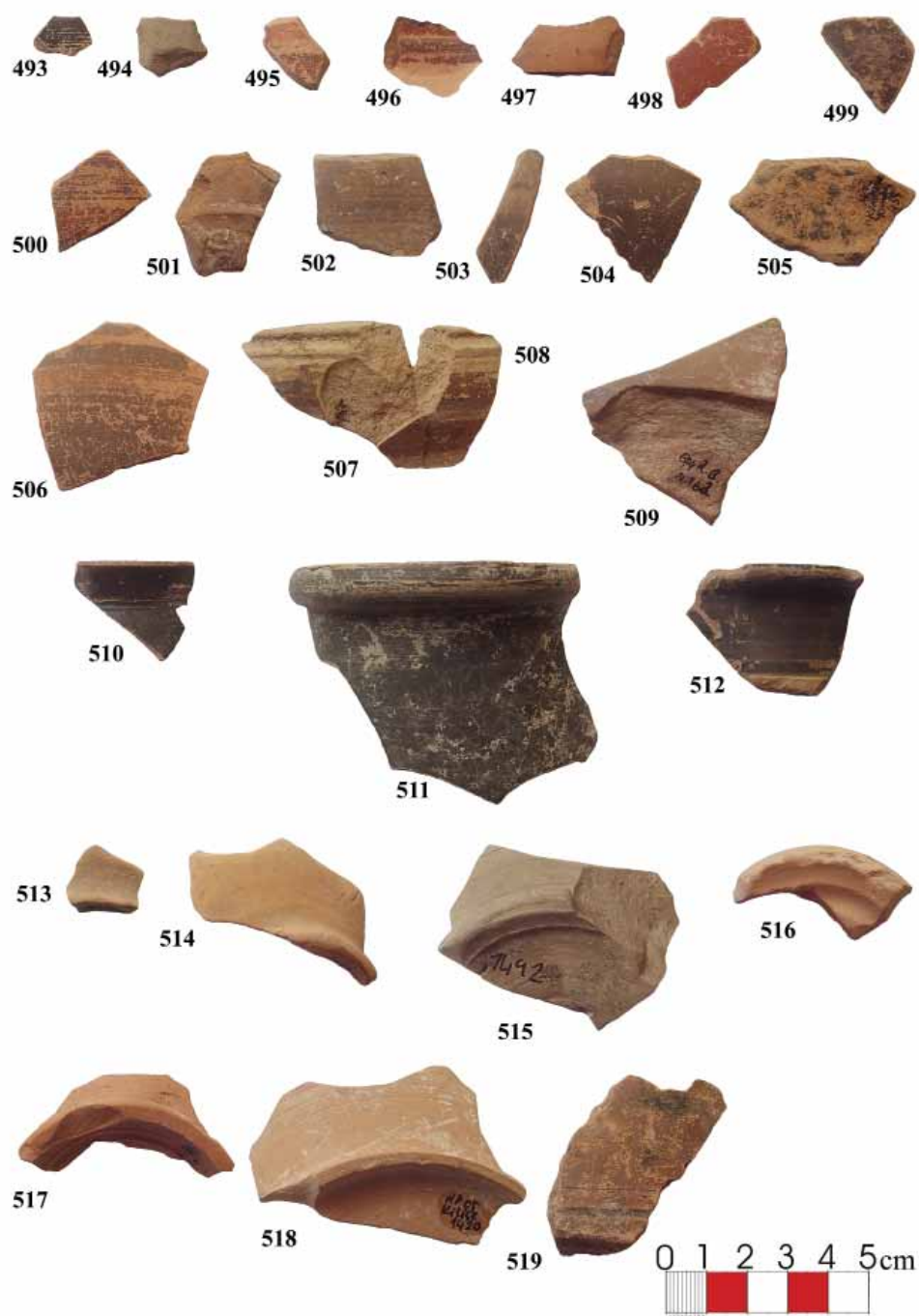
Pl. 44: Nos. 414-435: Late Hellenistic-Early Roman grey ware; nos. 414-418: Base fragments of open forms; nos. 419-421: Body fragments of open forms; no. 422: A rim fragment of a juglet; and nos. 423-435: Base fragments of closed forms.



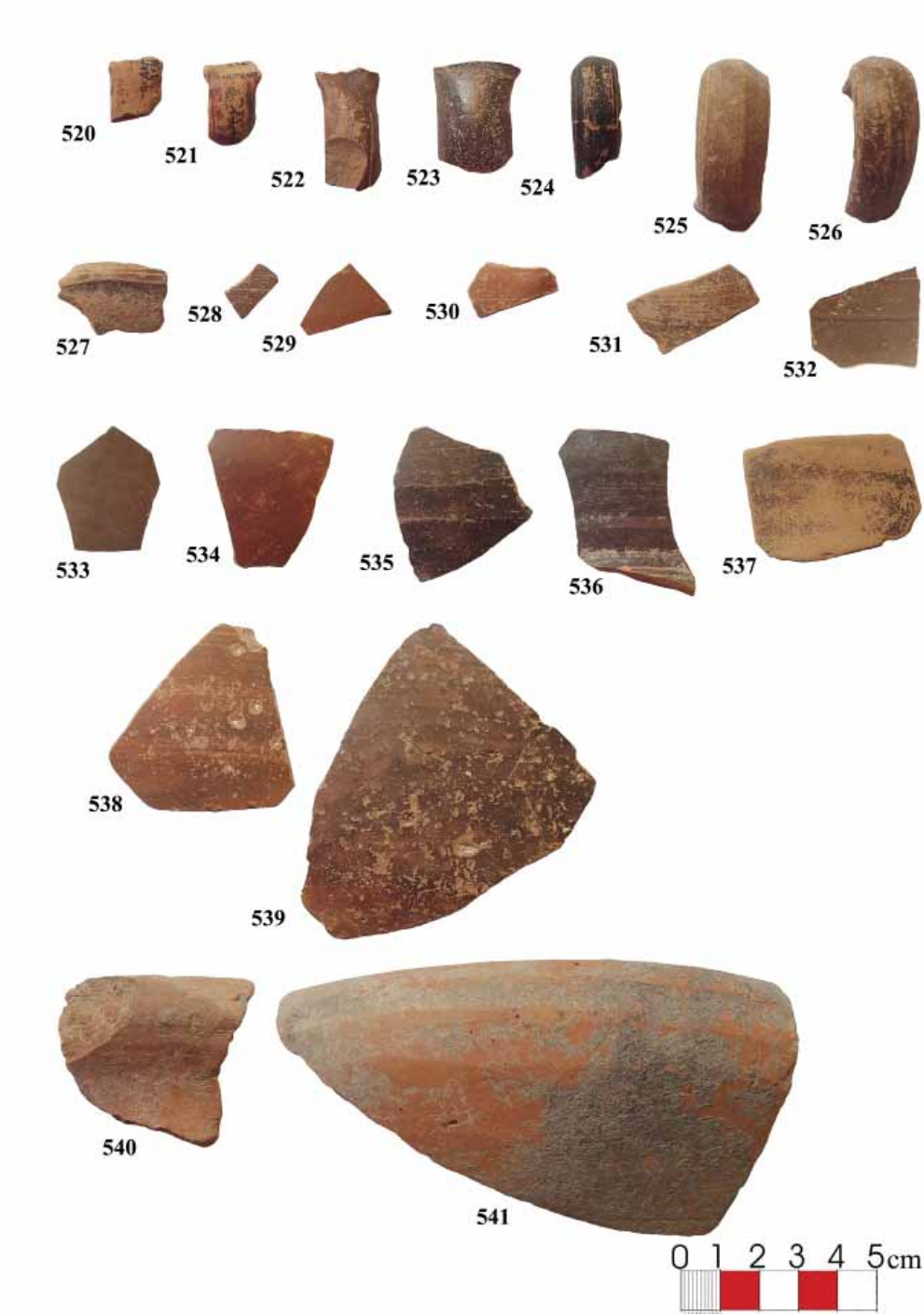
Pl. 45: Nos. 436-450: Late Hellenistic-Early Roman grey ware; no. 436: A handle fragment of closed forms; nos. 437-450: Body fragments of closed forms; nos. 451-468: Late Hellenistic-Early Roman brown-slipped ware; nos. 451-456: Bowl form 1; and nos. 457-468: Bowl form 2.



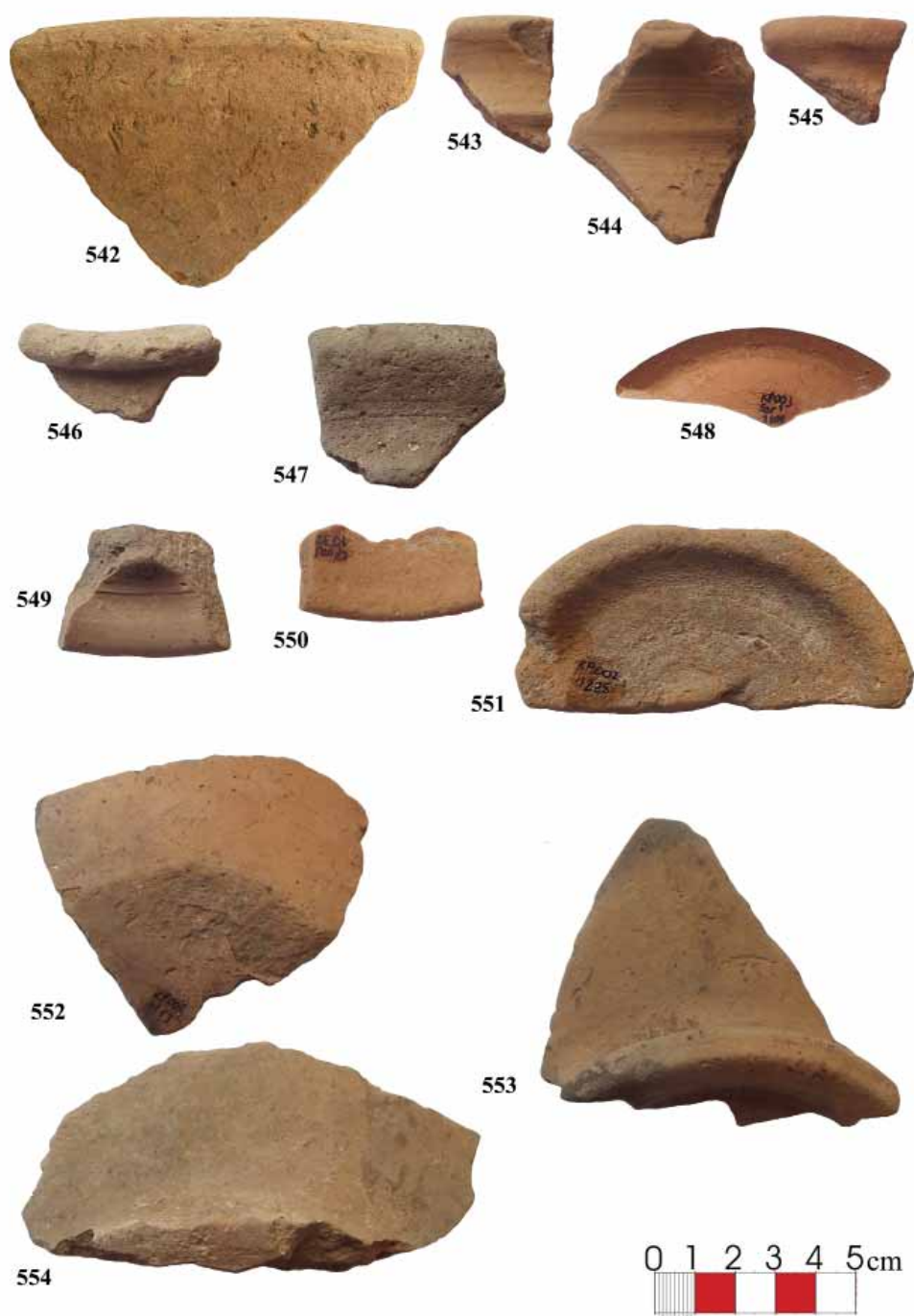
Pl. 46: Nos. 469-492: Late Hellenistic-Early Roman brown-slipped ware; nos. 469-471: Dish; nos. 472-475: Other rim forms; and nos. 476-492: Base fragments of open forms.



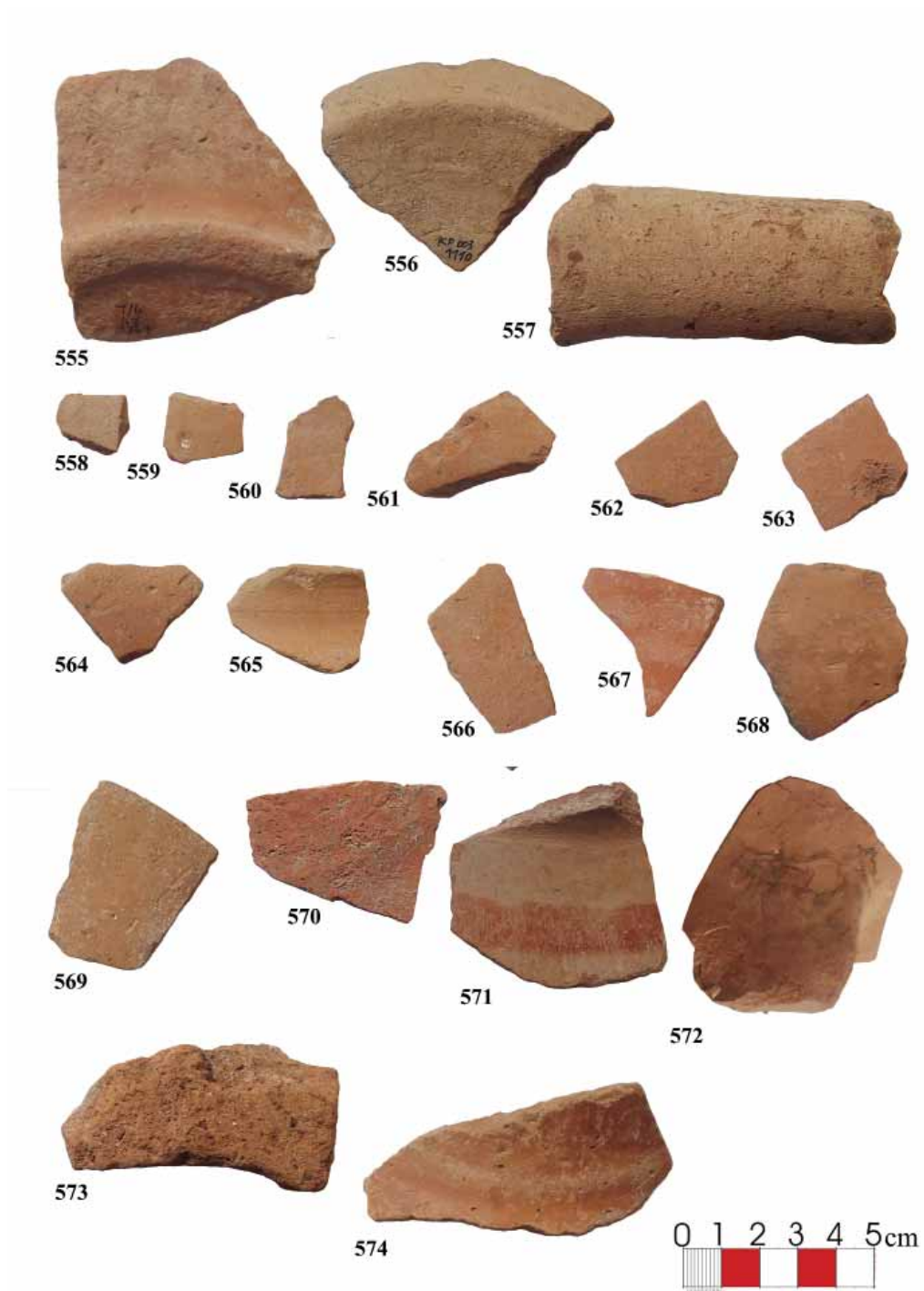
Pl. 47: Nos. 493-519: Late Hellenistic-Early Roman brown-slipped ware; nos. 493-509: Body fragments of open forms; nos. 510-512: Juglet; and nos. 513-519: Base fragments of closed forms.



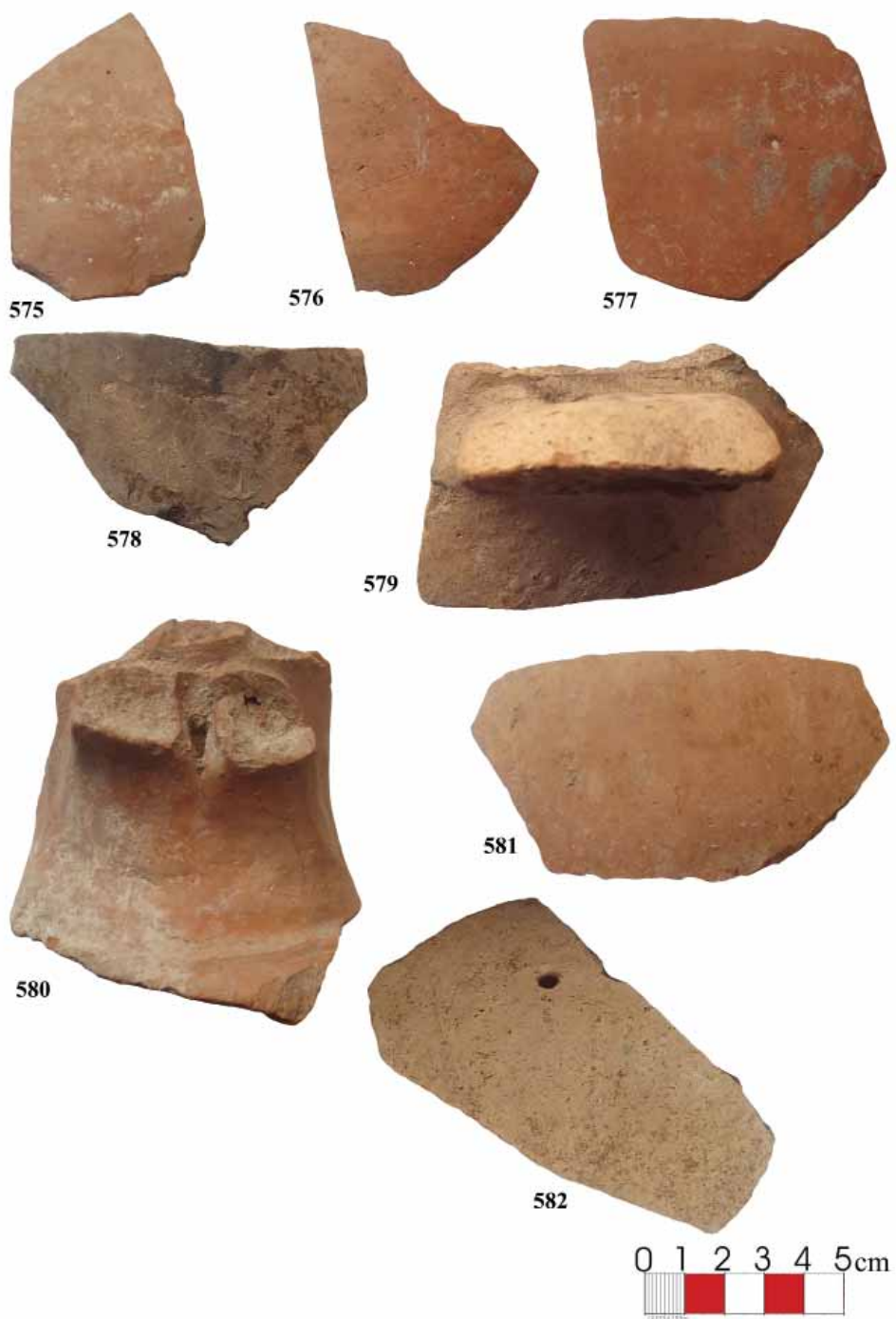
Pl. 48: Nos. 520-539: Late Hellenistic-Early Roman brown-slipped ware; nos. 520-526: Handle fragments of closed forms; nos. 527: A lamp fragment; nos. 528-539: Body fragments of closed forms; and nos. 540-541: Hellenistic coarse ware, rim fragments of open forms.



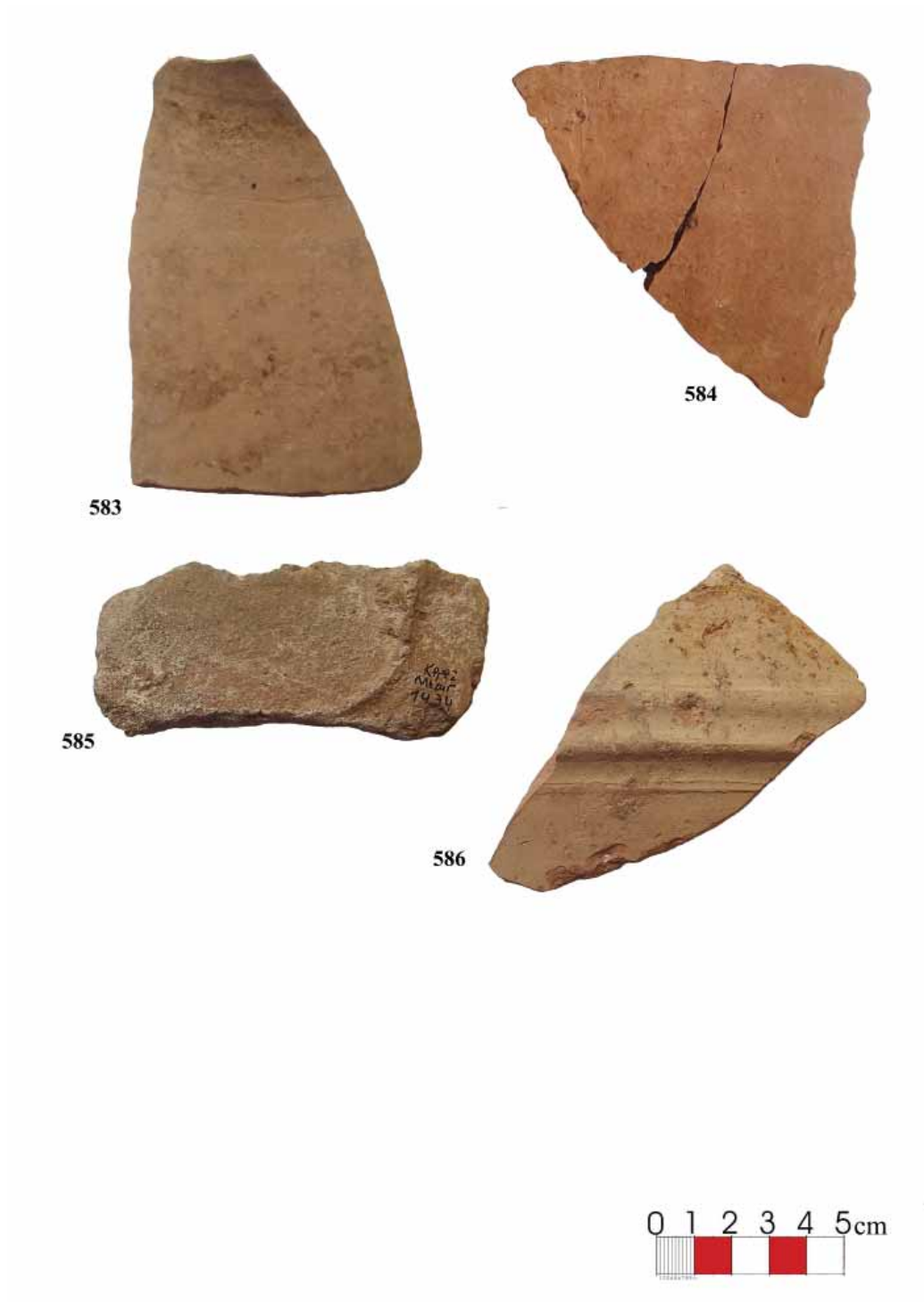
Pl. 49: Nos. 542-554: Hellenistic coarse ware; no. 542: A rim fragment of open forms; nos. 543-547: Rim fragments of closed forms; and nos. 548-554: Base fragments of closed forms.



Pl. 50: Nos. 555-574: Hellenistic coarse ware; nos. 555-556: Base fragments of closed forms; no. 557: A handle fragment of closed forms; and nos. 558-574: Body fragments of closed forms.



Pl. 51: Nos. 575-582: Hellenistic coarse ware, body fragments of closed forms.



Pl. 52: Nos. 583-586: Hellenistic coarse ware, body fragments of closed forms.

MINIATURE DECORATIVE NEEDLES FROM VIMINACIUM

ABSTRACT

Although not numerous, the miniature decorative needles from Viminacium (comprising six examples divided into four types) deserve special attention. Actually, for a long time their purpose was a matter for academic discussion. This is why some examples were described as ear-rings, but because of their uncharacteristic wire part, this classification was soon abandoned. Different shaped heads (circle, pelta, swastika), made of thin metal sheets and a flat wire part with the end slightly bent into a hook, suggest that these kinds of objects represent decorative needles. They were made only of metal (silver and bronze). By virtue of their dimensions (2.2 to 3.3cm), they are different from classical decorative needles but, based on their other features, they are very similar to this kind of jewellery. Similar items from Siscia which, along with the Viminacium examples, represent the only finds of this kind discovered at one site in a large number. The miniature needles from Viminacium chronologically belong to the 2nd and 3rd century, which corresponds to the dating of the Siscia examples.

KEY WORDS: DECORATIVE NEEDLES, BRONZE, SILVER, PLATE-SHAPED HEAD, VIMINACIUM, SISCIA

The miniature decorative needles from Viminacium consist of a flat wire part, which was bent at the end, and a differently shaped head made of thin metal sheets. Their length measures between 2.2 and 3.3cm. In the plate, all basic data about each example is stated.¹In literature they are defined as ear-rings with an "S"-shaped hook, although they do not belong to this class of objects.

¹ The drawings in the table were taken from the documentation (C-cards) and are shown in 1:1 scale.

Moreover, it is obvious that this form of jewellery could not represent an ear-ring, since the wire part, which is flat and not bent, would easily slip off the ear. They were even considered semi-products and ear-ring examples which were thrown away because their wire parts were damaged during the production process (Koščević 1988: 17, T. IV, 72-82). Still, the new finds of this type show that one here is dealing with a special kind of jewellery, which was most likely used for overlap-

* The article results from the project: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

ping or fastening parts of clothing. Only examples made of metal are known so far, mostly bronze, sometimes silver, while gold examples have not been found. Based on the shape of their heads, the miniature decorative needles from Viminacium are classified into four types.

TYPE 1

These needles have a plate-shaped round head and a soldered flat wire part which is slightly bent at the top in the shape of a hook. Two of needles of this type were found at Viminacium (C-732, site "Pećine", cremation G₁-41) (Golubović 2004: 86-87, Pl. V, 6; Миловановић 2007: 89-90, cat. nr. 409). In keeping with the grave goods found within this two-levelled grave of the "Mala Kopašnica - Sase" type, it can be concluded that a female person was buried here.² An identical example is known from Siscia (Koščević, Makjanić 1995: 20-21, Pl. 41, 417). Two gold "ear-rings", with the same hook, but with a calotte-shaped head made from a metal sheet, which are on display in the Belgrade National Museum (Поповић 1996: 24, type VI 1/3, cat. 64) would, according to the wire part, more closely correspond to needles. However, the calotte-shaped head is identical to ear-rings whose hooks are clearly "S"-shaped. Consistent with the simple round heads, cut from

² The needles were found in the area beneath the control-profile. Other grave goods included: bronze plating of a chest with a preserved handle, nails and a part of the key-hole with a key C-717; two applications C-718 and 719; a ceramic pot C-720; two iron nails C-721; two bronze mirrors C-722 and C-724; an object made of bone C-723; a silver spatula and a fragment of a bronze spatula C-725 and C-735; a bronze coin C-726; two gold ear-rings C-727; two glass vessels C-728 and 728; a bronze finger-ring C-729; a bronze bracelet C-730; a bronze handle (possibly of a mirror) C-731; two bronze needles C-733 and C-734; an amber pearl C-736; a bronze lock and the key-hole opening C-737 and 738; fragments of two bronze needles C-739; a sea-shell C-740; a fragment of a corroded iron object C-741; parts of iron chains with preserved nails C-742; parts of an iron tip C-743 and two bronze hinges C-744.

bronze sheet, the needles from Viminacium represent the simplest shapes, from which some of the more complex types developed. Based on the age of the grave goods, the needles of this shape can be roughly dated to the 2nd and 3rd century.

TYPE 2

These needles have a plate-shaped round head with a jagged rim and with the wire part slightly bent at the top. Two examples from Viminacium (C-3820 and C-5255, site "Pećine", cremation G₁-309 and inhumation G-1882) belong to this type. The first example is made of bronze, while the other is made of silver. The bronze needle, of which only the lower part remained preserved, was found in the two-levelled grave of the "Mala Kopašnica - Sase" type.³ The silver needle was found next to the knee bone of a poorly preserved skeleton. The bones were dislocated and so the long bones lay over the skull. There were no other grave goods. A pair of silver needles with a jagged plate-shaped head is known from Municipium DD (Fidanovski 1987-1988: 14, T. 5,1), as well as two examples made of bronze – one from Siscia, with a preserved white enamel slip (Koščević 1988: 17, T. IV, 74; Koščević, Makjanić 1995: 20-21, Pl. 41, 419) and the other from Intercissa (Alföldi 1957: T.LXXXVI, 6). Examples with a pelta-shaped head and a jagged edge from Siscia are numerous (Koščević, Makjanić 1995: 20-21, Pl. 41,420; 425-427) and date from the second half of the 2nd to the end of the 3rd century.

TYPE 3

One silver needle from Viminacium belongs to a special type (C- 6515, site "Pećine", cremation G₁-40) with the head made of a met-

³ Next to the needle, a badly preserved and illegible bronze coin C-3819 was discovered.

al sheet in a pelta-shape, while the wire part is identical to the previous examples. The remains of cremated bones were placed in a grave with a brick construction, while the needle was discovered in a shallow semi-spherical ceramic bowl which had been destroyed. The greatest number of needles with the pelta-shaped head originates from Siscia, with most of them possessing jagged edges (Koščević, Makjanić 1995: 20-21, Pl. 41, 420-428). The pelta motive, made using the perforating technique, was also applied on discoid fibulae from the Viminacium cemeteries, dating from the second half of the 2nd century (Redžić 2006: T. XXIII, 255; Petković 2010: 176-175, cat. 967-968, T. XXXI, 10). It is known that plate-shaped fibulae are mostly ascribed to female costumes and therefore, the origin of needles with a pelta shaped head could be sought in this kind of jewelry.

TYPE 4

A bronze needle with a swastika shaped head and a thin wire with its end bent into a hook belongs to the fourth Viminacium type (C-303, site "Pirivoj", from the excavated soil). Due to the shape of its ends, the swastika, as a luck-bringing symbol, is often compared to the sun and its course across the sky, from the east to the west. On the head of the Viminacium needle, the ends circulate counter-clockwise, i.e. from the east to the west (Cirlot 1971: 322-323). Plate shaped fibulae with swastikas, which are known from Viminacium, are ascribed to production from the marginal Roman provinces along the Rhine and the Danube from the second third of the 2nd century until the middle of the 3rd century (Redžić 2006: T. XXIV, 266; Petković 2010: 185, cat. 995, T. XXXI, 8). At the "Pirivoj" site, a cemetery with cremations and skeletal burials was discovered, which chronologically belongs to the period from the end of the 2nd to the end of the 3rd century and the beginning

of the 4th century. This is why the needle is also treated as a part of a grave inventory, fitting into a wider chronological span. An identical example is known from Siscia (Koščević, Makjanić 1995: 20-21, Pl. 41, 429).

CONCLUSION

Based on current understanding, it remains unknown whether miniature decorative needles were worn in pairs or separately. Only one pair of bronze needles is known (C-732, site "Pećine", cremation G₁-41) from a cremation grave, while all of the other examples were single finds. This could be explained by the fact that the graves were mostly damaged and robbed. Their small dimensions and the shape of their heads point to the fact that they primarily had a decorative function, while the examples with the pelta or swastika shaped head also possessed a magical, protective function. Owing to their small dimensions, their practical purpose is reduced and they could only have been used for fastening some parts of clothing made of very thin textile, for example a scarf or a veil. This is why they could be considered parts of a female costume, like some form of head decoration. The similarity of types 1 and 2 with ear-rings with a flat wire part and a semi-spherical head cannot be ignored. A larger number of identical examples of miniature decorative needles are only known from Siscia, which is no coincidence since these two urban centres were also alike when other kinds of archaeological material are considered. One could also expect similar new finds within the borders of the Moesia province, which are not yet published or excavated. The chronological span of the Viminacium decorative needles is the 2nd and 3rd century.

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REZIME**MINIJATURNE UKRASNE IGLE IZ VIMINACIJUMA**

KLJUČNE REČI: UKRASNE IGLE, BRONZA, SREBRO, PLOČASTA GLAVA, VIMINACIJUM, SISIČIJA.

Minijaturne ukrasne igle iz Viminacijuma sastoje se od tanke žice čiji je kraj blago povijen i od različito oblikovane glave od tanko iskucanog lima. Dužine su od 2,2 do 3,3 cm. Igle su podeljene na 4 tipa u zavisnosti od oblika glave koja je ravnog ili nareckanog ruba, u obliku pelte ili svastike. Uglavnom su iz grobova. Poznati su samo bronzani i srebrni primerci. Nošene su kao sastavni deo ženske nošnje na odeći ili glavi. Verovatno su nošene u paru, mada to još nije potvrđeno. Identični primerci poznati su iz Siscije, što nije slučajnost, jer postoji velika sličnost i u drugoj vrsti materijala između Siscije i Viminacijuma. Na osnovu grobnih priloga i analognih nalaza iz Siscije, ukrasne minijaturne igle iz Viminacijuma hronološki su ograničene na period od 2. do 3. veka.


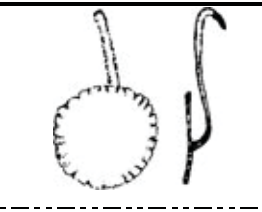

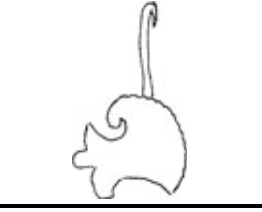

Type	Decorative needle	C-number	Material	Location	Site
1		732	Bronze	G1-41	Pećine
2		382	Bronze	G1-309	Pećine
		5255	Silver	G-1882	Pećine
3		6515	Silver	G1-40	Pećine
4		303	Bronze	from the excavated soil	Pirivoj

Plate of decorative pins from Viminacium

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UDK: 902.2:572.7(497.11) ;
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RESULTS OF THE ARCHAEOLOGICAL-ANTHROPOLOGICAL STUDY OF THE MASS BURIAL AT VIMINACIUM – GRAVE G 2158 – THE PEĆINE NECROPOLIS

ABSTRACT

During the rescue archaeological excavations of the southern Viminacium cemeteries in the seventies and eighties of the 20th century, several thousand graves were excavated. Among them, excavated in 1982, was a mass burial numbered G 2158, in which there were nine individuals. An anthropological study was conducted, which showed that they were exclusively male skeletons, of robust structure, whose individual age was between 20 and 40 years. One reason for a common burial of these individuals, most likely members of the military stationed in Viminacium, could have been a clash which occurred near the city. Viminacium was located on the Limes so the buried persons may have been killed in one of many barbarian attacks which often occurred during the second half of the 3rd century, due to the turbulent times within the empire.

KEY WORDS: VIMINACIUM, NECROPOLIS, LIMES, MASS BURIAL, GRAVE.

INTRODUCTION

During the rescue archaeological excavation of the southern Viminacium cemeteries, several thousand graves were discovered. Although M. Valtrović identified these cemeteries in his report to the Ministry of Education as far back as 1882, their excavation didn't begin until 1977. The cemeteries were, at that time, endangered by the building activities of the thermo power-plant

Kostolac B. The protective excavation was carried out over the next several years, during which time all sections of the cemeteries were named after modern cadastre units, although all of them actually represented parts of one single Viminacium necropolis (Fig. 1). One of the oldest two, created during the 1st century and used up until the end of the 3rd century, consisting of both cremations and skeletal burials, was situated at the site named Pećine (Zotović 1986). In 1982, in this exact area,

* The article results from the project: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

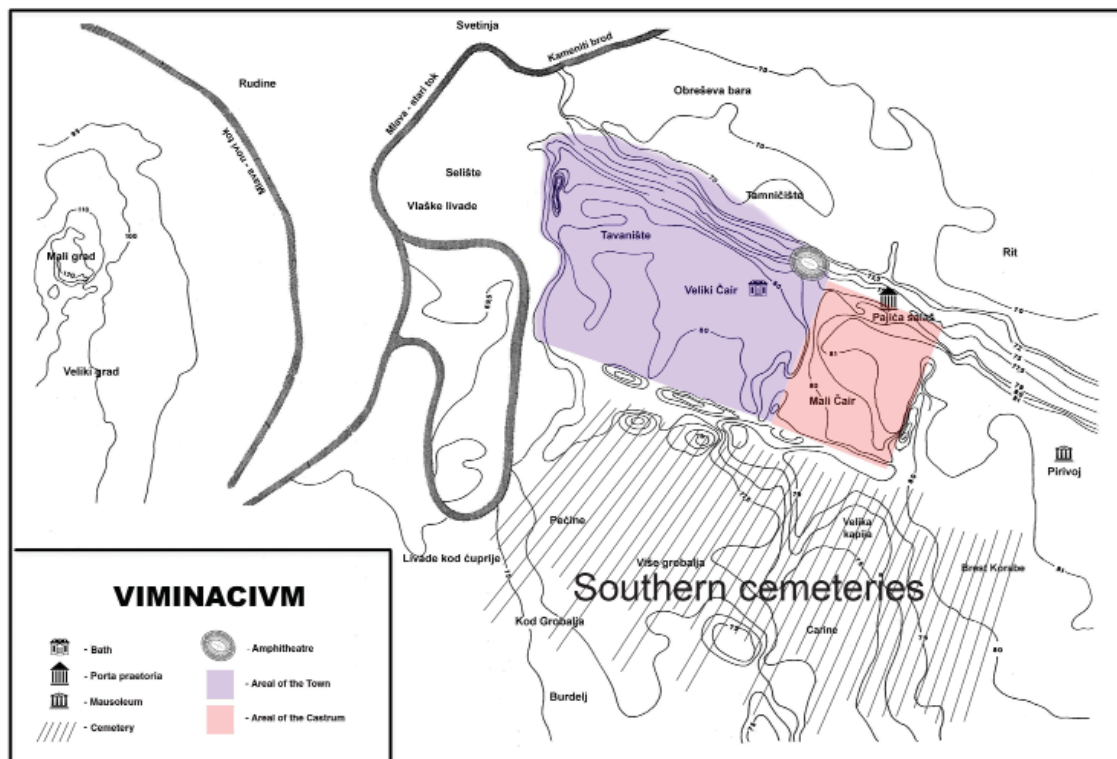


Figure 1. Viminacium – southern necropolis

the mass burial G 2158, consisting of nine individuals, was excavated. Regarding the southern Viminacium cemeteries, 4651 skeletons have been anthropologically examined to date, ranging from the 1st to the 4th century. Among them, 1411 skeletons were discovered in mass burials. It was therefore concluded that one third of all the individuals were buried in mass burials, in which the number of the deceased varied from 2 to 153 (Mikić 1993).

The mass burial G 2158 (sondage 290) was discovered in the part of the cemetery in which burials were extremely densely positioned. In the sondage itself and in its extensions (approx. 200 m²), down to a depth of 0.45 to 2.50 m, 179 skeletal and 25 cremated graves were discovered (Fig. 2).

The deceased were buried in two levels (the skeletons are marked from A to I) as follows:

- the first level, down to a depth of 2.20 m, comprising the graves A to C (Fig. 3).

- the second level, down to a depth of 2.50 m, comprising the graves D to I (Fig. 4).

Deceased A – a simply buried deceased, with a brick measuring 43 x 29 x 4 cm as a pillow. A fragmented brick was placed over the face and the shoulders of the deceased. The deceased was extended on its back. The head was lying on the left cheek, facing NE. Its left arm was slightly bent at the elbow and placed next to the body, while the right arm was also bent at the elbow, with the hand placed on the chest. The preserved length of the skeleton measured 1.65 m. It was orientated W-E, with a deviation of 9^o of its eastern part towards the north. The head and the torso were placed slightly above the pelvis and the legs. The lower legs were placed on the eastern part of the cover of skeleton I, with the right lower leg placed 10 cm above the upper arm of skeleton H.

Deceased B – was placed to the south of deceased A and to the north of deceased C. It was positioned lying on its back in an extended position. The arms were bent at the elbows and the right hand was placed on the left side of the pelvis, while the left hand was placed on the right

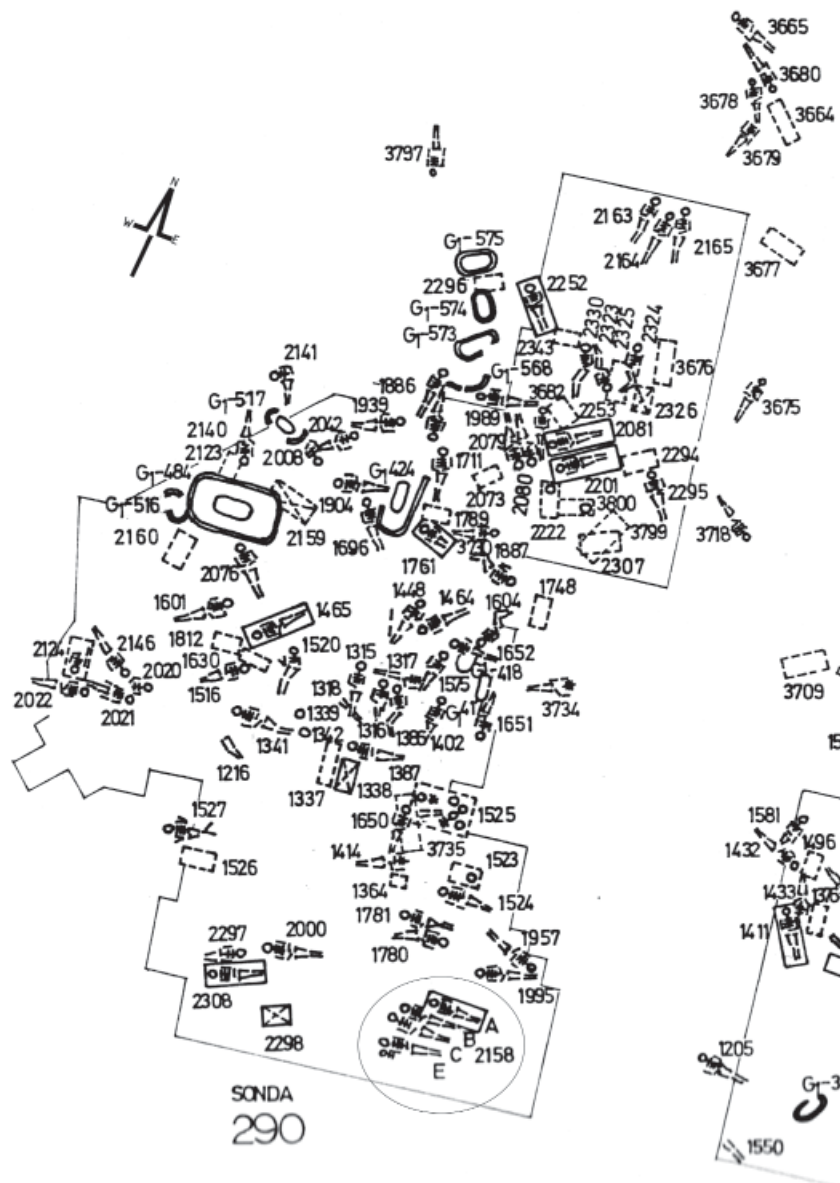


Figure 2. The position of grave G-2158 within the sondage 290

upper arm and the left lower arm of skeleton C. A fragmented brick, also lying on the lower legs of skeleton C, was placed on the lower legs. The preserved length measured 1.54 m. It was orientated W-E, with a deviation of 6° of its eastern part towards the south.

Deceased C – placed lying on its back in an extended position. The arms were bent at the elbows, with both hands placed on the pelvis, right over left. The head was lying on the left cheek, facing NE. The preserved length measured 1.59

m. It was orientated W-E, with a deviation of 8° of its eastern part towards the south.

Deceased D – was placed to the north of deceased E. It was placed lying on its back in an extended position. The left arm was stretched next to the body, with the left hand on the left upper leg. The right arm was slightly bent at the elbow, with the hand next to the right upper leg. The left foot was placed on the right one. The head and the torso were positioned slightly above the pelvis and the legs. The preserved length measured 1.47



Figure 3. The first burial level – depth 2.20 m, A to C



Figure 4. The second burial level – depth 2.50 m, D to I

m. It was orientated W-E, with a deviation of 16° of its eastern part towards the south.

Deceased E – was placed lying on its back in an extended position. The right arm was placed next to the body, with the hand placed on the foot of deceased F. The preserved length measured 1.58 m. It was orientated W-E, with a deviation of 6° of its eastern part towards the north.

Deceased F – was placed lying on its back in an extended position. The right arm was bent at the elbow, with the hand placed on the neck. The left arm was placed next to the body, with the hand placed on the left half of the pelvis. The legs were together at the knees and ankles. The preserved length measured 1.66 m. It was orientated E-W, with a deviation of 8° of its western part towards the south.

Deceased G – was placed lying on its back in an extended position. It was between skeletons F and H. The arms were bent at the elbows, with the left hand lying on the left half of the pelvis and the right arm placed on the chest. The preserved length measured 1.65 m. It was orientated E-W, with a deviation of 14° of its western part towards the south. On the right temple, a silver Probus coin was found (C 5922).

Deceased H – was placed lying on its back in an extended position. The head was lying on the left cheek, facing south and touching the skull of the deceased G. The left arm was extended next to the body, with the hand on the left upper leg. The right arm was bent at the elbow, with the hand on the pelvis. The preserved length measured 1.57 m. It was orientated E-W, with a deviation of 6° of its western part towards the south. To the right of the skull, a silver Aurelianus coin was found (C 5923).

Deceased I – buried under a cover consisting of four horizontally placed bricks (each measuring 42 x 29 x 4 cm). The dimensions of the cover were 1.20 x 0.42 m. It was orientated W-E, with a deviation of 6° of its western part towards the north. The skeleton was discovered at a depth of 2.65 m. The deceased was placed lying on its back

in an extended position. The arms were bent at the elbows, with the hands placed on the torso, right over left. The preserved length measured 1.30 m.

The discovery of two coins, dating from the second half of the 3rd century have been used to date the whole burial site to the end of the 3rd century.

The excavation of the skeletons from mass grave G 2158 lasted for a long time, owing to the fact that it was discovered at a level deeper than 2 m and that it was a specific kind of burial. In addition, the area of sondage 290 was very densely covered with burials and had to be extended several times. After the technical survey, the skeletons were lifted. During this process, it became obvious that their preservation level was varied. This became especially clear during the anthropological analysis. Compared to the *in situ* situation and to what could be seen in photographs, it was expected that the skeletons would be much better preserved. However, after the initial study and during the anthropological analysis, i.e. after washing and drying, it was obvious that the skulls and the long bones were extremely fragmented. This is why the anthropological research was performed only on skulls 2158/B and 2158/C. They were successfully reconstructed and anthropologically measured. Unfortunately, the post-cranial measurements could not be obtained (apart from some diameters), due to damage caused during the washing of the porous bones. In such a situation, measurements could have been reconstructed; however, this was not acceptable in this case. This is why only the archaeological data obtained *in situ* were used for measuring corporal height. They could have been used as relative measurements. On the other hand, from a strictly morphological perspective, it can be observed that all of the skeletons were of a robust type, especially their post-cranial skeletons and long bones.

The anthropological content of this grave consists of nine individual skeletons. Eight of them showed complete morphological growth of bones and teeth, while the skeleton marked as 2158/I was

younger than 20 years of age. This is why criteria defined by D. Ferembach, I. Schwidetzky and M. Stloukal (1980), D. R. Brothwell (1981), C. O. Lovejoy (1985) and J. E. Buikstra and H. D. Ubelaker (1994) were applied. They made it possible to obtain results not only about individual age, but also about gender. The age and gender markers preserved were sufficient and the results obtained can be considered as reliable. It only has to be noted that, while estimating individual age, the maximum age was stated in order to avoid future errors caused by the preservation degree of the skeletons from this Viminacium mass grave.

As already mentioned, the preservation degree made it possible to reconstruct and anthropologically examine only two skulls: numbers 2158/B and 2158/C. The anthropological measuring was performed according to the standardised methodological principles defined by R. Martin (1928), i.e. R. Martin and K. Saller (1957), later re-defined by W. M. Bass (1995).

Basic paleo-demographic results obtained by the anthropological research of mass grave 2158 are shown in table 1. It turned out that in this grave only male individuals were buried. Their life spans varied from 20 to 40 years. An exception is the skeleton marked 2158/I. Contrary to other skeletons, the closing of the epiphysis edges of the long bones and the growth of permanent teeth was not yet complete. After considering the aforementioned literature and applying the criteria, it was estimated that this individual was between 15 and 19 years of age at the moment of death. The gender characteristics clearly showed that this individual was a male. Still, the position of this skeleton within the grave 2158 was specific because it was placed at a distance from the mass burial and this raised the question as to whether it belonged to the mass burial or was, in fact, an individual burial from an earlier time.

Table 2 shows the primary anthropological measurements for skull numbers 2158/B and 2158/C, which were the only two successfully

reconstructed, connected with their anatomical-morphological units and later studied in detail. They are illustrated (Fig. 5; Fig. 6) in standardised anthropological projections (Norma lateralis, facialis, verticalis, and occipitalis). While observing the measured values in table 2, it can be immediately noticed that the two skulls are completely different in their morphostructures. Skull number 2158/B has a short, wide and high cerebral portion, as well as a wide and fully featured face. The basic cranial index (length-width) measures 84.57, indicating that it belongs to the highly brachycrane category.

Unlike the above mentioned skull, skull 2158/C has a cranial index value of 71.79. This shows that it belongs to the dolichocephalic category. Additionally, its cerebral part is extremely long, with an average width and height. The face was obviously narrow, although the bisygomatic width is missing (see table 2 and Fig. 6) and it can be said that it was almost fully featured.

In the context of the whole burial, these two completely differently modelled skulls, and therefore morphologically different individuals, could not have been buried in the same grave based on their genetic connection. They were placed within the same grave due to some other criteria, which we will try to reconstruct here.

Skull number 2158/B is unique not only because of its morpho-structure, but also because of a traumatic injury on the back of the head (Fig. 7), which was certainly the *causa mortis*. More specifically, on the occipital bone, there is an irregular circular trace with a diameter of about 4 cm, showing that the protuberantia occipitalis externa and the area around it were removed with a cut (Steinbeck 1976). More details regarding this injury are given in the paper by N. Korać and I. Mikić (2011). It is clear that one is dealing here with a cut made by a heavy sharp blade, which also removed not only a part of the *os occipitale*, but most likely the soft part of the back of the head too.

Contrary to the aforementioned paper by



Figure 5 Anthropological projections of the skull 2158B

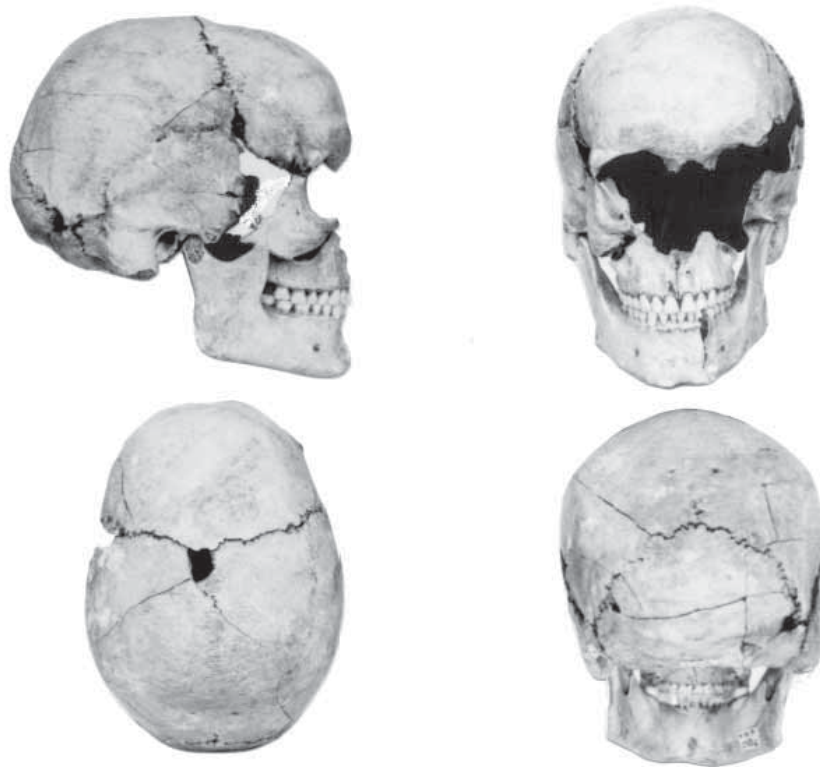


Figure 6. Anthropological projections of the skull 2158C

N. Korać and I. Mikić, this injury will be observed in a different context, i.e. as an element of mass grave 2158. With the exception of skull number 2158/C, which was already shown anthropologically, all of the other skulls were much less preserved and could not be reconstructed. Their preservation level, apart from their appearance *in situ*, was so low that they could not be put into their anatomic contexts. This is why the find of the injury on skull number 2158/B is very rare in the whole of Viminacium.

The extreme fragmentary preservation of all the skeletons from this grave, i.e. the lack of skull and post cranial parts, reduced the number of anthropological elements necessary for an analysis. This refers especially to anthropometry, dentition, pathology and factors of muscular stress. A question arises about the cause of death for the individual 2158/B, which was a trauma, and for other skeletons from the same grave. In other

words, what kind of connection existed between all of these men buried within grave 2158, even though, as previously stated, it was not of a genetic nature?

There were attempts to interpret secondary burials at Viminacium, although only from an anthropological perspective (e.g. Mikić 1988). Unfortunately, they did not result in any expected complete results. This is why, within the analysis of mass grave 2158, both archaeological and anthropological data were combined in order to record as many of its features as possible.

This paper represents the first results of an archaeological-anthropological analysis of a mass grave, similar to those noticed in greater numbers in Viminacium. Grave number 2158 from the Pećine necropolis contained nine skeletons, eight of which were individual skeletons belonging to the mass burial and one from an earlier burial, all of which were primarily buried. As a result of

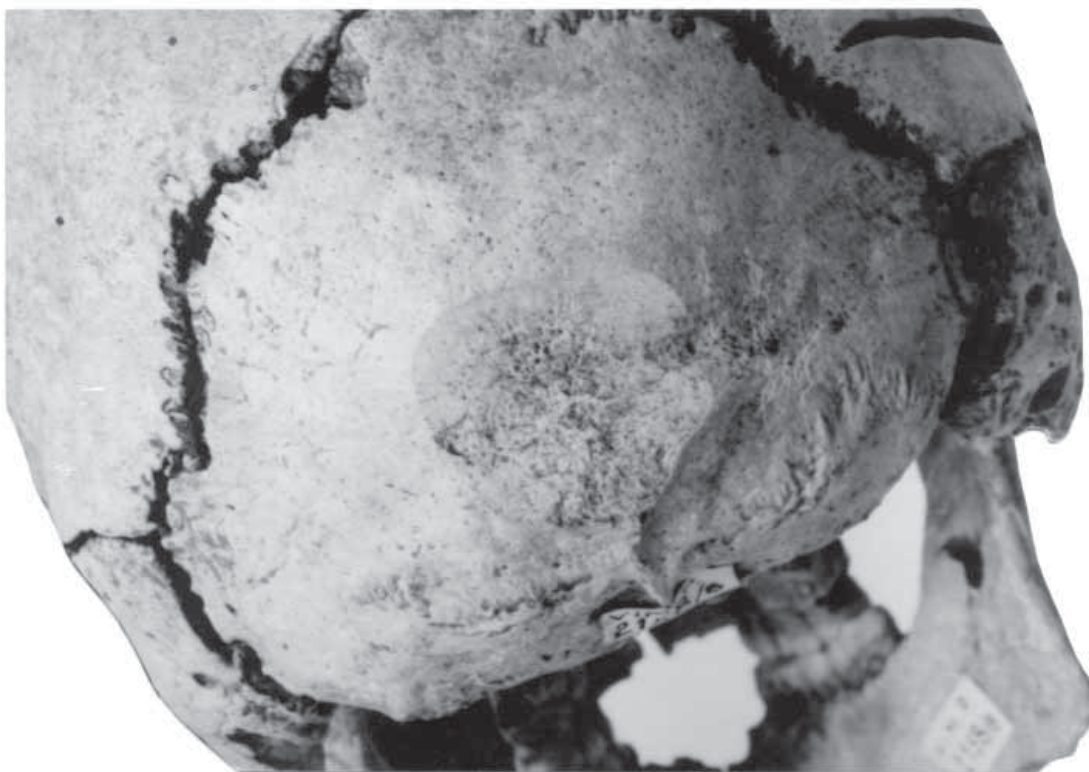


Figure 7. Injury on the back of the skull 2158/B

Skeleton number 2158	Sex	Age
A	male	up to 30 years *
B	male	up to 40 years
C	male	30/35 years
D	male	30/35 years
E	male	up to 40 years
F	male	35/40 years
G	male	35/40 years
H	male	up to 40 years
I	male	15/19 years

Table 1: Viminacium/Pećine – grave number 2158 – distribution of gender and individual age
*according to the preservation level, the maximum life-length is presented

Skull number	2158/B	2158/C
Sex	male	male
Age	do 40 years	30/35 years
Maximum skull length	175 mm	195 mm
Maximum skull width	148	140
Minimum forehead width	105	101
Maximum skull height	---	---
Skull height up to the ears (PO-B)	121	119
Bisgomatic width	130	---
Height of the lower face	(74)	72
Eye-socket width	(37)	--
Eye-socket height	(33)	--
Width of the nose opening	---	(23)
Nasal height	---	52
Mandibula width	107	99
Longitudinal-latitudinal index	84.57	71.79

Table 2: Viminacium/Pećine – grave number. 2158 – primary skull measurements and basic index
() – mark for anthropological measure gained through reconstruction

comprehensive documentation, details about the burial, such as the diametric positioning in this mass grave as well as other chronological-archaeological data, have already been given.

The anthropological analysis showed that one was dealing here only with male skeletons displaying robust features, especially those of the

post cranial parts, and strong muscles, which indicates strong physical features. Their life spans varied from 20 to 40 years. Moreover, on one of the skeletons a direct *causa mortis* was observed in the form of a cut on the back of the head, made with a sharp blade, causing immediate death. The two best preserved (and illustrated) skulls belong

to different anthropo-morphological types, indicating that no genetic connection between the individuals existed.

After summarising the data and attempting to understand the reasons for a common burial, it all suggests that this was a burial of soldiers stationed in Viminacium. These individuals could have died in a fight near the city. Viminacium was built directly on the border (the Limes), so they could have been killed in a barbarian raid or in a battle, which were numerous during the second half of the 3rd century due to the history of this part of the empire. Nevertheless, they were killed nearby after which the bodies were collected and buried in one of the Viminacium cemeteries. It is certain that this mass grave at Viminacium will be subject to more complex interpretation after the analyses of other, similar, mass graves has been completed.

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REZIME
REZULTATI ARHEOLOŠKO-ANTROPOLOŠKIH STUDIJA O GRUPNOM SAHRANJIVANJU U VIMINACIJUMU – GROB G 2158 – NEKROPOLA NA LOKALITETU PEĆINE

KLJUČNE REČI: VIMINACIJUM, NEKROPOLA, LIMES, GRUPNO SAHRANJIVANJE, GROB.

Tokom zaštitnih arheoloških iskopavanja južnih nekropola Viminacijuma istraženo je više hiljada grobova. Iako je ove nekropole identifikovao još M. Valtrović u svom izveštaju Ministarstvu prosvete iz 1882. godine, arheološka istraživanja počinju tek 1977. godine i to zbog ugroženosti nalazišta izgradnjom termoelektrane Kostolac B. Zaštitna arheološka iskopavanja trajala su nekoliko sledećih godina kada su identifikovane nekropole koje su dobile ime po savremenim katastarskim jedinicama, a ustvari pripadaju jedinstvenoj viminacijumskoj nekropoli (Sl. 1). Jedna od dve najstarije, formirana oko sredine I veka, a korišćena do kraja III, sa paralelnim sahranama kremiranih i inhumiranih pokojnika, bila je locirana na lokalitetu Pećine (Zotović 1986). Upravo je na tom prostoru godine 1982. istražena grupna sahrana pod brojem G 2158 sa devet individua. Grupna sahrana, grob G 2158 (sonda 290), nađen je u delu nekropole sa izuzetno gustim sahranama tako da je u samoj sondi i u njenim proširenjima (cca 200 m²) od dubine 0,45 do 2,50 m nađeno 179 grobova sa inhumacijom i 25 sa kremacijom (Sl. 2). Pokojnici su bili sahranjeni u dva nivoa (skeleti su obeleženi slovima od A do I) i to:

- prvi nivo na dubini 2,20 m koji obuhvata grobove od A do C (Sl. 3).

- drugi nivo na dubini 2,50 m koji obuhvata grobove od D do I (Sl. 4).

Ovaj prilog predstavlja prve rezultate arheološko-antropološke analize jednog grupnog groba, koji su na nekropoli Viminacijuma

zabeleženi u većem broju. Grob broj 2158 sa nekropole Pećine sadržavao je devet, odnosno osam individualnih skeleta, primarno sahranjenih.

Antropološka analiza je pokazala da se radi isključivo o muškim skeletima robustne građe posebno postkranijalnih delova, sa jakim hvatištima mišića, što govori o njihovoj izraženoj muskuloznosti, odnosno o jakoj fizičkoj građi. Životni vek im se kretao između 20 i 40 godina. Na jednom od ovih skeleta konstatovan je direktan *Causa mortis*. Radi se zapravo o sekotini zatiljačnog dela lobanje ostrim oružjem, koje je izazvalo trenutnu smrt. Dve najbolje očuvane (i ilustrovane) lobanje pripadaju dijametralno različitim antropo-morfološkim tipovima, što znači da ih nikakva genetska povezanost nije mogla dovesti u zajednički grob.

Kada sumiramo sve dobijene podatke i pokušamo da razjasnimo razloge zajedničke sahrane, čini nam se da sve ukazuje na sahranu pripadnika vojske stacionirane u Viminacijumu. Ovi pojedinci su mogli "nastradati" u okršaju sasvim blizu grada. Naime, Viminacijum je bio na samom Limesu i mogli su poginuti u upadu varvara ili čarkama na granici kojih je u drugoj polovini III veka sigurno bilo u znatnom broju usled turbulentnog stanja u Carstvu. U svakom slučaju, stradali su u određenim sukobima u blizini nakon kojih su njihova tela mogla biti pokupljena, a potom i zajedno sahranjena na viminacijumskoj nekropoli. Svakako da će ova grupna sahrana na Viminacijumu biti još kompleksije interpretirana kada se na sličan način budu analizirali jos neki slučajevi zajedničkih primarnih sahrana, za razliku od sekundarnih.

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VIMINACIUM - THE PEĆINE NECROPOLIS – SKELETONS AROUND LATE ANTIQUE BUILDINGS “A” AND “B”

ABSTRACT

In 1982, during the archaeological excavation of the Roman necropolis Viminacium-Pećine, next to the Building “B”, a group of 27 poorly preserved mediaeval skeletons were discovered. It is considered that this cemetery is fully excavated. It is dated to the period between the end of the 12th and the end of the 13th century.

After anthropological analysis, it was determined that ten skeletons belonged to male persons, nine to female persons, while three of them could not be determined. The other five skeletons were infants, indicating a clear deficit of children, especially those of a younger age. It was concluded that the average life span was no longer than 30 years.

Anthropologically, this group was very heterogeneous. It had approximately ten members, so it was proclaimed a colony, although needing further research.

KEY WORDS: MEDIAEVAL NECROPOLIS, DATING, PRESERVATION LEVEL, SKELETAL SEX, INDIVIDUAL AGE

INTRODUCTION

On the 18th of March 1982, in sondage 159, at the site Viminacium-Pećine, the late antique memoria “A” was discovered, followed on the 19th of March by the late antique memoria “B”. The remains of both of these buildings are positioned just next to the modern village cemetery. Their states

of preservation are different. By looking at the accompanying documentation, we realised that the stones out of which building “A” was built were accessible, so only the negatives of the walls were excavated. One here was dealing with a triconchal memoria, built above a tomb, whose walls were not preserved. The outer dimensions of the tomb were most likely 400 x 260 cm. The tomb itself was paved with three rows, each consisting of

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six bricks. It was vaulted and it lay beneath the level of the building. It was orientated west-east, with the western part deviating 22° towards the south. During the archaeological research at the bottom of the tomb, only a fragmented pelvis was unearthed, which, after anthropological research, was determined to be the pelvis of an adult person of undetermined sex.

The outer length of the triconchal memoria “A” was 15.50 m. Since only traces of it were discovered, which had been destroyed several times, its surroundings were archaeologically ruined. Given that remains of human skeletons were not unearthed, it will not be considered again in this paper.

Building “B” was also triconchal. Its length is 15.50 m. Its western conch was destroyed by the mechanisation of the thermo-power plant. It is orientated west-east, with a deviation of 17° of its western part towards the south. It was dated in 4th century. At its south-eastern side, 27 graves were situated. They were dug into a debris layer, resulting in very poor preservation. This mediaeval necropolis named “Kod groblja” was published by Dragana Spasić (Spasić, 1989-1990), custodian of the National museum in Požarevac.

Further study of the Viminacium-Pećine documentation for the year 1982 shows that, between buildings “A” and “B”, there was an object of “profane architecture”. One of its parts leans

on building “B”, but it is certainly older. Its dimensions are 13.5 x 14.5 m (more details on page 1820 of the field diary), but its purpose cannot be explained in detail.

THE MATERIAL

The cemetery around building “B” at Viminacium occupies an area of about 20 x 15 m. Archaeologically, 27 graves were examined, divided into five rows (sketch 1). The cemetery represents a closed complex and it can be considered fully excavated. Still, there is a possibility that some of the graves were destroyed through field work due to their very shallow depth, which varied between 40 and 60 cm (compared to the modern area).

Each of the graves from this necropolis contained a single skeleton, which means that individual burials were practised exclusively, rather than depending on sex or age.

The mediaeval skeletons at Viminacium were marked as either G3 or G4. The G3 mark refers to graves from the Great Migration, while the G4 mark refers to later periods. In the aforementioned paper by D. Spasić (Spasić 1989-1990), she introduced new marks for graves and skeletons, beginning with 1. They are also mentioned here, as well as the ones marked as G4 from the year 1982. The numbering is as follows:

number 1 = G4 1285	number 15 = G4 1836
2 = 1286	16 = 1860
3 = 1287	17 = 1883
4 = 1288	18 = 1898
5 = 1303	19 = 1899
6 = 1307	20 = 1968
7 = 1468	21 = 1969
8 = 1529	22 = 2194
9 = 1530	23 = 2195
10 = 1531	24 = 2196
11 = 1532	25 = 2197
13 = 1554	26 = 2299
14 = 1552	27 = 1552

Within the memoria several late antique graves were discovered. Only the grave G 3240, placed within the apsis, offered a minimum of anthropological remains. The skeleton in it was dislocated during a robbery and very fragmented. It was only certain that it was a child of between 4 and 6 years of age.

According to archaeological criteria, as stated by D. Spasić (Spasić 1989 – 1990: 168), the “Kod Groblja” cemetery, located around building “B” at Pećine can be dated to the last decades of the 12th or the end of the 13th century. Due to this, it can be concluded that it was used for about a hundred years, i.e. that the skeletons unearthed had a chronological span of about a hundred years. On the other hand, the settlement which could be connected with this necropolis remained unknown, although it can be supposed that it could have been a smaller settlement near the town of Braničevo.

THE METHOD

After the archaeological excavation and prior to the anthropological research, all the excavated skeletons were washed with water and dried before being reconstructed and deposited. The aim was to minimise the possible contamination of the human osteological material, allowing further laboratory analyses.

The method of determining the sex was adopted from the group of European and American anthropologists, defined by D. Ferembach, I. Schwidetzky and M. Stloukal (1980). More precisely, all preserved morphological elements of sex were determined and noted and later quantified, with the objective of determining a majority of either male or female skeletons.

Due to the very poor state of preservation of the skeletons within the whole series, determining individual biological ages at the moment of death represented a bigger problem. In that sense, a scheme of the obliteration level of the skull joints

was applied (Vallois 1937), as well as the classification of the wear of the upper crown surface of the molar teeth (Brothwell 1981). The possibility of observing the compactness of the spongiosa mass (*Masa spongiosa*) in the heads of femurs and humeri is almost negligible. A consequence of the previously mentioned poor state of preservation is a rather broad range of individual age, causing our results to be as follows.

The estimation of individual age was based upon the formation and eruption of milk and permanent teeth, according to a scheme devised by D. H. Ubelaker (1978). Apart from jaw fragments with some of the teeth, infant skeleton parts, such as wholly preserved long bones or epiphyseal-diaphyseal layers, were not studied due to their poor state of preservation. This is why we relied mostly on dentition, and therefore, our results in these age categories are rather broad, but certainly the only possible ones.

The above mentioned poor state of preservation of the skeletons found near building “B” at the Pećine site made anthropological analysis difficult. With regard to research methodology, it should be added that the anthropological measures were taken according to the definitions stated by R. Martin (Martin 1928), and to re-defined names of modern biophysical anthropology by W. M. Bass (Bass 1995). Unfortunately, the study of the epigenetic characteristics, paleo-pathological changes and markers of muscular stress gave insignificant results, due also to the poor state of preservation.

RESULTS

In this chapter anthropological data will be given accompanied with both numerical marks of the skeletons.

Skeleton number 1 (G 1285) is very poorly preserved and fragmented. There were no elements for determining the sex. It was only ascertained that it belonged to an adult person.

Skeleton number 2 (G 1286) is very poorly preserved, but there were elements for determining the sex. It was a female skeleton. Elements for determining individual age were no longer present, but it was surely a skeleton of an adult person.

Skeleton number 3 (G 1287) is poorly and incompletely preserved. According to its morphology, it belongs to a woman, while the individual age remains unknown (adult).

Skeleton number 4 (G 1288) has a very low preservation level. It was only certain that it belonged to a woman. After determining the individual age, we were only able to tell that it was an adult person.

Skeleton number 5 (G 1303) also had a low preservation level. It was an adult female person.

Skeleton number 6 (G 1307) is incomplete and very poorly preserved. It was an adult female person, whose growth and development were complete.

Skeleton number 7 (G 1486) consists of poorly preserved bones and the sex was undeterminable. The individual age was also not determined, due to the lack of necessary elements, but it was obviously an adult person.

Skeleton number 8 (G 1529) was preserved in smaller fragments. We were able to determine that it belonged to a child, who lived for between 3 and 4 years.

Skeleton number 9 (G 1530) has the same preservation level. It belongs to a child who, at the time of death, was between 8 and 10 years of age.

Skeleton number 10 (G 1531) has a preserved skull, while the postcranial part is fragmented and incomplete, so none of the anthropological measures were obtained. The sex is a robust male of about 50 years of age.

Skeleton number 10 (G1531) is illustrated in figure 1, with standardised anthropological projections. The skull measurements are given in table 2.

Pathological changes were noticed only on the jaws and the teeth. These were maxillar cists,

intra vitam loss of teeth and periodontitis.

The post mortem loss of teeth, especially the frontal ones, in both of the jaws, was also noticed.

Skeleton number 11 (G 1532) is a poorly preserved example. It was positively ascribed to a male person, whose individual age was about 30 years.

Skeleton number 12 (G 1551) has the same preservation level. It was determined as a male skeleton. The individual age at the time of death was about 30 years old.

Skeleton number 13 (G 1554) is incomplete and fragmented. It is certain that it belonged to a woman, whose age was no more than 21 to 23 years.

Skeleton number 14 (G 1555) has a very low preservation level. The sex and morphological elements present show that it was a man, whose individual age was about 40 years.

Skeleton number 15 (G 1836) was also very poorly preserved. Still, it certainly belongs to a woman, whose individual age was about 40 years.

Skeleton number 16 (G 1860) was preserved only in traces. Based on the minimum remains, it was concluded that it was a child's skeleton. The individual age was between 6 and 8 years.

Skeleton number 17 (G 1883) had a skull which, after the reconstruction, was successfully connected to its anatomic complex. A part of the frontal facial region on its right side is missing, as well as teeth lost post mortem. The postcranial skeleton is fragmented and was not anthropologically measurable.

This skeleton certainly belongs to a robust male. The individual age at the time of death was not more than 45 years of age. The cause of death of this person was not an injury, and pathological changes are visible only on the jaws and the teeth. More precisely, the third molar on the left side did not erupt, while there are other intra vitam extract-



Figure 1: The skull 10/G shown in anthropological projections.

ed teeth. Callusing on the teeth of both of the jaws was noticed, just like periodontitis in the alveolar bow of the maxilla.

Skull number 17/1883 in its anthropological projections is shown in figure 2. The primal skull measurements are given in table 2.

Skeleton number 18 (G 1898) consisted of a very small number of remains. It was determined

that they belonged to a four-year-old child. During the archaeological excavation, a skeleton of an adult person was found next to it. We consider that they come from a dislocated grave, most likely late antique, so they were not numerically separated.

Skeleton number 19 (G 1899) was in such a poor state that its sex and individual age were not determined. It was only certain that it belonged to



Figure 2: The skull of skeleton 17/G 1883 shown in anthropological projections

an adult person.

Skeleton number 20 (G 1968) belongs to the group of very poorly preserved ones. The sex and morphological elements were present, which made it possible to determine this skeleton as female. Her individual age was not more than 45 years.

Skeleton number 21 (G 1969) was very poorly preserved and incomplete. However, there were enough elements to ascribe it to a male person. The maximum age of this individual was 21

to 23 years of age.

Skeleton number 22 (G 2194) has a very low level of preservation. It was certain that it belonged to a female person. At the moment of death she was not older than 45 years of age.

Skeleton 23 (G 2195) is just as poorly preserved as most of the other examples. The fragments displayed were ascribed to a grown up child with a maximum age of 15 to 17 years. It was not possible to determine its sex.

Skeleton number 24 (G 2196) belongs to



Figure 3: Skull number 24/G 2196 shown in anthropological projections.

the few well preserved examples. It has a skull which was almost complete after reconstruction. It is shown in anthropological projections in figure 3. Its anthropological measurements are shown in table 2. Postcranial measurements were not obtained due to the extreme fragmentation of the long bones.

Just as with the previous two skulls, which offered anthropological measurements, this one certainly belongs to a male person. The individual age was estimated to be at least 40 years of age.

Skeleton number 25 (G 2197) was incomplete and very poorly preserved. It showed that it belonged to a man who did not live longer than 45 years.

Skeleton number 26 (G 2299) was even more poorly preserved. There were no elements for determining individual age. It was only obvious that it belonged to an adult person. However, there were reliable elements to ascribe this skeleton to a female person.

Skeleton number 27 (G 1552) has a very

low level of preservation. After considering all the anthropological factors, it was ascribed to a man who, at the time of death, was younger than 30 years of age.

As shown in table 1, an analysis of 27 individual skeletons of different age and sex was established from 27 graves. When the same table is paleo-demographically studied (Hassen 1981), we can see that, out of the total number of skeletons, there are 22 adults and only 5 children. This gives an adult to child percentage ratio of 81.5% to 18.5%. The number of male skeletons is ten, females nine, with three more adult skeletons of undetermined sex. A small number of infant skeletons, especially from the earliest life phase, can be attributed to the very poor preservation conditions, caused mostly by the structure of the soil and very shallow grave pits. It is possible that a very small quantity of bone mass went unnoticed during the archaeological research.

According to the results gained, an average life expectancy was calculated in the maximum variant, mostly because of the lack of infant skeletons which only make mortality higher. The life span was estimated to be about 30 (29.4) years of age, but it may also have been shorter.

As shown in table 2, the measurements were only gained for three male skulls. They differ in their morphostructure. According to the basic (longitudinal-litudinal) cranial index, they belong to two index categories (Martin and Saller 1957): the skulls numbered 10/1531 and 24/2196 are mesocranial, but on the border line of dolicho-cranial with the indexes 75, 42 and 75, 14. Skull number 17/1883, with the index 82, 61, belongs to the brachicranial category.

DISCUSSION AND CONCLUSION

After summarising the results gained, we get a better picture of the characteristics of the mediaeval skeletons excavated in 1982 next to the mediaeval building “B” at the Viminacium-Pećine necropolis. As already stated, their chronological dating corresponds to the period between the end of the 12th and the end of the 13th century. It seems that this cemetery was in use for a maximum of about one hundred years. Nevertheless, based on archaeological-chronological elements, as well as those gained through the anthropological analysis, we can calculate the size of a hypothetical settlement which would be connected to this cemetery and the building, since we are obviously dealing with a building of a settlement. Firstly, the number of male and female skeletons is almost equal, while the number of infant skeletons is very small, caused mostly by the poor state of preservation of the human osteological material. It turned out that their average life span was less than 30 years (possibly significantly less). Furthermore, if we apply the paleo-demographic formula for calculating the size of the population, and therefore the settlement itself, as already tested in 1957 by the Hungarian anthropologist J. Nemeskeri (Nemeskeri 1957), we get the following results: with a prominent factor of 10% rather than 20% (after the presumed loss of infant skeletons), this population group, “at the moment of paleo-demographical statistical average”, included only ten or slightly more than ten members during the 13th century. Considering the average life length, two generations were most likely to live together at the same time within one family (household). Their biological vitality was not great, a fact born out by the endurance of the necropolis itself.

In comparison with the corresponding mediaeval skeletal series at archaeological sites like Felix Romuliana (Mikić 2009) and Sirmium (Miladinović- Radmilović 2011), we were able to see that, in the period after the 10th and 11th centu-

Skeleton number	Grave number	Sex/age	Individual age
1	1285	Undetermined	adultus
2	1286	Female	adultus
3	1287	Female	adultus
4	1288	Female	adultus
5	1303	Female	adultus
6	1307	Female	adultus
7	1486	Undetermined	adultus
8	1529	Infant	3-4 years
9	1530	Infant	8-10 years
10	1531	Male	about 50 years
11	1532	Male	about 30 years
12	1551	Male	about 30 years
13	1554	Female	21/23 years
14	1555	Male	about 45 years
15	1836	Female	about 40 years
16	1860	Infant	6-8 years
17	1883	Male	until 45 years
18	1898	Infant	about 4 years
19	1899	Undetermined	adultus
20	1968	Female	until 45 years
21	1969	Male	21/23 years
22	2194	Female	until 45 years
23	2195	Infant?	15/17 years
24	2196	Male	until 40 years
25	2197	Male	until 45 years
26	2299	Female	adultus
27	1552	Male	until 30 years

Table 1: Viminacium / Pećine necropolis – sex and age of the skeletons discovered near building “B”

Number	10/1531	17/1883	21/2196
Gender	Male	Male	Male
Individual age	Around 50 years.	Up to 45 years.	Up to 40 years.
GL-OP	179 mm	184	181
EU-EU	135	152	136
FT-FT	97	(104)	94
MST-MST	106	122	(102)
BA-B	---	---	(130)
PO-B	111	118	108
ZY-YZ	(130)	146	(130)
N-PR	66	72	67
MF-EK	40	(40)	(38)
Height of the eye-socket	32	32	(32)
Width of the nose-socket	24	22	21
N-NS	48	52	(46)
GO-GO	103	108	101 mm

Table 2: Viminacium / Pećine necropolis – primary skull measurements

() – represents a measurement gained through reconstruction.

ries, smaller population groups were buried next to late antique or urban complexes, or forts. A similar conclusion was drawn with this mediaeval group although, due to its heterogeneity and very small size, we consider it to be some kind of colony, not just because of its duration, but also from a bio-anthropological sense. At the same time, this is the first case of this kind in our research practice. It is certain that new anthropological remains of this or similar kinds would give a basis on which to support or deny the postulated conclusion.

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Remark: Due to a technical error in the periodical *Viminacium* (issued by the National museum Požarevac) number 4-5 for 1989-1990, and according to a later remark by the editorial board, in the quoted paper by D. Spasić, no situation plan of the presented necropolis was published. As a result, there are certain disproportions with our reconstructed plan made according to the archaeological documentation which was at our disposal.

REZIME
VIMINACIUM – NEKROPOLA NA
LOKALITETU PEĆINE – SKELETNI
OSTACI OKO KASNOANTICKIH
MEMORIJA “A” I “B”.

KLJUČNE REČI: SREDNJOVEKOVNA NEKROPOLA, DATOVANJE, STEPEN OČUVANOSTI, POL SKELETA, INDIVIDUALNA STAROST, PROSEČNI VEK, PALEODEMOGRAFIJA.

Na lokaciji Viminacijum - Pećine su tokom 1982. godine bila sprovedena arheološka istraživanja. U periodu od 16.-19. marta 1982. godine je pronađena kasnoantička memorija “A”, a posle nje i kasnoantička memorija “B”. Tom prilikom je pored memorije “B” pronađeno ukupno 27 skeleta. Period njihovog datovanja je između kraja XII i kraja XIII veka.

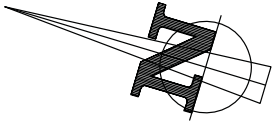
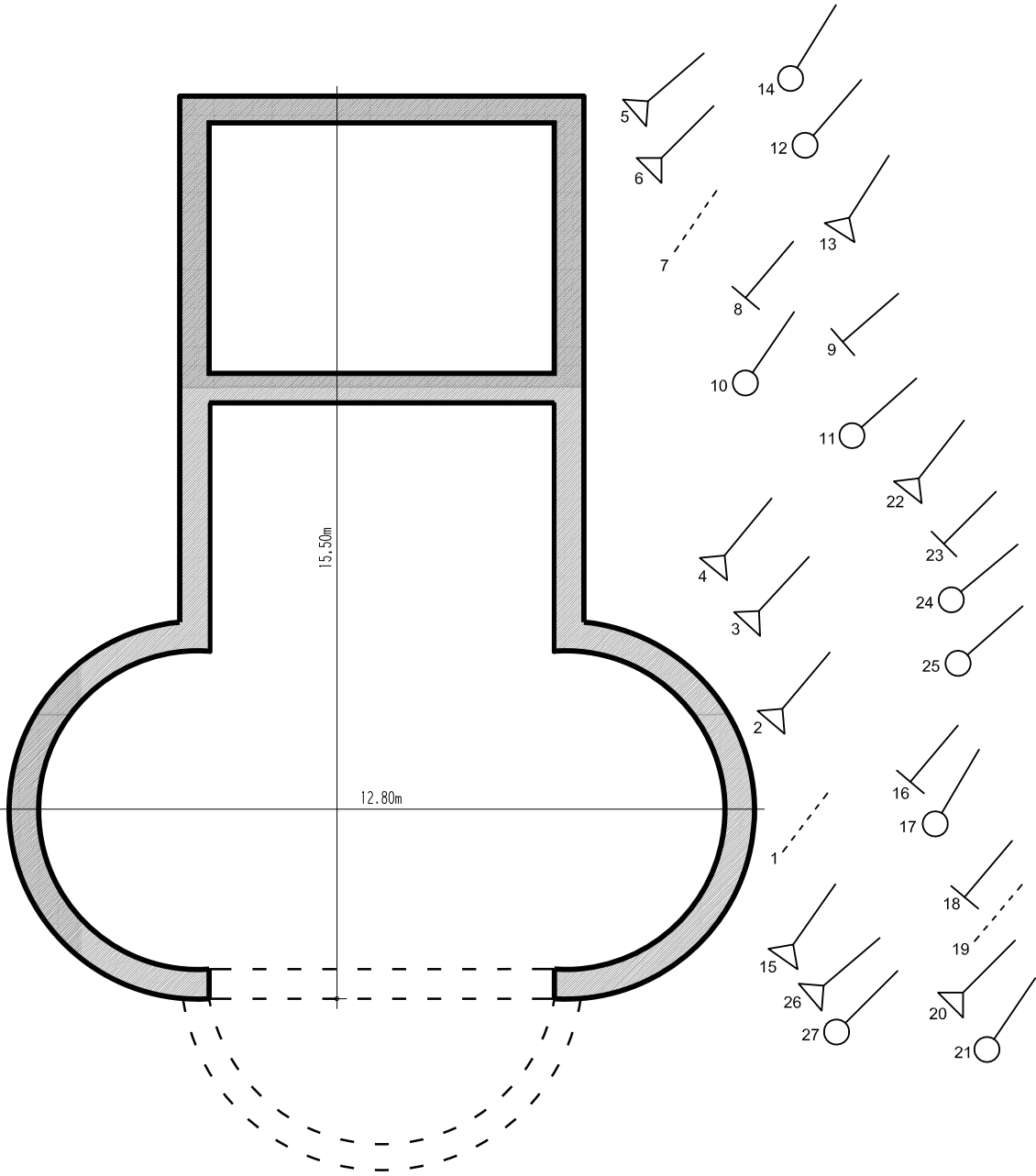
Antropološkom analizom je utvrđeno da je 10 individua bilo muškog pola, a 9 ženskog pola. Uz 5 skeleta dečijeg uzrasta, kod preostala 3 skeleta nije mogao biti utvrđen pol. Deficit dece je očigledan, pogotovo u prvim godinama života. Ova populacija je bila vrlo heterogena, a prosečni životni vek im je iznosio oko 30 godina života.

U oba slučaja se radilo o trikonhalnim memorijama, a njihova očuvanost je bila različita. Memorija “A” je imala izmerenu dužinu 13,70 m i veoma je loše očuvana. Grobovi oko nje nisu pronađeni tako da se na nju nismo osvrtni.

Kasnoantička memorija “B” je takođe trikonhalnog oblika. Njena dužina je iznosila 15,50 m. Zapadna konha je uništena mehanizacijom elektrane. Orijentacija je bila zapad-istok, sa odstupanjem od 17° zapadnim delom ka istoku. Pronađeno je ukupno 27 grobova koji su bili ukopani u sloj građevinskog šuta, a što je bio razlog slabije očuvanosti skeleta. Karakteristično je da je u svim grobovima pronađen samo po jedan skelet tako da je praktikovana individualna sahrana.

Ova populacija je u trenutku “paleodemografskog statističkog preseka” brojala oko 10 članova. To govori da su najviše dve različite gen-

eracije mogle da žive u istoj familiji. U poređenju sa Sirmijumom ili Gamzigradom, može se videti da se u periodu posle X/XI veka manje populacione grupe sahranjuju uz kasnoantičke ili poznije urbane celine. Situacije je slična i sa ovom srednjovekovnom kolonijom. Novija istraživanja bi omogućila da se termin kolonije konkretizuje ili imenski ospori.



Legend:

♂	=	○
♀	=	△
N	=	⊥
n	=	---

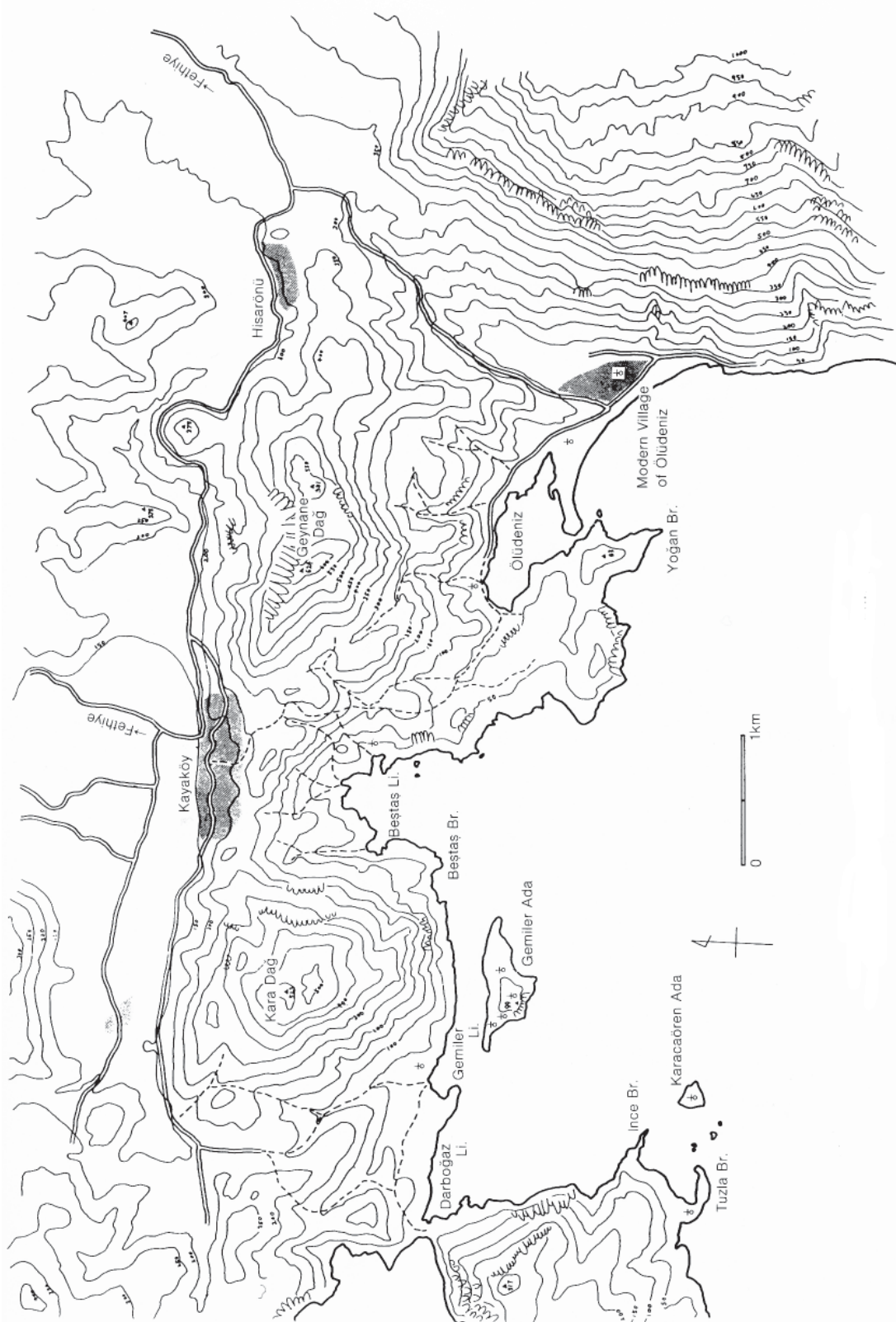


Fig. 1. Golfo di Belceğiz. Da Tsuji 1995.

UNA NECROPOLI BIZANTINA NEL GOLFO DI BELCEĞİZ: LICIA MERIDIONALE*

ABSTRACT

Nel golfo chiamato Belceğiz, diverse località archeologiche databili al VI secolo, sono collocate su due isole (Gemile e Karacaören) e la terraferma propinqua (Beştaş, Gemile Köyü e Yarım adası), creando insieme una unità urbanistica ben strutturata. Le vaste necropoli sono collocate soprattutto su due isole, mentre lungo le coste le tombe preservate sono poche e isolate. Sull'isola più grande, Gemile, che è anche il cosiddetto centro urbano, diverse necropoli sono situate nelle aree isolate rispetto alle zone residenziali, con poche tombe distaccate ma integrate nel tessuto urbano. Nell'isola più piccola, Karacaören, la necropoli occupa maggior parte del territorio, e probabilmente diventò un luogo di pellegrinaggio locale. Questo contributo tratterà l'analisi delle necropoli con l'architettura di alcune tombe selezionate per le loro forme specifiche e alcune invece per le forme tipiche, le considerazioni finali architettoniche, le tecniche di progettazione, metodi di costruzione e materiali, affreschi e intonaci di finitura, datazione e la conclusione.

PAROLE CHIAVE: NECROPOLI, TOMBA, CHAMOSORION, CUPOLA, VOLTA, MURATURA, CALCARE, LATERIZIO, COCCIOPESTO, STILATURE.

A sud dell'odierna città di Fethiye, l'antica Telmessos di Licia, si estende un golfo, di nome Belceğiz (fig. 1). In un paesaggio tipicamente mediterraneo, due isole, quella di Gemile e di Karacaören si stagliano nel mare, difficilmente distinguibili da lontano per il viaggiatore che arriva da sud. Il golfo con i relativi insediamenti

sono stati campo di lavoro archeologico dagli inizi degli scorsi anni 90 soprattutto ad opera di una équipe giapponese che dopo un iniziale *survey*, ha scavato parzialmente una chiesa (Chiesa III) sul sommitale di Gemile¹. Dal 1999 al 2003 sono sta-

¹ Per queste due isole e gli insediamenti a terra, si veda: Tsuji 1995, Asano 2010, Id. 2002 (con i primi risultati di

* Desidero ringraziare il prof. Vincenzo Ruggieri, che mi ha gentilmente invitato a fare parte dell'équipe archeologica del Pontificio Istituto Orientale nel periodo dal 2006 al 2010. Un ringraziamento a parte va ai colleghi sul campo che hanno lavorato con me in questi anni di ricerca: Matteo Turillo, Domenico Mignosa, Morgan De Rodi e Giuseppe Sbaraini. Per le chiese su Gemile si useranno per convenzione le sigle degli archeologi Giapponesi; alle tombe sono state applicate delle sigle per rendere il testo più scorrevole. Per ulteriori informazioni sulle tecniche murarie e altre questioni architettoniche del medesimo argomento si veda: Filipović 2012a, 149-177 e Id. 2012b 439-466.



Fig. 2. Isola di Gemile con indicazione delle tombe. Da Tsuji 1995 rielaborata.

ti intrapresi lavori di scavo, concentrati su alcuni siti posti sulla terraferma, condotti dalla direzione del museo archeologico di Fethiye e coadiuvati da Shigebumi Tsuji². Le due isole facevano parte una volta di un insieme più ampio: geograficamente oggi si parte dalla baia di Ölüdeniz a sud, andando poi verso ovest toccando Beştaş, Gemile Köyü, Gemile adası, Karacaören adası, finendo con Yarım adası. In questo contesto urbano, solo due isole conservano un insieme architettonico sepolcrale che possa considerarsi una unità ben strutturata. Giacché si tenterà di leggere l'impegno architettonico versato su queste unità-necropoli, la presente ricerca terrà, quindi, in considerazione l'isola grande di Gemile e quella più piccola di Karacaören.

In altra sede è stato trattato questo territorio considerandolo come un "insieme urbanistico

ed architettonico", sottolineando soprattutto l'aspetto topografico di un centro urbano, l'isola di Gemile, con diversi insediamenti extraurbani sulla terraferma aventi differenti mansioni³. Il culmine dello sviluppo raggiunto da questo complesso insediativo è stato certamente tutto l'arco del VI secolo, quando ancora il traffico marittimo sulle coste licio produceva oltre gli scambi culturali una ricchezza economica che giustificava in gran parte anche l'architettura funeraria. In seguito, attorno alla metà del VII secolo, v'è stata la flessione urbana e sociale dovuta alle razzie arabe protrattesi per un lungo periodo prima di una debole ripresa in epoca medievale. Quest'ultima fase, riscontrabile nelle due isole delle quali si parlerà, resta limitata e si prolunga probabilmente fino al pieno XIII secolo. L'intento di queste pagine non prevede l'analisi architettonica di tutta questa sezione del golfo, quanto piuttosto di valutare il significato della molteplice e buona produzione di archite-

scavo sulla Church III); Foss 1994, 6-9; Hellenkemper und Hild 2004: 681-683 s.v. Perdikonësi e 599-601 s.v. Karacaören Limanı und Ada; per la tecnica ed affreschi di alcune tombe su Karacaören, cf. Ruggieri e Turillo 2007, 123-130.

² Tsuji 2001, 3-26; Malkoç and Tsuji 2005, 1-24.

³ Ruggieri 2012, 883-902. Lo Stesso ha trattato questa geografia in: Ruggieri 1998, 140-147 e in: Ruggieri 2009, 81-108 prendendo in considerazione anche del materiale marmoreo appartenente all'isola di Gemile.



Fig. 3. Isola di Karacaören con indicazione delle tombe. Da Tsuji 1995 rielaborata.

ttura sepolcrale concentrata sulle due isole. Si è voluto, inoltre, evitare un'analisi degli affreschi presenti sporadicamente all'interno di qualche tomba: questo argomento, affrontato in passato da qualche studioso, esula da quanto è lo scopo di questo lavoro, lasciando l'intera lettura di qualche ciclo agli storici dell'affresco. Dato il considerevole numero di tombe si terrà conto soprattutto di quelle più singolari e di altre che rappresentano gli esempi meglio riusciti architettonicamente all'interno di una comune tipologia. Quando e dove sarà necessario si farà ricorso a similitudini tecnico-costruttive riscontrabili in questo territorio o in quello più vicino. Benché vi siano state pubblicazioni da parte dell'équipe giapponese, le caratteristiche tipicamente architettoniche di questa eredità archeologica cristiana non sono state affrontate.

ACCENNI SULL'URBANISTICA ED ARCHITETTURA DI GEMILE E KARACAÖREN.

L'isola di Gemile è lunga circa 1000 m e larga circa 350 m nella parte centrale (fig. 2). Si tratta di una collina calcarea, ripida sui versanti nord e sud ed estesa in lunghezza secondo l'asse est-ovest. La lunghezza del versante nord crea un riparo corridoio di mare dalla terraferma, largo circa 300 m, che ospita lungo la costa tutte le maggiori attività commerciali della città. Anche se

posta in un'area altamente sismica, oggi su Gemile si possono ancora distinguere i magazzini a mare e i moli di attracco stesi lungo l'asse est-ovest. A distanza irregolare salgono dalla costa scalinate verso la criniera della collina tagliando gli insediamenti abitativi. Questa zona non è stata propriamente rilevata dall'équipé a causa della ripida caduta del versante. Perciò viene da supporre, considerando la concentrazione di case e strutture adiacenti, che si sia intervenuto con terrazzamenti posti sistematicamente a diverse altezze⁴. Sul crinale della collina, partendo dalla quota più bassa ad ovest, corre quanto si può ritenere l'asse viario principale che collega le quattro basiliche presenti sull'isola⁵. Questa strada sale a serpentine quando i livelli sono considerevoli e diventa più lineare, come presso la Chiesa II dove affronta un camminamento pianeggiante. Al raggiungimento della Chiesa III, posta sul sommitale della collina, la strada scende di quota per arrivare alla Chiesa IV e diventa un elegante passaggio voltato (corridoio voltato), aperto con archi su ambo i lati. Gli insediamenti abitativi sono legati a nord soprattutto con la Chiesa I e Chiesa II, restando distaccati ed a quota più bassa rispetto alla Chiesa III e IV. Sembra che la città non possieda monumenti ludici ed è da dedurre che tutta la vita pubblica su Gemile si svolgesse in collegamento alle basiliche. Per l'approvvigionamento idrico sono state costruite numerose cisterne, tutte probabilmente private. Una, invece, era certamente pubblica dato che aveva dimensioni considerevoli (32.85 per 5.30 m), costruita con molta perizia tecnica soprattutto per contenere l'invaso dalla caduta di quota a nord. Un'altra grande struttura rettangolare con

⁴ In effetti un muro possente di contenimento corre ad un'altezza di ca. 60 m s.l.m. e si ritiene che il muro assume una funzione di tenuta del terreno sovrastante a difesa di una sezione parziale del lato nord, andando poi ad intersecare il corridoio voltato fra la Chiesa III e la Chiesa IV.

⁵ L'équipé giapponese ha rilevato la presenza di un'altra chiesa, le cui tracce non sono state accertate da parte dell'autore. La presenza del forte crollo nella zona centrale del versante nord rende difficile la lettura delle costruzioni di questa area.

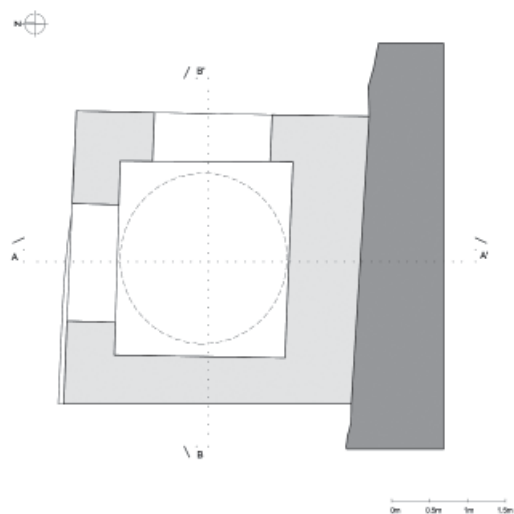


Fig. 4. Ge1, pianta.

volta a botte e muri di 90 cm paralleli alle generatrici della volta giace all'estremo limite orientale dell'isola, probabilmente un grande deposito per cereali. Il sistema fognario è rintracciabile a sud della Chiesa I ove sovrasta i magazzini scendendo a mare all'aperto e a nord, ove la condotta coperta si apre a mare in diverse sezioni fra gli impianti commerciali.

L'isola di Karacaören è di gran lunga più piccola e dista circa un miglio a sud-ovest di Gemile (fig. 3). L'impianto che occupa la cima dell'isola è costituito da una grande basilica a tre navate, con un annesso a sud usato anche in epoca medievale. Le tombe si spargono d'attorno senza un manifesto piano di insediamento. Ad ovest della basilica si aprono delle grandi strutture a due piani, forse per abitazioni. Approdi e accessi scavati nella roccia a nord e a sud-ovest salgono verso il complesso ecclesiastico ed alle tombe. Alla Chiesa I su Gemile e a quella su Karacaören si lega un impianto battesimale rispettivamente a sud-est e sud-ovest. La Chiesa IV e quella su Karacaören hanno un annesso absidato a sud ornato da un fregio ad archi ciechi su lato nord; la Chiesa I e II, da parte loro, e la basilica su Karacaören mostrano un anello quasi circolare che corre dietro l'abside centrale usato probabilmente come *skevothylakion*.

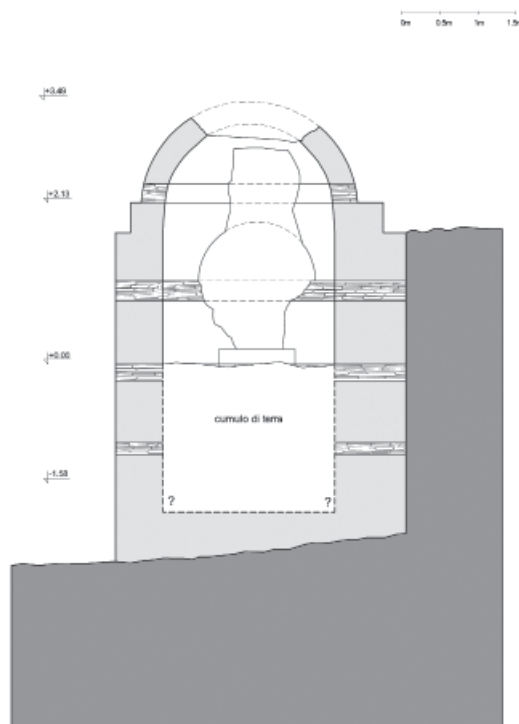


Fig. 5. Ge1, sezione AA'.

TOMBE A GEMILE

Lo studio ancora ipotetico sull'estensione urbana della città di Gemile non ha toccato la funzione delle necropoli e la loro connessione con il centro urbano. Inoltre, non si è avuta una disamina sociale dei defunti in relazione alla tipologia e fabbrica delle tombe stesse considerando anche che non sono state trovate epigrafi che testimoniano committenti⁶. All'interno di questo territorio, v'è una mancanza di fonti che elargisca note di topografia cristiana, *a fortiori* di necropoli cristiana.

Nell'isola di Gemile le necropoli si trovano in diverse aree, con alcune tombe integrate nel tessuto urbano⁷. La prima necropoli è collocata

6 Per questo caso si veda dopo. Queste domande metodologiche sono state affrontate da Çevik 2006, 177-178. In occasione di questo simposio s'è scritto molto sulle necropoli e tipologie tombali licie, ma in epoca classica. Si attende la pubblicazione sulla *facies* cristiana di Xanthos per avere possibili riferimenti comparativi sul nostro soggetto.

7 Per fermarsi al territorio più vicino, casi di sepoltura sono stati analizzati da Ruggieri 1991, 194 (grande tomba



Foto 1. Ge2, tomba a cupola 1. Prospetto generale da sud-ovest.

lungo il percorso tra la Chiesa II e la Chiesa III, in un'area distante dalla zona abitativa. È un gruppo di tombe di varia tipologia e importanza, poste quasi sul pendio scosceso dal quale si vede la terraferma, l'isola di Karacaören e la baia di Gemile Köyü. La seconda necropoli si stende a sud rispetto al corridoio voltato. Questa sembra addossata alla seconda fase costruttiva del corridoio voltato dove questo cambia direzione e inizia appunto con una tomba di notevoli dimensioni, a camera doppia, che entra in una arcata (foto 8)⁸. La terza necropoli, chiamata anche *necropoli orientale*, è collocata ad est rispetto alla Chiesa IV; essa è distaccata dalle aree abitative pur se non lontana dalla zona residenziale più ricca dell'isola. Diverse tombe isolate non appartengono ad un gruppo funerario e tra di esse alcune sono collocate nei pressi di chiese e sembra che fossero di notevole importanza. Non è solo la posizione strategica

a camera relativa ad una ricca villa con terme); Id. 1999, 298-305 (villaggio con necropoli e tombe sparse); Ruggieri – Zaffanella 2000, 79-82 (tombe a camera legate ad una chiesa).

⁸ Per una corretta comprensione del contesto architettonico si ritiene importante specificare che il corridoio voltato presenta probabilmente tre fasi di costruzione.

che le distingue, in alcuni casi è loro architettura particolare all'interno di questo contesto urbano.

TOMBE A CUPOLA

Nei pressi della Chiesa III, sui margini esterni del terrazzamento nord, vi sono due tombe di simile tipologia, di pianta quadrangolare e a forma di parallelepipedo cupolato. Una è posta ad ovest del terrazzamento, addossata ad una struttura che chiude l'accesso al terrazzo (foto 1), l'altra è dalla parte l'opposta ad est, lungo il percorso che conduce verso il corridoio voltato (foto 3).

Tomba a cupola 1 (Ge1, fig. 4)

La prima tomba ha il vano che misura 2.30 per 2.55 m, con i muri spessi sui 60 cm, dove quello addossato al terrazzo arriva ai 95 cm. L'edificio è di notevole altezza e dall'esterno raggiunge 6.05 m compresa la cupola (fig. 5). All'interno esso è organizzato su due livelli: il superiore presenta un

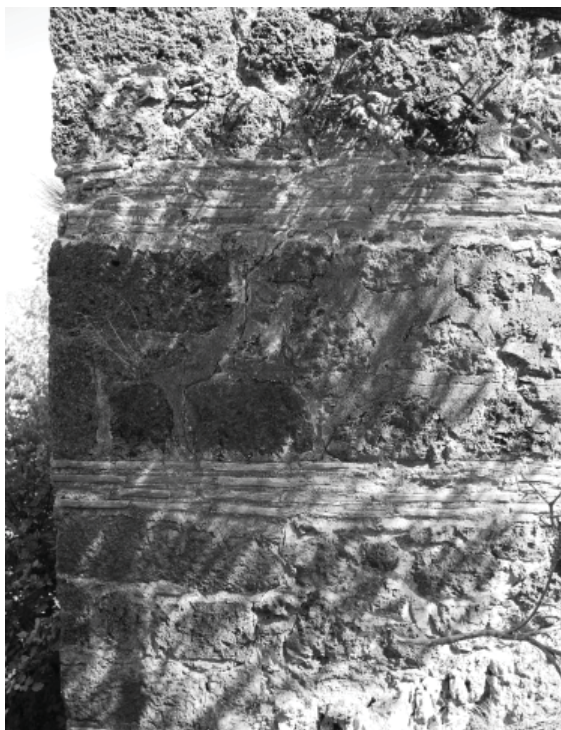


Foto 2. Ge2, tomba a cupola 1. Muro ovest, dettaglio della tecnica muraria.

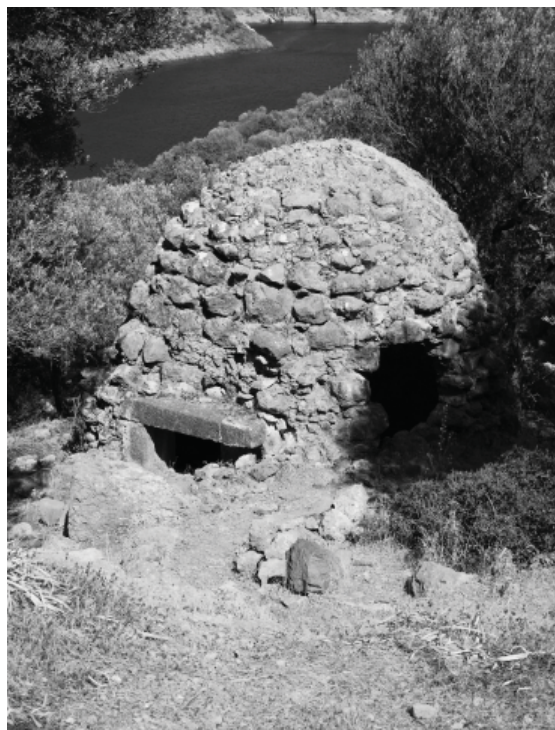


Foto 3. Ge3, tomba a cupola 2. Prospetto generale da sud-ovest.

ammasso di crollo che rende difficile capire l'esatta articolazione del suo spazio, mentre l'inferiore contiene la sepoltura e nulla si può dire sulla interrelazione tra essi. L'ingresso della camera funeraria è posto ad est ad un livello inferiore dal calpestio del terrazzamento dalla classica forma rettangolare. I resti ancora leggibili di probabili gradini in muratura posti all'angolo nord-est fanno pensare che l'accesso alla camera funeraria avvenisse in questo modo. Nulla può dirsi su come fosse organizzata la camera inferiore considerando che anche in questo vano il crollo è completo⁹. L'interno della cupola è a vista e il vano superiore è illuminato da due aperture arcuate e ben rifinite, aperte sui muri nord e est.

La struttura tombale mostra sul versante nord un rafforzamento murario; il lato ovest, invece, presenta parzialmente roccia viva lasciata come fondazione. La sua muratura appartiene ad una

⁹ In questo caso sono le fistule poste sul muro esterno nord del piano inferiore a dare la posizione del calpestio della camera funeraria, funzionali per lo scolo.

versione tecnica dell'*opus mixtum* e *opus quadratum* composta da filari di conci alternati a fasce orizzontali di laterizio¹⁰. La fascia con filari di conci ha il nucleo murario a sacco, mentre sembra che la fascia in laterizio copra tutto lo spessore del muro. L'altezza delle tre fasce di laterizio cambia andando dal basso verso alto: la prima fascia – sopra il basamento – contiene tre file di laterizio, la seconda ne ha quattro, e l'ultima ne ha cinque¹¹.

¹⁰ L'impiego del mattone nella realizzazione di questo modulo non è usuale in Licia. Si rinviene nella calotta absidale della chiesa sulla spiaggia a Kekova (Kakaba; Hellenkemper und Hild 2004, 582; foto 153); in un impiego, forse più tardivo, nell'estradosso poligonale dell'abside della chiesa di S. Nicola a Myra (fase altomedievale); in vari edifici civili di Olympos e, sempre in questa città, nelle coperture a cupola delle terme coi mosaici; nelle terme di Domuz Adasi: Ruggieri 1991, 189-191. Nell'edificio termale di Olympos, non ancora propriamente pubblicato, v'è un'altra caratteristica relativa al laterizio. Nel modulo alternato con mattoni e conci nel fronte degli archi, il laterizio viene puntellato con gocce di affresco bianco; a Karaçören, sull'arco cieco sovrastante l'ingresso nel battistero dall'annesso sud della chiesa, si sono dipinti i mattoni con gli stessi punti bianchi di affresco.

¹¹ Ciò significa che sono stati usati mattoni differenti,



Foto 4. Ge5, tomba a croce. Prospetto nord-ovest.

L'altezza della fascia in pietra resta sempre uguale.

Per ricordare una base quadrata, i pennacchi partono dalla stessa altezza dell'imposta delle finestre arcuate, cioè dalla fine dell'ultimo strato di laterizio. I muri sui versanti nord e sud mantengono il piombo fino alle curvature dei pennacchi; non così per gli altri due versanti, dove il muro presenta la dovuta curvatura per raggiungere la base quadrata. Anche per la calotta si riscontra il modulo murario affidato al laterizio posto su cinque file. La sezione presenta una muratura a sacco, con materiale affogato in molta malta, e il facciavista mostra la posa radiale delle scaglie calcaree, come sarà il caso per le altre cupole di quest'isola. All'interno del vano superiore, sul muro sud si vedono le buche pontai: due inferiori che poggiano sul modulo centrale di laterizio ed ancora due più in alto sopra il modulo più alto di laterizio. L'interno è tutto coperto con uno strato di intonaco di colore bianco rosato e liscio quasi

quasi certamente presi altrove. In effetti, se da una parte si constata che v'è molto uso di cocciame, non può dirsi similmente per un regolare uso di mattone nella muratura.

perfettamente, la cui buona qualità ha permesso una conservazione quasi completa della stesura. Ad oggi ciò che resta all'interno del vano non conserva sfortunatamente nessuna traccia di affresco.

Tomba a cupola 2, (Ge2)

La seconda tomba a cupola è collocata presso il corridoio voltato, ad una quota più bassa rispetto al terrazzamento. Anch'essa come la Ge1 presenta una pianta quadrangolare, ma leggermente più grande, con le misure complessive esterne che registrano 3.40 per 3.40 m. I muri perimetrali che partono sopra l'ingresso oggi toccano 30 cm e sono troppo sottili per una costruzione a cupola. Infatti, le dimensioni ridotte delle murature e il loro aspetto esterno, che sembra non rifinito, fa pensare ad una eventuale rimozione posteriore o più probabilmente ad un crollo del facciavista esterno (foto 3). Nonostante questo effetto scheletrico di muratura, la struttura non mostra nessun segno di cedimento murario e la cupola si è pre-

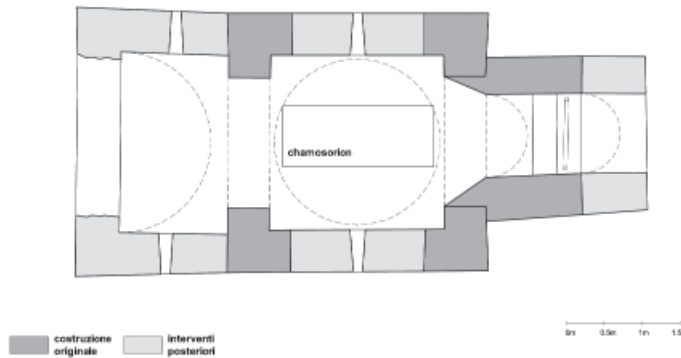


Fig. 6. Ge3, pianta.

servata quasi intatta. La posizione della tomba sotto il terrazzamento ha causato il riempimento del vano interno al punto da impedire qualsiasi ipotesi sul come l'interno fosse strutturato. Da quanto risulta oggi, il calpestio non mostra massi caduti dalla muratura sovrastante, quanto terreno di diporto che scendeva dal terrazzamento. V'è tuttavia da rilevare che davanti all'ingresso, accanto al colmo del crollo, si trovano in posa dei consistenti conci che lasciano pensare ad un ingresso, forse disegnato con oggetti per marcare una forma di distinzione.

La cupola è leggermente a sesto rialzato e si sostiene su quattro pennacchi irregolarmente costruiti. L'apertura al vano sepolcrale si affida ad un possente trilito e la lastra di chiusura, parzialmente conservata. Anche se oggi la tomba è priva del suo aspetto esterno, la carenza del rivestimento resta preziosa nel capire l'articolazione del paramento di questa muratura in cementizio che usava la forza di compressione nella curvatura della cupola¹².

Tomba a croce (Ge3, fig. 6)

Al di fuori dei quartieri abitativi, camminando verso la parte est dell'isola, oltre la quarta basilica, nell'area chiamata *necropoli orientale*, prevalgono le tombe a *chamosorion* e a *camera*.

¹² A ben vedere, mentre il sacco del paramento esterno – visibile soprattutto in altezza sul lato nord – si affida a pezzame medio, per la volta della cupola si è fatto ricorso a blocchi più grandi, pur se non regolarizzati.

Tuttavia, tra di esse una si distingue per le dimensioni più grandi e per la sua forma particolare. La sua si potrebbe forse definire tipologia *a croce*, perché nella sua forma definitiva è un parallelepipedo con una cupola al centro. L'edificio è eretto su una lieve pendenza in posizione perpendicolare alla salita e orientata quasi perfettamente nella direzione nord-sud, e mostra diverse fasi costruttive non facilmente databili (foto 4).

Alla prima fase costruttiva appartiene il corpo di pianta perfettamente quadrangolare di 3.45 m su ogni lato, coperto con la cupola. Questo nucleo ha un unico vano definito da quattro piedritti angolari, aperto su tutti i lati da archi a tutto sesto, con identiche dimensioni, di cui quello sud, più alto, sembra fungere da ingresso. A loro volta, gli archi sono uniti da quattro pennacchi e raccordati dall'esterno da un vero *tambour carée*. Dato che essi al loro culmine non definiscono una base circolare, viene creata una fascia intermedia di muratura in conci che andando verso l'alto continua a restringersi per arrivare ad una forma circolare per l'imposta della calotta. Dall'esterno, invece, il nucleo della tomba si presenta molto più semplice, come un parallelepipedo su cui è posta una cupola di cui è visibile solo il suo sommitale. All'interno del vano centrale si trova un *chamosorion* di forma rettangolare scavato nella roccia lungo l'asse d'ingresso (nord-sud). Il nucleo centrale è privo di fondazioni e l'edificio poggia sulla roccia regolarizzata. Le murature del vano centrale mostrano una cura maggiore dedicata al paramento interno, in *opus quadratum* abbastanza regolare con conci ad angoli arrotondati (foto 5). Tutto il sistema di copertura, inclusi anche i pennacchi, mostra le giunture fra i conci coperti da uno strato di malta, incisi per creare le fasce in seguito dipinte in rosso, lasciando gli stessi conci a vista. Il paramento esterno presenta conci di dimensioni diverse, pezzi rettangolari e più grossi



Foto 5. Ge5, tomba a croce. Vano centrale, l'interno.

sono impiegati per gli angoli, mentre gli archi accolgono conci più squadri e curvi. Nei giunti tra i conci si vede l'impiego occasionale di frammenti laterizi. La cupola e parte del tamburo esterno erano coperti con uno strato di cocciopesto. Alla costruzione iniziale, addossato all'arco sud, viene aggiunto un vano rettangolare, più stretto, a formare un ingresso a forma di corridoio voltato. Quanto si prospetta oggi del corridoio, è che la sua volta è a sesto ribassato e con l'imposta che parte dalla stessa quota dell'arco sud.

In un momento posteriore, la sezione meridionale dell'edificio subisce un intervento murario di una certa consistenza. L'arco centrale sud viene completamente tamponato, le murature del corridoio ricevono un rafforzamento del facciavista interno ed ancora la stessa volta del corridoio viene ribassata. Restano costanti, tuttavia, tutte le murature, sia del corridoio, sia del riempimento dell'arco sud che del rinforzo all'interno, coperte con uno strato dello stesso tipo di malta e con un identico tipo di stilatura a forma sinusoidale.

Probabilmente è da ascrivere a questo secondo momento il tamponamento degli altri tre archi del nucleo, lasciando come unica fonte di luce su ogni lato una finestrella rettangolare. Le murature del riempimento degli archi sono invece in *opus incertum* con pezzame più piccolo e irregolare.

Una ulteriore fase è data dalla costruzione di un vano aggiuntivo a nord e dal proseguimento murario del corridoio d'ingresso, evidente da come i nuovi muri si appoggino direttamente ai precedenti senza un minimo tentativo di giuntura. Questo vano è rettangolare in pianta e coperto da una volta a botte il cui intradosso nel culmine coincide con quello dell'arco nord del vano principale, ma non nell'andamento perché irregolare. La sua muratura è simile in gran parte a quelle precedenti, ma quella della volta merita una nota aggiuntiva. Anch'essa, dall'imposta fino ai suoi reni presenta un *opus quadratum*, con abbondante impiego di zeppe laterizie; la sezione sommitale, invece, è costituita da blocchetti e scaglie, cementati con molta malta e posti radialmente. L'esterno



Foto 6. Gemile, una tomba a *chamosorion*.
Prima necropoli.

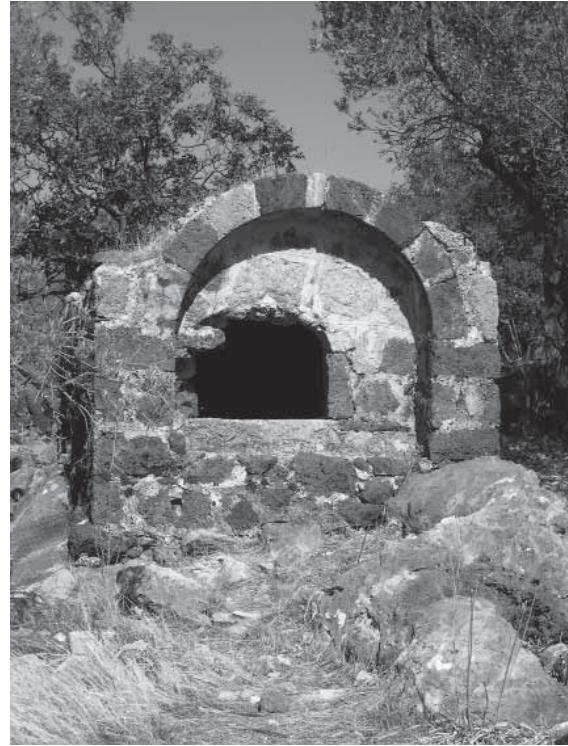


Foto 7. Gemile, una tomba a camera.
Necropoli orientale.

della volta è a due spioventi, coperto come di consueto da uno strato di cocciopesto.

La parte centrale dell'edificio con la cupola risponde all'altra tipologia intravista in Ge1 e Ge2. Le dimensioni delle tre tombe a cupola si mantengono quasi identiche. Inoltre, la presente come Ge2 mostrano un aggetto con due bracci esterni all'ingresso, espediente non rinvenuto nella Ge1, pur se essa conserva forse gli scalini di accesso. In più, la tomba in esame mostra l'unico ingresso monumentale, scavato sempre sulla stessa piattaforma in roccia, all'ingresso del corridoio voltato.

TOMBE A KARACAÖREN

Mentre le necropoli urbane di Gemile hanno una loro collocazione urbana relegata su aree quasi staccate dai plessi abitati e viabili, le differenti forme di tombe sull'isoletta di Karacaören sono sintomo, invece, dell'importanza e particola-

re natura che l'isoletta ha assunto nell'espansione della città. Karacaören è un piccola isola a forma di triangolo, distante da Gemile ca. 1 miglio e da Yarým Adası, posta sulla terraferma ca. 200 m¹³.

Tomba ad esedre (Ka1, fig. 7)

La tomba Ka1, convenzionalmente chiamata *ad esedre*, si trova sul picco roccioso più alto dell'isola, posta a nord-est rispetto alla basilica, e su una quota leggermente superiore a questa. Vi si accede attraverso una scala, scavata appositamente nella roccia (foto 9). A parte la posizione,

13 L'insediamento posto su Yarım Adası include anche un piccolo sepolcreto di semplici *chamosoria*. Una sola tomba, isolata presso il lato sud della chiesa, presenta una tipologia probabilmente a cassone. Non v'è traccia della copertura, ma il loculo è costruito con cura con piccolo pezzame e malta. La pianta della chiesa a tre navate meriterebbe un discorso a parte a causa del singolare disegno ad archi che abbellisce la navata meridionale. Su questo cf. Ruggieri 1993, 398-399; Hellenkemper und Hild 2004, 600.



Foto 8. Gemile, tomba a camera doppia che con una parte “entra” nel corridoio voltato.

la presenza della salita a gradini appositamente approntati lascia intendere il collegamento molto stretto di questa sepoltura con la chiesa d'accanto. Infatti, alla scala si accedeva direttamente dalla porta della navata settentrionale¹⁴.

La tomba è a pianta quadrangolare, di ca. 4.35 m per 4.60 m, con quattro esedre semicircolari poste all'esterno di ogni lato e con unico vano all'interno. Le dimensioni dell'esedre variano, quelle sui lati più corti dell'edificio (est e ovest) sono più piccole rispetto a quelle poste a nord e sud. La situazione di crollo dell'edificio rende problematico stabilire le loro altezze, inoltre, la quota di calpestio non risulta facilmente recuperabile su una base rocciosa solo parzialmente regolarizzata. Delle murature preservate si rileva con relativa certezza l'altezza dell'esedra ovest, ove

¹⁴ L'accesso all'area chiesastica avveniva da sud-sud-est per il tramite di scale che dall'approdo portava all'area sud-est adiacente all'annesso sud della chiesa. Un altro accesso è presente anche sul versante nord, dove una scala, lasciando delle strutture non identificate, conduceva verso il sommitale roccioso.

è posta l'apertura al monumento, e con sicurezza quella dell'esedra nord. Si sa anche che le semicupole ad est e ad ovest erano certamente più alte di quelle sui lati opposti. Allo stato attuale del monumento, tuttavia, non è possibile offrire un disegno certo di tutto il sistema di copertura, anche se è da riflettere sulla copertura a due leggeri spioventi.

Al monumento si accede attraverso un ingresso posto al centro dell'esedra ovest, oggi in gran parte distrutta. Il crollo rovinoso di questo lato non consente di ricavare un'immagine certa su come l'ingresso fosse foggiato. L'interno, totalmente affrescato, è rettangolare, di ca. 2.25 per 1.35 m¹⁵. La fossa è leggermente spostata verso il lato interno sud (fig. 7). I suoi lati mostrano in parte l'apparecchio murario in blocchetti di calcare rozzamente squadrati e cementati con evidenti sbavature di malta, e parzialmente il fondamento roccioso. L'accesso all'interno si avvaleva di due piccoli gradini che immettevano sullo stretto ca-

¹⁵ Accenni su questo ciclo in: Ruggieri – Turillo 2007, 124-135.



Foto 9. Ka1, tomba a esedre, e Ka2, tomba a camera da ovest con le scale d'accesso.

mmineamento lungo il lato nord. A giudicare dalla fossa che ha messo in luce parzialmente la roccia è possibile che lo stesso possa dirsi per l'intera pianta della tomba, cioè che si appoggi direttamente su questa.

Mentre l'interno della muratura è alzato con tecnica in cementizio, con il ricorso a pietrame e schegge laterizie cementate con molta malta e senza una specifica posa, per la cortina muraria a vista delle esedre, invece, si è fatto ricorso a conci di calcare tagliati regolarmente e posti su un letto di malta e con una buona posa orizzontale. I conci sono di grandezza quasi costante in buona posa, un apparecchio che riprende completamente la tipologia riscontrabile nelle tre absidi della basilica adiacente e dell'annesso sud e la specificità tecnica di questi apparecchi sta nella valorizzazione cromatica delle commettiture che sono dipinte in rosso creando un bel contrasto col colore naturale della pietra grigio scuro¹⁶. Per quanto riguarda,

invece, la muratura dei poderosi angoli esterni, vengono usati blocchi molto grandi alternati con quelli piccoli, senza un rispetto canonico delle assisi lungo i quattro versanti. Di tutta la muratura sembra che la tecnica versata sulla volta sia la meno curata, costituita da blocchetti poligonali rozzamente lavorati, schegge litiche e pezzame diverso posti in posa radiale e legati con abbondante malta. Dato che quasi tutto l'interno reca ancora l'affresco con lo strato di intonaco, non è evidente dove e come si armava la centina, né se per la stesura della volta si sia fatto ricorso all'armatura lignea (foto 10).

La posizione di questa tomba sul picco roccioso sovrastante la chiesa certamente aveva un legame particolare con la stessa basilica: costruite nello stesso tempo, e questo è da dedurre non solo per loro tecnica muraria, ma anche per la tecnica e cromatismo degli affreschi che richiama perfettamente le maestranze all'opera sulla chiesa. Al

16 In un caso (Ruggieri 1999, 300-301) si ha la stessa resa cromatica sulla conca di una tomba, ma i giunti dipinti

non rispondevano alla vera disposizione delle pietre sottostanti.

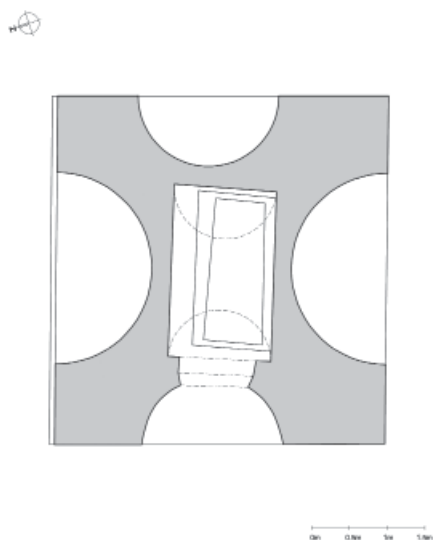


Fig. 7. Ka1, pianta.

tempo della sua costruzione, comunque, Ka1 restava sola sul picco a sovrastare la basilica; v'è stato un lasso di tempo dopo il quale si è reso necessario accostare alla tomba un terrazzamento. Questo partiva dallo spigolo nord-est della tomba e si piegava lungo tutta la parete alta del versante est in modo tale da regolarizzare l'area che si predispondeva ad accogliere altre tombe. Il terrazzamento, tuttavia, mostra una tecnica muraria che si discosta da quella della Ka1, il che, sembra, sia indice di un disegno di allestimento per un sepolcreto in un periodo quando divenne necessario più spazio a causa della richiesta di committenti.

Tomba a camera (Ka2, fig. 8)

La tomba Ka2 mostra la tipologia *a camera* ed è collocata accanto alla Ka1, adiacente al suo lato sud (foto 9). La sua forma è diffusa sia sulla stessa isoletta, come sull'isola di Gemile. Anche verso Ka2 si accede attraverso una corta scala di tre scalini scavati nella roccia sul versante sud-est, ma dalla parte opposta rispetto alla scala che conduce verso Ka1. La scala quasi certamente è stata creata nel momento in cui si è ritenuto necessario creare

il terrazzamento di cui si è parlato in precedenza.

La tomba è a pianta rettangolare, con dimensioni complessive di ca. 5.10 m per 3.40 m. La sua forma esterna richiama un parallelepipedo coperto con una volta a botte sovrastata da una membrana muraria a spiovente. Dall'esterno infatti, è visibile la porzione superiore della volta con le tracce murarie degli spioventi, perché l'altezza dei muri laterali sui quali essa poggia arriva fino ai reni della volta. Contrariamente alla Ka1, il prospetto principale di questa tomba è quello orientale approntato sulla terrazza creatasi per l'occorrenza. Esso si presenta con una foggia ad archivolto in aggetto con arco a tutto sesto. La fattura d'imposta dell'archivolto mostra noncuranza, affidandosi a due blocchi con altezze differenti, pur impreziositi da una semplice modanatura in aggetto (fig. 9). Al centro del prospetto est si presenta una apertura quadrangolare con piatta-



Foto 10. Ka1, tomba a esedre. Interno.



Foto 11. Ka2, tomba a camera. Prospetto sud-est.

banda calcarea, spostata leggermente verso sinistra. Questa anomalia nel rispetto della simmetria sul prospetto si affianca anche ad una scarsa cura nell'approntare il facciavista dell'apparecchio che si discosta dalla maestria dei lati lunghi. Difficile dire cosa sia accaduto sulla facciata orientale. È evidente che vi sia stato qualche ripensamento o rifacimento del muro evidenziato dal taglio e dalla posa del materiale usato, come è impossibile ricostruire una cronologia degli interventi (foto 11).

L'interno della tomba è coperto con un cumulo di terra e detriti, forse parzialmente appartenenti al crollo del muro ovest, per cui non è stato possibile individuare la posizione dei loculi, né il loro numero, né la quota. A giudicare dalle altre tombe simili è lecito supporre che aveva almeno due loculi longitudinali, uno accanto all'altro, adiacenti ai lati lunghi, e forse un terzo trasversale, posto dal lato ovest. I muri sud e nord hanno uno spessore medio di 55 cm; sono in cementizio, con le cortine a blocchi parallelepipedi di varia forma e diverse dimensioni. Si nota che la posa dei blocchi sul lato sud è più regolare verso ovest,

dove sono stati usati con più cura i conci di forma rettangolare allungata. La volta ritorna all'uso di scaglie calcaree poste radicalmente con una certa regolarità. Da quanto detto si evince come la maestranza al lavoro era diversa da quella richiesta dalla Ka1. L'edificio posa direttamente sulla roccia e sovrasta in altezza la tomba Ka1.

La facciata est una volta era affrescata: si sono mantenute tracce dell'intonaco dipinto sotto l'archivolto, sia dalla parte sinistra, che a destra; ambo le tracce si riferiscono a croci. Le pareti interne conservano larghi tratti di intonaco, facendo così supporre che anche in questa sepoltura si dispiegasse un ciclo pittorico. Le tracce di valorizzazione dei giunti dipinti in rosso, presente nella Ka1, si vedono ben netti anche lungo la curva esterna dell'archivolto della facciata principale; si sono perfettamente conservate tracce delle incisioni, mentre del colore restano solo sparuti frammenti.

Il terrapieno che collega la tomba Ka1 e Ka2 nell'area antistante queste due tombe, delimitate dal muro est del terrazzamento, reca ancora

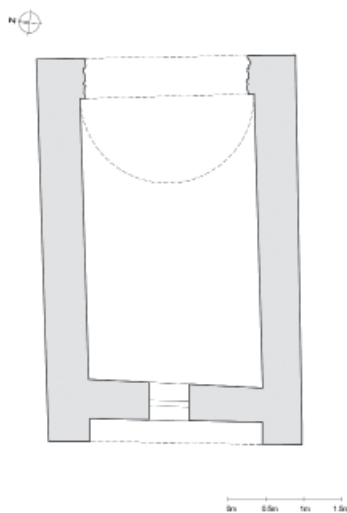


Fig. 8. Ka2, pianta.

delle tracce murarie a terra di difficile identificazione. Quasi certamente quest'area di ca. 6 per 12 m ospitava altre tombe accessibili dalla scala a gradini che saliva da sud. Questo picco roccioso, dunque, nasce originariamente come sede di un'elegante sepoltura e diviene nel corso di pochi decenni un luogo privilegiato di sepolture, vicini fra loro e soprattutto accanto alla Ka1 che viene in questo modo circondata, pur conservando il suo proprio accesso da ovest. A nord, invece, sotto il terrapieno, la caduta di quota è quasi immediata; sul primo sbalzo si è ricavato spazio per due semplici sepolture a fossa che hanno utilizzato la regolarizzazione della roccia e poca muratura di ricalzo sul versante nord. Alla seconda caduta di quota, su una protuberanza rocciosa, quasi aggappata alla parete di roccia sovrastata dal terrapieno, si trova Ka3.

Tomba pseudo-ellenistica 1 (Ka3, fig. 10)

La tomba Ka3, chiamata convenzionalmente *prima pseudoellenistica*, è posta sotto il terrazzamento della Ka1 addossata alla roccia, e appare isolata dal gruppo funerario soprastante

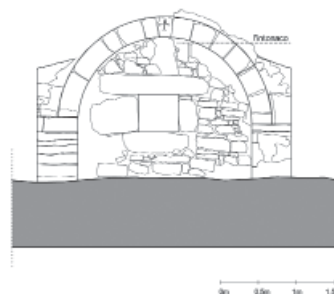


Fig. 9. Ka2, prospetto est.

(fig. 11). Oggi non si sono preservate le tracce di alcuna scala di accesso e se ve ne fosse stata una, probabilmente si sarebbe trovata sul lato del suo prospetto principale, ovest. Questa tomba mostra tutto il suo aspetto monumentale dal lato nord ed est visibile venendo dal mare, dove l'apparecchio murario in *opus quadratum*, sormontato dagli spioventi, pubblicizzava una committenza di un buon ceto sociale. Tra il gruppo presso il picco roccioso questa tomba è la più distaccata dalla Ka1, ma la volontà di essere accanto al centro propulsore di un certo interesse per l'isola ha indotto gli operai ad un lavoro improbo e delicato.

La pianta della struttura funeraria è di forma quasi rettangolare e le sue dimensioni complessive sono di ca. 3.30 m per 2.80 m. L'edificio è di forma a parallelepipedo a due spioventi con un suo lato più lungo, il meridionale, addossato al pendio del picco così che gli spioventi sono paralleli a questo. Gli spioventi partono dall'altezza del cuneo mediano della stessa volta. In seguito un intervento ha riempito il volume intercorrente dall'originale spiovente sud al terrazzamento roccioso, creando all'esterno una superficie obliqua probabilmente per canalizzare l'acqua piovana da quella parte. Il prospetto principale, quello occidentale, è in parte crollato. Si osserva che aveva all'ingresso un'apertura rettangolare. A giudicare delle tracce quasi certamente il vano sepolcrale era chiuso ad ovest da una lastra monolitica. Accanto a questa, dal suo lato sinistro, v'è una mensola con listello piatto. L'interno della tomba ospitava tre loculi (foto 12): due più grandi, uno accanto

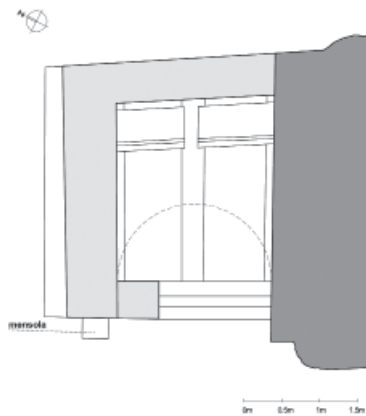


Fig. 10. Ka3, pianta.

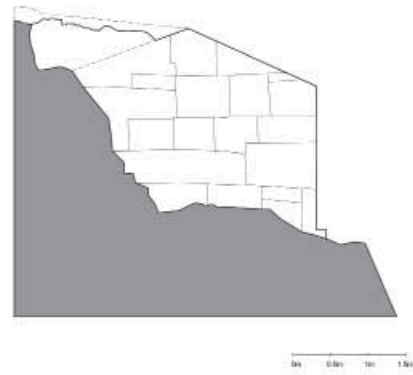


Fig. 11. Ka3, prospetto est.

all'altro posti longitudinalmente occupando tutto l'interno e in fondo, dalla parte opposta all'ingresso, sopra le due lastre che coprivano la sezione est di questi, si approntò il terzo loculo, in direzione trasversale.

Per la costruzione della tomba fu prima creato un terrazzamento sulla roccia, regolarizzandola con taglio e in seguito con i getti di materiale edilizio. Per la costruzione del lato sud, quello addossato al pendio, è stata creata anche una preparazione in muratura. Lo zoccolo sul lato nord in parte è perfettamente scolpito nella roccia e lo stesso all'interno coincide con il culmine del letto funerario. È quindi probabile che viene sfruttata la roccia dove possibile, e dove non lo era, si è semplicemente proceduto alla costruzione in muratura o con getti. La tecnica muraria, *a sacco*, ha i paramenti a vista esterni in *opus quadratum* e quello interno ha fatto ricorso a blocchi irregolari con molta malta nei giunti. Lo spessore dei muri non è perfettamente uniforme e corre da 50 a 70 cm. La volta a botte fu realizzata con listelli, schegge e pietrame posti più o meno radialmente e cementati da un abbondante strato di malta; non si è notato l'impiego di frammenti laterizi. L'interno fu coperto con uno strato di arriccio i cui resti sono ancora visibili. Volendo proporre, pur se ipoteticamente, una sequenza di questo primo gruppo di tombe, basandosi sull'evoluzione della

ristretta area funeraria, si potrebbe pensare che la Ka1 sia coeva con la chiesa; la Ka3, nel rispetto del piccolo roccioso ove posa la Ka1, segue di presso; la Ka2 e le altre vicine si pongono alla fine della sequenza delle sepolture su quest'area.

Tomba a sarcofago licio (Ka4, fig. 12)¹⁷

La tomba Ka4, chiamata *a sarcofago licio* per la sua forma esterna ad ogiva (foto 14), è situata nei pressi della basilica, a sud-est rispetto all'abside. Di fronte alla tomba Ka5, che si posa su una quota più bassa, questa piccola tomba è situata lungo il pendio roccioso con un orientamento est – ovest. Le sue dimensioni complessive, pur nella irregolarità della pianta, sono di ca. 3.55 m per 1.95 m. La pianta è a forma allungata, absidata sul lato nord-est, opposto all'ingresso; la forma a sarcofago rende lo spazio della sepoltura piuttosto trapezoidale con il suo lato più largo verso l'ingresso, irregolarità percepibile anche ad occhio. Anche l'absidiola è pseudocircolare, schiacciata dal muro di chiusura. La tomba ospita un loculo rettangolare, incassato nella roccia, sulla quale

¹⁷ La tomba richiama una tipologia già affrontata su Gemile. L'aver scelto un altro esemplare, pur se parzialmente crollato nella volta, fra altri di ben più preservata fattura, è dovuto alla presenza dell'«esedra antistante, una particolarità non riscontrata (forse perché non preservata?) negli altri casi.



Foto 12. Ka3, prima tomba pseudoellenistica. Interno.

posa la parte muraria della tomba. Davanti all'ingresso, oggi crollato, ci sono i resti di una piattaforma, forse semicircolare, in roccia sagomata.

La soluzione della volta ad ogiva è specifica: la curvatura si impostava subito dalla base esterna del loculo, pur se è più percepibile solo a metà della sua altezza. Dall'esterno, invece, i muri laterali restano eretti fino alla metà della volta, conservando un discreto piombo e lasciando visibile solo la porzione superiore più ogivale della volta. Non ci sono dati per ricostruire il suo prospetto principale, né si rinviene un esempio *in loco* di questa tipologia che abbia conservato degli indizi certi. Lo spessore della muratura non è uniforme e corre dai 35 ai 55 cm per i muri laterali mentre quello dell'abside risulta 45 cm. La muratura è in *opus incertum*, composta di conci di pietra di varia misura, pietrame, frammenti laterizi e cocciame affogati in molta malta¹⁸. La facciata

¹⁸ In un altro esemplare di tomba simile, ad ovest della chiesa, la muratura esterna si affida a conci ben tagliati e messi in posa con perfetto piombo. Un altro ancora mostra parte della lastra di chiusura (4-5 cm di spessore) che si appoggiava sui bordi creati all'esterno del loculo

sud che sovrasta il pendio e guarda il mare è di pessima fattura: si direbbe un raffazzonatura muraria di cattiva esecuzione.

Benché questa tomba non eccelle in qualità, è ben visibile grazie alla sua posizione. Gli altri esempi di questa tipologia presente su Karacaören sono posti su un podio roccioso e, quando la roccia lo richiedeva, si rabberciava la base con muratura. Una qualità di questa tipologia era dunque la sua visibilità nella pur esile linea della costruzione, lontana dalla massiccia tomba a camera.

Tomba pseudoellenistica 2 (Ka5, fig. 13)

La tomba Ka5, la *seconda pseudoellenistica*, è posizionata a sud della basilica di cui è leggermente distante e autonoma, su uno dei pendii più scoscesi dell'isola. Ad essa si accedeva attraverso tre scalini, come di consueto scavati nella roccia, che giungono sulla piattaforma esterna di accesso a forma circolare. Benché non molto grande, le dimensioni complessive esterne misu-



Foto 13. Ka4, tomba a sarcofago licio. Prospetto nord.

rano ca. 4.00 m per 2.70 m, era sicuramente ben visibile a chiunque tentasse ad avvicinarsi all'isola dal lato sud, grazie alla sua posizione.

La tipologia della tomba è particolare e rappresenta l'unico esempio di questo genere nell'architettura sepolcrale in tutta la zona. La sua forma parallelepipedica in pianta rettangolare è addolcita grazie ad un'edera antistante e alla cupola con la quale era coperta. Sebbene una buona parte superiore dell'edera oggi è carente, sembra che originariamente chiudeva in sommità con una semicalotta (fig 14). Quello che oggi rimane della sua plastica esterna è una cornice sotto il concio d'imposta sinistro sul prospetto principale e il frammento di un fregio sul lato sud ambedue a listello piatto. All'interno si accedeva attraverso una piccola apertura rettangolare, una volta chiusa da una lastra.

Le dimensioni del suo interno sono: i lati più corti (est e ovest) variano dal 1.65 m al 1.47 m e quelli più lunghi (nord e sud) dal 2.15 m al 2.25 m. Nella tomba sono scavati due loculi in senso longitudinale, a giudicare dalle dimensioni dei letti funerari (fig. 13). All'interno, sul dado paralle-

lepipedo si imposta una cupola a vista. La tomba doveva essere complessivamente alta all'interno sui 3.80 m. Benché la cupola poggi su una base leggermente allungata, la sua forma risponde meglio ad una forma quasi circolare. Come ricordo tra la base quadrangolare e quella ellissoidale anche qui si è ricorso ai pennacchi, con non poche irregolarità di simmetria. Per accorciare l'asse più lungo, il muro dei lati più corti viene inclinato verso l'interno, a partire dal livello degli stessi pennacchi. Da questo punto parte la curvatura che corre verso il sommo della cupola. Le sommità di questi rudimentali pennacchi vengono poste ad altezze diverse con la risultanza che la base della cupola non è perfettamente orizzontale¹⁹. La cupola, in aggiunta, è irregolare anche nella sua sezione verticale, a dire, semiovale.

L'intera sezione del letto funerario è stata ricavata dalla roccia; ancora, gran parte del muro interno a nord-est ripropone la roccia viva che si alza fino alla base del pennacchio est. Alla roccia

¹⁹ Il "pennacchio" nord-ovest è completamente scavato nella roccia.

scolpita si sovrappongono i muri, realizzati con la tecnica in cementizio (foto 14). Il paramento esterno a vista è in *opus quadratum* con i blocchi in grandi e varie dimensioni e con tagli d'incastro fra i blocchi; per l'interno si è fatto ricorso a blocchi più uniformi nel taglio posti in buone assisi con regolari giunture. I muri sono riempiti con normale cementizio e per la calotta della cupola viene impiegato all'esterno sempre un *opus incertum*, mentre l'interno è alzato con blocchetti, senza indizi sulla sua rifinitura. Nei crolli si vedono ancora i resti di malta usata abbondantemente con l'impiego di laterizio e cocciame.

La tomba Ka5, vista da lontana, inducesse ad essere ritenuta ellenistica (foto 15); questa pretesa, ad una attenta analisi, invece viene relegata al tempo cristiano e si constata come la fusione della cupola su un corpo parallelepipedo si risolve costruttivamente in modo maldestro. Certamente è da ascrivere a questa tomba una sua eleganza esterna: l'edera di facciata in alto e l'altra a terra davanti all'ingresso, un espediente visto davanti ai sarcofagi su podio sparsi a Üçağız (Tristomon) che ne hanno fatto un *unicum* architettonico nel territorio.

Tomba a camera doppia (Ka6, fig. 15)

La tomba Ka6, chiamata *a camera doppia*, si trova in un'area funeraria collocata distante dal-

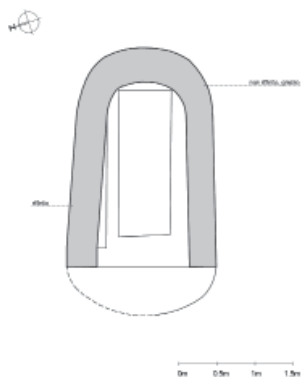


Fig. 12. Ka4, pianta.



Foto 14. Ka5, seconda tomba pseudoellenistica.
Prospetto est.

la chiesa, verso nord-ovest, al di là di una serie di ambienti abitativi. Essa presenta una variazione della tipologia *a camera*, creata raddoppiando due tombe identiche, poste accanto ed aventi un muro divisorio longitudinale in comune (foto 16)²⁰. In forza di questo raddoppio, le sue dimensioni sono elevate: ca. 6.50 m per 4.45 m, con pianta abbastanza regolare. Tutto quanto detto circa la forma esterna della Ka2 vale anche per questo caso, con alcune differenze. Il prospetto principale presenta due aperture rettangolari con una mensola posta al centro, simile a quella presente nella Ka3. Il prospetto principale è parzialmente crollato e non si può essere certi sulle dimensioni delle aperture; restano ancora solo gli scorrimenti verticali ancora ben leggibili lungo gli stipiti. Ciò che impressiona di questa tomba è la sua imponente mole visibile già dalla possente presenza di blocchi negli angoli e nel prospetto principale. Anche in questa situazione, si notano bene le spalle murarie esterne che sostenevano la spinta della volta e il leggero

²⁰ Si potrebbe ipotizzare che si tratti di una tomba di famiglia considerando che contiene in totale sei loculi, tre per ogni camera.

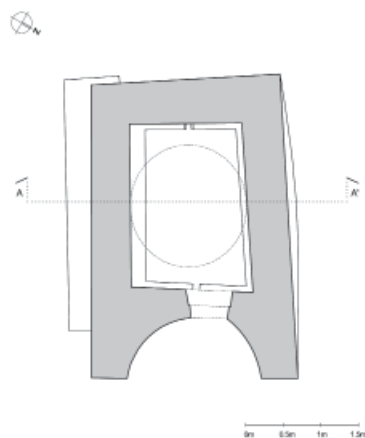


Fig. 13. Ka5, pianta.

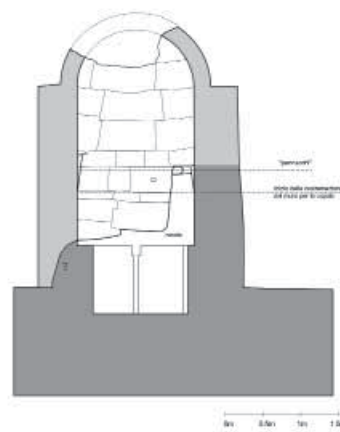


Fig. 14. Ka5, sezione AA.

piano inclinato ancora percepibile degli spioventi sovrastanti (foto 17). La facciata est di ambedue presenta due piccole aperture poste ognuna sotto il concio di chiave del rispettivo arco (fig. 16).

All'interno di ogni camera i loculi vengono posti nella seguente maniera: due addossati alla facciata principale paralleli alle generatrici della volta e il terzo, più stretto, collocato al fondo posto trasversalmente. La divisione degli spazi interni avviene per tramite di muretti. Come al solito, la tomba è carente di fondazioni. Le murature sovrapposte alla roccia vengono realizzate con un sacco in cementizio con presenza di frammenti laterizi. I conci del paramento murario esterno sono in *opus quadratum*, con blocchi poligonali di dimensione diversa ma comunque grandi e in posa abbastanza regolare, ad eccezione della parte inferiore del muro nord ed est dove sono presenti conci più piccoli con taglio non uniforme. Per il facciavista del muro interno est, invece vengono impiegati i conci più piccoli in vari tagli e dimensione (foto 18).

CONSIDERAZIONI ARCHITETTONICHE FINALI

Generalmente le tombe presenti nelle due isole si possono distinguere in due tipi: il primo è il semplice letto funerario scavato nella roccia,

cioè il *chamosorion*²¹; il secondo presenta una costruzione in muratura sovrastante il letto funerario. Le tombe a *chamosorion* erano tutte scavate nella roccia con misure che si aggiravano mediamente su ca. 1.80 per 0.60 m con una profondità da 40 a 85 cm (foto 6). Probabilmente per la chiusura si è fatto ricorso ad una semplice lastra calcarea. Le tombe con le costruzioni in muratura presentano da parte loro una varietà di forme architettoniche che a volte riprendono tipologie classiche, altre volte, a quanto sembra, mostrano delle forme originali non riscontrabili altrove. La forma più diffusa è quella a camera: una costruzione parallelepipedica coperta da una volta a botte nascosta all'esterno da due spioventi²². La facciata principale di solito reca una apertura rettangola-

21 Gli studiosi giapponesi hanno fotografato sull'isola di Gemile i resti di una copertura di sarcofago a spioventi con il frontone e gli acroteria angolari, la cui collocazione esatta non è stata rilevata: "We did, in 1993, find the roof-type lid of a tomb, cut into the bedrock northeast of Church III. The marble lid that dates back to no later than the first half of the fifth century has a simple shape and is decorated with acroteria at the four corners and a cross that is carved in relief at the pinnacle of the roof.", cf. Tsuji 1996, 269 e fig. 16; forse si tratta dello stesso pezzo marmoreo la cui foto si trova in Asano 2010, fig. 185. Per un'ottima trattazione sulla tipologia sepolcrale a *chamosorion*, cf. Equini Schneider 2003, 454-457.

22 I giapponesi solo sull'isola di Gemile hanno rilevato 122 tombe. Di queste a camera sono 58. Si veda la tabella con tutte le tombe di Gemile con i dati fondamentali tipo dimensioni, orientazione e collocazione, in Asano 2010, 144-146.



Foto 15. Ka5, seconda tomba pseudoellenistica. Prospetto sud.

re con una lastra di chiusura mediamente di ca. 60 per 90 cm che esclude un formale ingresso. La facciata principale poteva sostenere anche un archivolto sporgente che, sovrastando l'apertura, creava riparo agli affreschi, oggi ridotti solo in frammenti. Di rado costruita per una sola persona, la tomba *a camera* racchiudeva più spesso due letti funerari posti sull'asse longitudinale; vi sono anche esempi con tombe a tre loculi. Raro è il caso di tombe doppie *a camera* con un unico muro divisorio (Ka6 e la tomba doppia accanto al corridoio voltato di Gemile, foto 8). Un'altra forma, chiamata *a sarcofago licio*, si basa su una vaga rassomiglianza esterna al sarcofago diffuso in questa regione in epoca classica. La somiglianza richiama la forma ogivale dell'esterno eretta nel nostro caso in muratura. Di solito le tombe di questa tipologia hanno un solo loculo (foto 19). Altre tombe hanno una forma particolare, vale a dire, il parallelepipedo con cupola e quanto chiamato "pseudoellenistico" (Ge2, Ge3, Ge5, Ka1, Ka3 e Ka5). La tomba a cupola (uno, forse due

letti all'interno) come tipologia è nuova e architettonicamente mal risolta. Quanto è stata chiamata "tomba pseudoellenistica" rappresenta un nostalgico ritorno a una muratura ellenistica con soluzioni di coperture non architettonicamente riuscite.

TECNICHE COSTRUTTIVE

Tutte le sepolture erano voltate a botte e in alcuni casi con cupola. Nelle tombe *a camera* le generatrici della volta seguivano l'asse longitudinale; la volta impostava a circa metà dell'altezza complessiva della tomba. I muri perimetrali dell'asse longitudinale si tengono dai 50 ai 70 cm e il loro spessore non sempre dipende dalle dimensioni complessive della costruzione. Gli angoli e i registri bassi ospitavano sempre i blocchi più grandi e più squadrati; i registri alti vedono in posa conci più piccoli e pezzame medio. I perimetrali sull'esterno salivano al terzo medio della

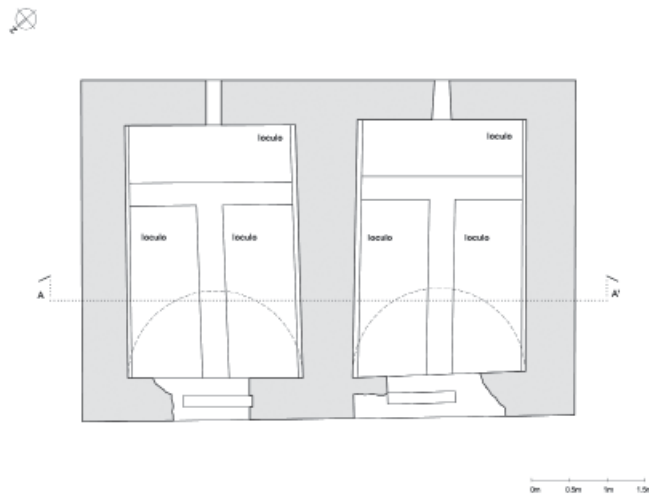


Fig. 15. Ka6, pianta.

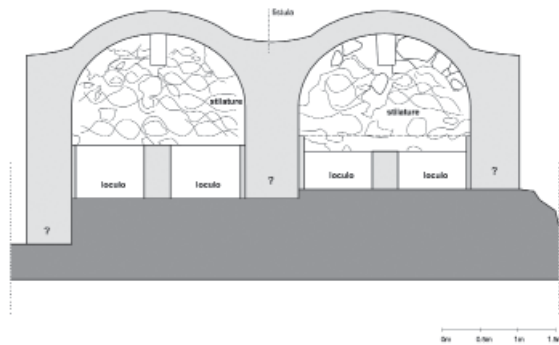


Fig. 16. Ka6, sezione AA'.

volta creando così una spalla per le spinte; la stessa volta era nascosta da due spioventi. Diverso è il caso della presenza della cupola che poggiava su una base quadrangolare o rettangolare. Questa scelta costruttiva per quanto si deduce dalla tecnica messa in opera, creava un problema nel raccordare una base poligonale con una struttura circolare. Si è vista sempre una grande difficoltà affrontata dagli operai nella creazione dei pennacchi al punto di dover ricorrere ad una fascia di muratura intermedia prima dell'imposta della calotta oppure a differenziare le altezze o le forme degli stessi pennacchi che rasentano una foglia di tromba d'angolo²³.

²³ È opportuno richiamare un dato relativo alla capacità tecnica di erigere una cupola. Sembra che altrove (Karkabō [Hellenkemper un Hild 2004, 608]; Alakilise [Hellenkemper un Hild 2004, 609]; Sydima [Hellenkem-

Materiali di costruzione e murature

La natura rocciosa del terreno e la sua orografia hanno svolto un ruolo importante nel processo costruttivo. Il calcare impera, certamente quello locale. Tagliata perfettamente o meno regolarmente, questa pietra era utilizzata in conci per i grandi paramenti di sostegno, come anche per le volte delle tombe più monumentali (foto 18). Anche le cornici e mensole, semplicemente sagomate, sono di calcare e segnano non solo nelle tombe e nelle chiese, ma anche negli edifici civili l'imposta di una volta o di un arco. Il marmo è quasi del tutto assente – tutto il decoro marmoreo delle chiese era comunque importato – ad eccezione del concio di chiave nella Ka2, accostato a sua volta da un altro concio marmoreo. L'impiego costruttivo del laterizio, pur se in quantità minima, accade solo nella cupola della Ge2, ed è da sottolineare come esso fosse di riuso²⁴. A parte v'è la considerazione dell'impiego di frammenti laterizi nella muratura come nella malta idraulica.

Una costante tecnica è il ricorso a quanto si possa chiamare lo "pseudo-laterizio" inciso sull'arriccio e dipinto in rosso. Lo si è visto in varie tombe e sempre su superfici curve (cupola, esedre, arcate); in realtà non si tratta di una peculiarità tecnica propria alle tombe, ma è un ritorno usuale in molti

per un Hild 2004, 854] la procedura tecnica sia stata di gran lunga superiore ai nostri casi, pur avendo un diametro da coprire più largo.

²⁴ Sparuto è l'uso del mattone negli altri edifici. Un modulo di tre mattoni in posa radiale si ritiene nell'arco dell'ingresso centrale della Chiesa III; sul fronte dell'arco dell'abside a Kekova, già citata prima in un caso diverso; negli archi dell'impianto termale a Gemile Köyü (inedito); ancora, ma in posa orizzontale per creare il piano d'imposta di due finestre in un edificio civile a Karacaören. Probabilmente vi saranno altri casi di questo genere, ma nulla toglie alla considerazione che il mattone era raro e, se usato, richiama un uso non prettamente locale, ma precedente.



Foto 16. Ka6, tomba a camera doppia. Prospetto sud-ovest.

edifici delle isole, come detto precedentemente, adottato per sottolineare le giunture dei conci.

Le tecniche murarie sono quelle tipicamente bizantine. Questo significa che i facciavista esterni ricorrono al concio più o meno squadrato che può ricoprire tutto il muro o essere impiegato nei registri inferiori. Di solito i paramenti murari esterni hanno i conci rozzamente squadrati con giunti riempiti con piccolo pezzame, frammenti laterizi cementati con abbondante malta (foto 2 e 4). Le volte ricorrono sia ai conci più o meno squadrati, a partire dall'imposta verso il culmine e a scaglie litiche o blocchetti sagomati come mattoni nella posa radiale verso il sommo della cupola. Il facciavista interno dei muri perimetrali ricorre usualmente a blocchi rozzamente squadrati con abbondante malta, oppure a pezzame medio affogato in molta malta²⁵ e per la gran parte delle tombe

²⁵ Nei casi delle tombe a sarcofago spesso si notano, dovuti alla forma propria della curvatura dell'ogiva, gli

in questione il riempimento interno (il sacco) era costituito da pietre di media grandezza, frammenti laterizi e molta malta. Tutti i tipi di muratura ricorrono al medesimo tipo di malta molto compatta, di colore grigiastro costituita soprattutto da calcare frantumato, lapilli e frammenti laterizi. A proposito dell'assisa muraria, nei muri con blocchi regolari va da se che la posa seguiva un andamento abbastanza regolare, ma nel caso che i blocchi non fossero regolarizzati l'assisa si raggiungeva per tramite del pezzame all'interno dei giunti. La migliore, forse in assoluto, resta quella posta in opera sulla Ka2 che facendo ricorso al pezzame di varia grandezza l'assise persegue il suo perfetto andamento orizzontale. Infine, in due casi soltanto (Ka3 e Ka5) si è trattato di un *opus quadratum* che per gli incastri fra i blocchi sembra richiamare un *opus poligonale* e in un solo caso (Ge1) esiste un tipo che alla lontana si possa annotare come un *opus*

interni affidati a pezzame medio e scaglie.



Foto 17. Ka6, tomba a camera doppia. Prospetto est.

mixtum e che consiste in un'alternanza di moduli in laterizio e blocchetti calcarei. La maggioranza delle tombe non ha avuto bisogno di fondazioni perché costruita su un banco roccioso. Non di rado il banco di roccia diveniva esso stesso il paramento della tomba.

Stilature, affreschi e rifiniture

Come era di prassi, l'arriccio posto sui paramenti murari riceveva la sua stilatura. Nel territorio esaminato due sono fondamentalmente i tipi di stilatura rinvenuti: il primo a forma poligonale che in molti casi ma non sempre andava a coincidere con l'andamento dei giunti, il secondo invece assumeva un andamento circolare o sinusoidale che non rifletteva nessun andamento murario sottostante. Vi sono, accanto a queste due, delle leggere varianti che prevedono una stilatura circolare all'interno di una poligonale. In aggiunta v'è l'apparizione di una lisciatura costituita da due li-

nee orizzontali segmentate all'interno da incisioni diagonali; in un solo caso quest'ultima trova una variante nella Ka6 con incisioni incrociate all'interno delle linee parallele. Un discorso a parte a proposito di stilature è l'incisione poligonale sui conci in seguito dipinte in rosso (foto 5). A questo si aggiunge anche l'incisione e pitture in rosso, ma solo nel caso di Ge5, su un pezzame sottostante che non è un concio rettangolare²⁶. Un'ultima osservazione è la copertura degli spioventi, delle cupole e in molti casi dei muri laterali con uno strato di malta idraulica, *l'opus signinum*.

DATAZIONE

L'architettura funeraria è un rispettoso riflesso di quella civile ed ecclesiastica. Quest'ultima, assieme alla decorazione marmorea per le chiese (con nota tipologia costantinopolitana) e

²⁶ Sono presenti esempi analoghi nelle sezioni cupolate del corridoio voltato.



Foto 18. Ka6, tomba a camera doppia. Dettaglio della tecnica muraria.

quanto resta affrescato fa parte del patrimonio bizantino del VI secolo; tale anche le tombe in questione. Si pensa che l'intero arco cronologico di questo secolo sia stato la spanna temporale entro cui le varie aree sepolcrali con i rispettivi monumenti abbiano visto la luce. Certamente v'è da porre un *terminus ad quem* che l'inizio delle invasioni arabe per mare richiede; qualche rifinitura o, come detto nelle pagine precedenti, qualche mano posteriore può essere accaduta agli inizi del VII secolo, ma qualsiasi tipologia sepolcrale affrontata richiede ancora una situazione urbana non profondamente scossa nelle sue fondamenta sociali ed economiche. All'interno, dunque, di questo tempo è avvenuta anche la sistemazione dell'area sepolcrale presso la Ka1 di Karacaören, come bisogna ritenere della stessa contemporanea organizzazione urbanistica l'intersecarsi del corridoio voltato con qualche tomba ad essa pree-



Foto 19. Karacaören, una tomba a sarcofaglio licio. Interno. Necropoli nord.

sistente. La monumentalità dell'architettura funeraria risponde al generale benessere del centro e probabilmente appartiene alla fase finale di questo orizzonte temporale anche la terza fase della tomba Ge5 di Gemile.

CONCLUSIONE

Dopo quanto è stato detto, sembra che vi sia una differenza di fondo fra i sepolcreti, li si chiami necropoli, rinvenuti a Gemile e le sepolture sparse, senza un ordito chiaro se non l'insistenza della vicinanza alla chiesa e alla Ka1, presenti a Karacaören. Da una lettura panoramica del sistema d'urbanizzazione della città di Gemile si opta nel credere che vi sia stata una scelta intenzionale da parte delle autorità nel porre le aree sepolcrali

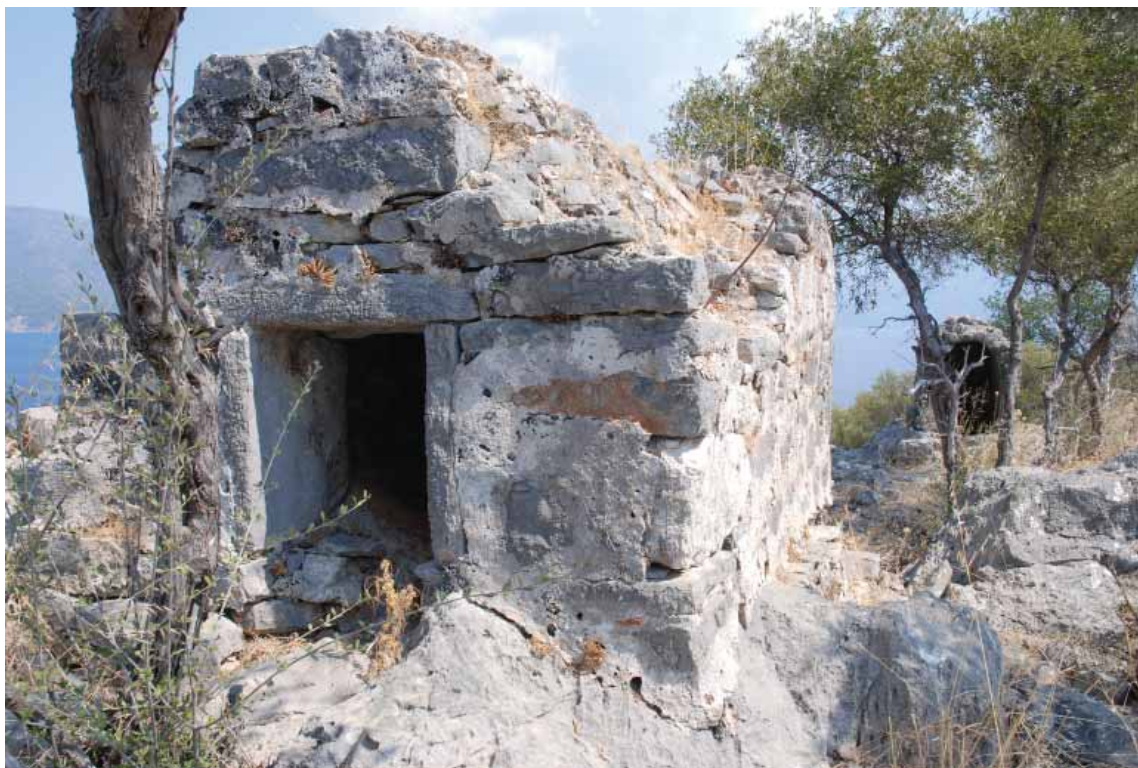


Foto 20. Karacaören, una tomba a camera e una tomba a sarcofago licio. Interno. Necropoli nord.

in settori non abitativi²⁷. Tutto il versante settentrionale dell'isola è densamente abitato; accanto alle abitazioni poste su un considerevole terreno scosceso, presso la battigia si ritrovano le installazioni commerciali e gli approdi importanti da cui partono assi viari a scala verso il culmine della collina, si da incrociare l'asse principale che corre da ovest ad est. Ebbene, questa larga e riparata area è priva di monumenti sepolcrali. Questo *modus agendi* urbanistico sembra un accettato compromesso, in questa età, fra il divieto di porre il sepolcro in città e una separazione dell'area sepolcrale nella città²⁸.

²⁷ Questo è evidente nell'estesa necropoli orientale; se si son letti correttamente i resti murari di qualche altro edificio presente ad est e a sud-est, si tratta di edifici commerciali che si distanziano considerevolmente dai gruppi tombali. Si è dell'opinione che qualora si dovesse pensare a "cimiteri" per i poveri, elemento su cui torneremo, l'estesa area orientale dell'isola di Gemile sarebbe stato il posto più indicato.

²⁸ Un caso analogo si ha ad Alakışla, in Caria: Ruggieri 2003, 209-213; non vi sono tracce di necropoli all'interno

Delto questo, vi sono ovviamente delle eccezioni da menzionare. Ad est della Chiesa II, lungo la strada principale che s'avvia verso la Chiesa III, vi sono un paio di tombe, ben allestite, parzialmente scavate nella roccia e per poter usufruire della vicinanza alla chiesa si sono avvalse di gradini scavati nella parete rocciosa per impiantare i loculi e relative coperture con cementizio²⁹. Nel prosieguo della strada verso la Chiesa III, si incontrano le due tombe a cupola; la prima all'inizio del terrazzamento a nord della chiesa, mentre la

del plesso urbano fortificato ad Osmaniye, in Caria: Hattersley-Smith and Ruggieri 1990, 135-164; cf anche Claude 1969, 97-98. Da un punto di vista urbanistico il problema si pone diversamente quando si tratta di una città classica divenuta cristiana durante i secoli; in questo caso i cristiani hanno riutilizzato la necropoli già esistente. ²⁹ A Gemile, come molto più comunemente a Karacaören, si potrebbe pensare al costume sepolcrale ad *sanctos*, avessimo delle tracce di deposizioni particolari. La carenza di identificabili deposizioni (a parte la probabile dedicazione della Chiesa II a S. Nicola dovuta alle due iscrizioni degli stipiti della porta nord), ci esime dal fare qualsiasi ipotesi a riguardo.



Foto 21. Karaçören, una tomba a camera. Area est dell'isola.

seconda sotto il terrazzamento, nei pressi dell'ingresso nord al corridoio voltato. Vien da porre una domanda: sono queste sparute tombe interventi privati avvenuti dopo la decisione di approntare determinate aree urbane per la sepoltura? Al momento non si può dare una risposta certa a causa della carenza di corredo e di una stabilita cronologia per le aree sepolcrali³⁰.

Se non si va errato, all'interno del corpo epigrafico pubblicato da T. Masuda, una sola iscrizione riporta l'inumazione (KOIMHΘI) di una persona il cui nome è scomparso. Questa epigrafe è stata incisa sull'arriccio interno della volta di una tomba parzialmente scavata nella roccia dietro la Chiesa II³¹. Questa modalità epigrafica, l'es-

sere cioè incisa sull'arriccio interno, spiega per un verso la mancanza di iscrizioni propriamente incise su lastre di chiusura e conferma, per un altro verso, l'ipotesi che le iscrizioni, se v'erano, erano dipinte o graffite sul registro sovrastante l'arco cieco della facciata o lungo gli stipiti laterali dello stesso, una caratteristica rinvenuta in vari esempi su ambo le isole³².

La mancanza di informazioni che usualmente l'epigrafia funeraria offre, rende in questi casi silente la varietà dei monumenti e la posizione sociale dei loro proprietari. Le tombe contengono da uno a tre letti funerari, molto diffusa è la fossa scavata nella roccia con semplice copertura a lastra piatta (*chamosorion*)³³. Naturalmente

30 In due casi solamente si è rinvenuto uno scarto cronologico (leggero o considerevole) d'un certo interesse. Una tomba a camera presso il corridoio voltato interferisce con il passaggio voltato del corridoio: in realtà si pensa che la tomba sia preesistente al disegno del corridoio. L'altro caso è dato dalla tomba Ge5 che mostra interventi murari differenti.

31 Masuda 2010, 244; un'altra iscrizione incisa sulla roccia

a Karaçören ha sentore di funerario: Masuda 1995, 124-125 (Masuda riempie la lacuna con ὀδὸν riferendosi alla strada nella roccia). La natura sepolcrale dell'iscrizione è data da "εἰς ἀνάπαυσιν", benché sfortunatamente non si ha un riferimento immediato sull'opera fatta costruire.

32 Come detto, Ka3 portava un'iscrizione sul lato nord, su una superficie calcarea praticamente corrosa.

33 Più propriamente per un letto si avrebbe un μόνόσωμον

quest'ultimo tipo di sepoltura si ritrova su ambo le isole in qualsiasi area funeraria senza mostrare nessun particolare segno di ornamentazione architettonica. Vien da pensare, pur se ipoteticamente, che questo fosse il tipo di tomba per la classe povera (su ambo le isole non s'è rinvenuta struttura alcuna che potesse far pensare ad una tomba collettiva), pur se non sempre, e che la classe agiata, abbastanza diffusa su quest'isola votata al commercio, patrocinava lasciando però alla chiesa il dovere dell'inumazione gratuita³⁴. Se la ricchezza di Gemile lascia pensare con buon ragione all'antico costume del mecenatismo locale³⁵ nell'approntare delle fosse, spettava tuttavia alla chiesa il compito gratuito dell'inumazione³⁶.

senza o con κοιμητήριον (cf Beševliev 1964, n. 208, 143-144; Robert 1965, n. 1), mentre a due letti avremmo un δίσωμον con κοιμητήριον. (Feissel 1976, n. 1, p. 269-271 da Salonico; Robert, ib.). È degno di nota il caso di δίσωμος, fatto notare da Feissel, ove la deposizione dei corpi è avvenuta in due diverse date accertate dall'iscrizione. Un pluteo cristiano chiudeva una tomba che racchiudeva due deposizioni; queste erano divise in due letti, ma ciascuno era chiamato μονόσωμον: Calder 1956, n. 89, p. 17 e Pl. 6. In genere su questo soggetto, cf. Koukoules 1951, 198-203.

34 Rebillard 1999, 278-282.

35 È fuori dubbio che le due isole e i propinqui siti sulla terraferma testimoniano una considerevole agiatezza economica. Ad Ölüdeniz, dove le chiese sono state archeologicamente scavate (ciò che non è accaduto sulle nostre due isole, se non per un terzo della Chiesa III), tutte avevano il pavimento mosaicato. Dove questo s'è conservato, si vede la testimonianza epigrafica di un gruppo di persone (τοῖς συνδότης), di singoli, di donne proprietarie d'una nave. Inoltre, un architrave marmoreo, pagato probabilmente da un certo Teodosio, medico, ricorda il riposo eterno del vescovo Paolo: cf. Malkoç-Tsuji 2005, 7-9). L'area scavata nella Chiesa III a Gemile ha consegnato la grande iscrizione di Makedôn, un orefice, che ha pavimentato con mosaico la navata centrale della chiesa: Asano 2002, 23-4; Masuda 1995, 241-243. Un particolare mecenatismo inoltre è attestato dall'intervento sull'accesso e viabilità sull'isola di Karacaören. Grandi iscrizioni sulle pareti di roccia tagliata per creare percorsi ricordano Stefano, Nilos Zoilos ed uno sconosciuto. All'interno dunque di questo diffuso costume, nessuna epigrafe testimonia un similare intervento sull'architettura funeraria.

36 Inizialmente v'è una legge di Anastasio che concede un reddito di 70 libbre d'oro alla Grande Chiesa di Costantinopoli perché i funerali fossero gratuiti per i poveri della capitale: Cod. Iust. I,2,18. Il VI sec., comunque, vide la crisi dei kopiatai (dekanoi o lektikarioi), gli incaricati per

La varietà delle forme architettoniche sparse più a Karacaören che a Gemile lascia sorpresi. Se la tomba *a camera* ha illustri e più rifiniti esempi nell'architettura del periodo classico, si ritrova anche il ricorso intenzionale al profilo del sarcofago licio operato con semplice muratura. Inusitata è la tomba con esedre esterne alzate con conci ben tagliati nel contenere un singola fossa all'interno: la sua rifinitura architettonica e l'ottima esecuzione tecnica del ciclo pittorico interno fanno pensare a qualche defunto di riguardo. Se in tutte queste forme v'è un voluto richiamo alle soluzioni assodate nei secoli precedenti, è da ritenersi originale la soluzione architettonica a cupola, in sé molto particolare³⁷.

Fra le varie caratteristiche architettoniche sepolcrali presentate nelle pagine precedenti è probabile che due possono avere un loro significato all'interno del rituale di sepoltura. La presenza di chiese nelle immediate vicinanze lascia pensare allo svolgimento processionale della salma verso il *taphos*, più agevolato a Gemile, più irto e complesso a Karacaören³⁸. Ciò che i testi liturgici stanno a riferire come ἐν τάφῳ probabilmente abbia avuto luogo negli spazi antistanti alle tombe. Alcune di queste hanno conservato a terra una ristretta area delimitata da una forma semicircolare

i funerali; per essi Giustiniano emette due Novellae (43 e 59): cf l'analisi fattane da Rebillard 1999; 274-275; Demicheli 1990, 72-75. La stele di Tanagra (fine IV-inizi V sec.) richiama: "Ai poveri inoltre si dia subito ciò che basta attingendolo dalla sostanza che si ha ...": Guarducci 1978, 339 (qui si parla anche del conforto del lume durante la notte).

37 La cupola sulla tomba di S. Ticone provocava sorpresa per la sua bellezza: Usener 1907, 2828-29, 139. Una strana forma ottagonale aveva la tomba di Atenogene: Maraval 1990, 4313.

38 Maisano 1982, cc. 77-78, 112-116 illustra la processione verso il sepolcro (la salma, durante la processione, non era coperta). Le fonti sono numerose a proposito di santi e sante; ben conosciuti sono i funerali di S. Basilio, di Macrina e Cesario in Cappadocia, dove il rito è pennellato dai Padri Cappadoci in prosa elegante. In genere i punti salienti del rito sono rinvenibili nel testo dello Psuedo-Dionigi Areopagita, *La gerarchia ecclesiastica*, ed. da S. Lilla, Roma 2002, 142-155 e riproposti dalla tradizione eucologica (De Meester 1930, 77 e ss.; Arranz 1997, 99-117).

in muratura oppure un accesso privato o scale di accesso alla tomba³⁹. Sempre in facciata si riscontra la seconda particolarità: mensole aggettanti o mensole-sedili posti su ambo i lati della facciata o ancora lungo la facciata nel registro più basso. Forse è quest'ultimo dispositivo architettonico che, pur se nella sua semplicità, allaccia la prassi sepolcrale ai secoli precedenti. Si pensa alle mensole per i lumi, come ai sedili per la permanenza dei familiari nei giorni anniversari con il relativo consumo dei *kollyba*.

L'architettura sepolcrale delle isole ben riflette lo *status* agiato della popolazione la cui cultura era ancora parzialmente legata a forme passate di vita sociale ed urbana. Le differenziate forme di questa architettura sono uno specchio, almeno in buona parte, di modelli antichi, altre rappresentano una novità che architettonicamente non si presentano aggraziate e ben risolte. È da pensare che la richiesta di avere una cupola fosse un tentativo di rappresentare la forma tardoantica del mausoleo? Resta unica la tomba ad esedre che ad una pianta innovativa dall'esterno risolve la soluzione del volume interno affidandosi alla consueta volta a botte. La tecnica, bisogna dirlo, anche lì ove non sia stata raggiunta un'armonica soluzione architettonica, si mantiene su un buon livello toccando anche tratti di grande maestria. V'è una finale considerazione di carattere più generale. Si è documentato in molti casi i momenti figurativi, pur se frammentari, che ornano soprattutto la facciata arcuata d'ingresso e l'interno. D'altro canto si è constatato la carenza epigrafica che accompagna questa architettura funeraria cristiana. Se i bizantini di questa geografia hanno volto lo sguardo alle forme architettoniche antiche, non hanno però optato ad incidere il marmo o il calcare per conservare a perenne memoria il nome del defunto; essi si sono piuttosto affidati alla simbologia e questa sempre affrescata. Ove

si trova un accenno di scrittura, questa si affida al pennello d'un pittore e non allo scalpello d'un incisore epigrafico. La mancanza, dunque, di uno scritto inciso esposto costituisce una caratteristica essenziale e molto sintomatica di questa originale architettura sepolcrale bizantina.

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³⁹ Si potrebbe pensare all'antica prassi legale di proprietà relativa all'area della tomba e dell'area ad essa attinente; non si hanno in questi siti nessun accenno a proposito.

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ONE BYZANTINE NECROPOLIS IN THE GOLF OF BELCEĞİZ: SOUTH LYCIA

KEY WORDS: NECROPOLIS, TOMB, CHAMOSORION, DOME, VAULT, MASONRY, LIMESTONE, BRICK, OPUS SIGNINUM, GROUTING.

In the golf called Belceğiz (South Turkey) are located several archaeological localities diffused on two islands and the nearby coasts, which can be considered as unique urban complex, and dated to the first half of the sixth century. Considering that the vast necropolis that make up the whole are only on two islands, and along the coasts the tombs are few and isolated, this paper will focus only on the necropolises. On the larger island, Gemile, which is also the so-called urban center (the most intense and most complex settlement), necropolis located in more isolated area of residential areas, with a few isolated graves, however, integrated into the urban fabric: the first necropolis of

along the road between the Church and the Church II, the second necropolis is widespread south of the vaulted hall (a specific type of street) third, called the *Eastern Necropolis*, near the Church of the IV, outside but close to a residential neighborhood, which is also the richest part of the island. Second, the smaller island, Karacaören, has a very different situation and is probably in the local place of pilgrimage. On it there is only one basilica (with the baptistery) surrounded by graves. The following is the analysis of the architecture of several tombs selected for specific and typical architecture: Domed tomb 1 (Ge1), Domed tomb 2 (Ge2), Cruciform tomb (Ge3), Tomb with exedras (Ka1), Tomb with one room (Ka2), Pseudo-Hellenistic tomb 1 (Ka3), Pseudo-Lycian sarcophagus (Ka4), Pseudo-Hellenistic tomb 2 (Ka5), Tomb with two rooms (Ka6). The contribution will be concluded with the final architectural considerations, design techniques, methods of construction and materials, plaster fresco, frescoes and finishing, dating and conclusion.

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AUTHENTICITY IN PRESENTING HISTORY: THE INFLUENCE OF RUINS ON VISITORS' IMPRESSIONS

ABSTRACT

Ruin is a physical occurrence, almost always present within a historical place. As a visual expression of passing time, it has a huge influence on the impressions of all the observers. The question considered in this paper is whether the feelings of the observers of historical ruins and buildings here described as follies, and later in this paper referred to as true ruins and false ruins, diminish the feeling of authenticity of a historical place in a modern setting.

KEY WORDS: AUTHENTICITY, RUIN, FOLLY, PRESENTATION, ORIGINAL, COPY, OBSERVER, IMPRESSION

INTRODUCTION

According to Tim Edensor, a professor of geography and touristic sciences at Manchester Metropolitan University and theorist of identity and space, globalisation and popular culture, in the present era which is absorbed by consumerism, memorable events, places and objects are produced and sold as *authentic* and nostalgic commodities, while history is transformed into a spectacle by its “intensified mediatisation” (Edensor 2005:126-127).

These ideas from the realms of modern tourism take us back to some of the basic polem-

ics from the history of art – the importance of authenticity and the relation between an original and its copy, and to the next question: “Which is to predominate—historical fabric or transhistorical ideal?”(Levine 2008:15)

In this study, we will attempt to find similarities between *true ruins* - buildings damaged due to a historical conflict, a natural disaster, or altered through the course of time, and *false ruins* - buildings built as ruins, and, thus, judge what influences these two kinds of buildings have on the visitor's impressions. *False ruins* can here be observed as copies of the *true* ones, even in cases when they don't completely correspond to the

* The article results from the project: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

originals. They both possess a common feature, a factor of ruination, either gained or enforced, which for this study is of greater importance than their complete physical appearance.

AUTHENTICITY OF THE ORIGINAL WORK AND ITS COPY

According to Wim Denslagen, a contemporary theorist and a professor of history and art history at the University of Utrecht, “replicas have always had a right to exist”, a copy represents “an act of homage to its original”, while the process of copying represents “an act of commemoration”. (Denslagen 2009:167) In the middle of the 18th century, Alexander Gerard (1728-1795), a Scottish art theoretician, wrote that “similitude is a very powerful principle of association which augments our pleasure”, but also that copies improve in their “charm” not only by their “exactness of imitation”, but also because of the “excellence” of the work they represent. (Denslagen 2009:167)¹

Wim Denslagen reminds us that, before the end of the 18th century, there were no written sources on the topic of authenticity in architecture or art, marking the appearance of Romanticism²

1 One of the studies from the same period, regarding the question of originals, copies and imitations is found in the work made as a review of art lectures given by Sir Joshua Reynolds (1723-1792) at the English Royal Academy of Arts, entitled in the same way - *Seven Discourses* and published in 1778. See one of the later editions: Joshua Reynolds, *Discourses on Art*, ed. Robert R. Wark (New Haven, CT: Yale University Press, 1997)

2 Romanticism had different approaches to the conservation of historical buildings. Two of probably the most important theorists of architecture of the 19th century, both with a romantic view of heritage and the past, but with attitudes directly opposed in the realm of the practical protection of historical monuments, were the English writer, theorist and painter John Ruskin (1819-1900) and the French architect, restorer and theorist Viollet-le-Duc (1814-1879). Ruskin frowned upon any kind of intervention on historical buildings, except basic conservational acts which kept them safe from decaying, therefore in-

as the moment from which the topic of authenticity arises, and was later accepted in architecture and art of the 20th century. According to this author, this was an unconscious mixture of two different concepts of the topic of authenticity: the first one, according to which a historical monument is already authentic because it presents itself as a document of the past, and the second one, in which authenticity equates to honesty and an opposition to any kind of imitation (Denslagen 2008a:1).

After this, authenticity became a sort of a “modern cult”, as was written by David Lowenthal, a retired professor of geography at the University College London and a UNESCO and ICOSMOS expert. Thus, in studies about the protection of cultural heritage, authenticity is mostly understood as the truth put up against a lie, it glorifies the original over a copy, honesty over corruption, the sacred over the profane, always forcing us to understand it as “an absolute value, an eternal set of principles from which we ought never to swerve.” (Lowenthal 1995:369)

Still, the possibility to judge, respect or generally accept the authenticity of a historical work depends on the observer and not on the observed. Many philosophers have written about the observer, his experience in observing and the

sisting upon keeping the spirit of a building given to it by its builder, while le-Duc became well-known for his extensive interventions during restorations, whilst wishing to revive monuments and was often criticised for his free interpretations. Both the authors influenced the development of modern movements in architecture and the general acceptance of the topic of authenticity in the 20th century. Still, today the attitude towards protecting monuments is closer to Ruskin’s understanding of minimal measures of conservation, with an often unjustified criticism of all le-Duc’s interventions, which, in fact, had actually saved a great number of French medieval monuments from decay and even collapse. The different attitudes of the two authors can be ascribed to their domains, i.e. to the fact that Ruskin worked only within the field of theory, while le-Duc worked on the actual restoration of the buildings.

observed object. Studying the work of Heidegger, Karsten Harries, a professor of philosophy at Yale University, wrote about the *yellow book* which is only yellow when it is represented like that and when we are open to accept it as such (Harries 2009:17). The meaning of the term authenticity also depends on the way in which we wish to describe things from the past. This is why we can ask the following question: will a replica of a work from the past be an authentic work of its own time, once we observe it from the period that follows its creation? (Denslagen 2008b:3-4)

THE TRUE AND THE FALSE RUIN

According to Rumiko Handa, a professor of theory and history of architecture at the University of Nebraska-Lincoln and a theorist of phenomenology and hermeneutics in architecture, ruins³ promote positive and productive distancing between their original contexts on one side and interpreters on the other (Handa 2010: 2-3). This distance means that a ruin, just like any other building, possesses “textual autonomy”, which separates it from its original meaning. (Handa 2010: 2)

Tim Edensor wrote that a great number of “fragmented stories, elisions, fantasies, inexplicable objects and possible events” within a ruin,⁴ represent history which can begin and end anywhere, thus rejecting the main, already accepted narratives (Edensor 2005:141). A ruin does not rely on the significance of its original purpose or context, upon which its historical value is based (Handa 2010:3). It represents “a space outside the Apollonian processes of disciplinary ordering”, in which people are under surveillance in order to ensure that they are acting “appropriately”, according to conventions regarding usual behaviour. (Edensor 2005:94)

³ Handa here refers to historical - true ruins.

⁴ Edensor here refers to historical - true ruins.

A *true ruin* of a building often stands in an eternal state of collapsing, and as a result of a historical conflict it becomes a kind of a historical document, possessing the capacity to evoke different emotions. Ruins and images of ruins possess an ambiguous status, which can be called “half building, half nature”, but also a “unique value as physical manifestations of the destructive effects of time, and thus as representations of history itself” (Stead 2003:53). A ruin is conceivable in a way that does not depend on the education or taste of the observer. Here, Edensor’s description of a ruin can be introduced, in which it is fragmented as an allegory of a memory, imperfect, incomplete and does not offer a clear understanding of the past itself, even if we possess “the necessary expertise”. (Edensor 2005:141)

It is difficult to post a real definition of a building called a *folly*, inevitable throughout the history of art and architecture, whose rapid development started in the 18th century, with European landscape gardens. The development of *follies* originated from people’s affinity to archaeology, a great number of curious people who rushed to visit historical places throughout the world and the development of archaeological parks with historical ruins. What is important for this study is that *follies* were often erected in the form of ruins, usually as copies of an actual, historical ruin. Different authors tried to classify specific buildings as *follies*, but the classification is actually still a matter of personal interpretation. Barbara Jones wrote about a *folly* as a useless building. According to Sir Hugh Casson, “the mark of a true *folly*” is that it was erected to offer pleasure to its builder and even more, to surprise the stranger. The *folly* is connected with the departure from general norms and made with the intention to be looked at and enjoyed. (Whitelaw 2008:5)

Mark Cannata, an architect and a former director of the department for culture and heritage in a well-known English architectural firm, wrote that all of the ruins, no matter whether they came

Collage Sculpture “Architectural Fragment” is made of photographs taken from:

1. “Stories: Art & Culture, Petrus Spronk: Ceramist and Sculptor”, DAAG.org, <http://www.daaag.org/node/10> (accessed December 12, 2012)
2. “Библиотека штата Виктория”, Австралия (accessed December 12, 2012) <http://www.yakhnov.ru/go/note/2007/07/05/state-library-of-victoria/>
3. “State Library of Victoria, H4NUM4N Photo-stream”, Flickr from Yahoo, <http://www.flickr.com/photos/hanuman/1675203429/> (accessed December 12, 2012)

4. “Stories: Art & Culture, Petrus Spronk: Ceramist and Sculptor”, DAAG.org, <http://www.daaag.org/node/10> (accessed December 12, 2012)
5. “Architectural Fragment - Petrus Spronk (1992)”, Upkeeptheape Blog: Rafael Barletta, <http://upkeeptheape.blogspot.com/2012/05/architectural-fragment-petrus-spronk.html> (accessed December 12, 2012)
6. “Melbourne Sights, Robert Mark Bram Photos”, Picasa Web Albums, <https://picasaweb.google.com/lh/photo/6i4L0ncslX7pHKUkpPM9iw> (accessed December 12, 2012)

into being as a result of the passage of time, different people and their lives in them or were erected as a representation of the existing time and culture, possess their own life and identity, they are interacting with history, geography and “fusions of past and current cultural identities.” (Cannata 2010:2).

Ever since the 18th century, the existence of patina⁵ on various objects has become as precious as the object itself and today it is inevitably connected to the existence of authenticity. In the narrow sense of the word, patina can be defined as the aging or weathering of the exposed surface of a material, while in its broader sense, patina represents everything that happens to an object over the course of time (Clifford 2009:126). If we accept the narrow sense of this word and understand patina as one of the physical manifestations of an authentic object, while accepting that patina can also be false, caused artificially and, as such, can trick the observer (Clifford 2009:127), then the question of authenticity, i.e. the importance of authenticity on the impression of an observer, can be revisited.

⁵ The Latin word patina relates to a type of shallow dish. See Helen Clifford, “The Problem of Patina: Thoughts on Changing Attitudes to Old and New Things”, in *Conservation: Principles, Dilemmas and Uncomfortable Truths*, ed. Alison Richmond and Alison Bracker, 126 (Oxford, UK: Elsevier Ltd. in Association with the Victoria and Albert Museum London, 2009) http://ebookey.org/Conservation-Principles-Dilemmas-and-Uncomfortable-Truths_756386.html

CONCLUSION

A ruin represents an unknown past and an object of imagination for the observers. It draws their attention to their own world and to themselves, to their “infinitesimal occupation” within the continuum of time and their temporality (Handa 2010:1). These features are possessed both by historical ruins and buildings called *folies*.

“Telling stories about the past, about people, places and things and sharing them with others is an ontological condition of social life.” (Edensor 2005:159) While standing in front of a historic ruin, we unconsciously put ourselves into connection with a specific place, its spirit and its history, thus in stories combining our personal with the social and vice versa (Edensor 2005:160). While being observed, *folly* as a kind of *false ruin* evokes the same feelings. Architectural copies evoke pleasant feelings in observers, reminding them of highlights of the past. Such imitations bring us “zeal” with which the original is imitated. It is the same feature that originals get from their creators; actually a copy offers a kind of satisfaction to the observer, recalling the admiration of the people from the past for the original work they created.⁶ (Denslagen 2009: 167). “It is

⁶ After this Denslagen thesis, we can speak about “the Pleasure of Imagination” as an output of the “Action of the Mind”, comparing ideas coming from “Original objects” from nature to ideas we receive from “Statue, Pic-

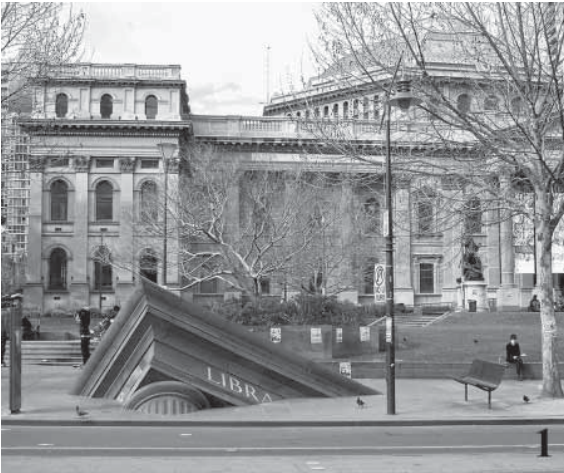


Table.
Sculpture “Architectural Fragment” located in Melbourne, created by artist Petrus Spronk in 1992. It can be called a building, a folly and a false ruin, made for joy and amusement, in a constant state of falling, causing the same thoughts among the observers as a true ruin does - about the human temporality and inevitable passing of time.

apparently comforting to live out one's days in an atmosphere of centuries-old traditions". (Denslagen 2009:175)

During the "Nara Conference on Authenticity in Relation to the World Heritage Convention" held in 1994,⁷ Marc Laenen, an art historian and a former ICCROM director, showed that authenticity does not only lie in physical structures of the built heritage, but essentially in their spirituality, the meaning they possess for a culture and, therefore, in the continuation of the evolution and development of society (Laenen 1995:353). Does Buddha's statue lose authenticity when, after it has been damaged, the local population in Thailand, where Buddhism still represents the biggest living religion, replaces a lost limb or head? For a person from the West, who would expose such a damaged sculpture in a museum as a work of art, it probably does, because all the additions characterise it as a fake and, therefore, make it a copy. Still, for the local Thai people, the Buddha's sculpture represents much more than a work of art. For them, it is not a museum artefact, but a matter of spirituality, an object of respect and here authenticity, as understood in western civilisations, simply does not matter (Charoenwongsa 1995:289). "The proof of a thing's being right is that it has power over the

ture, Description, or Sound" representing these objects. This pleasure arises after viewing and studying something which is big, new and unusual, or nice. We never need to see original objects on which later works were modelled, it is enough if we have come upon similar or analogous objects, since we accept ideas through imagination, we develop them and file them, always in our own specific way. It is impossible to find a cause for this pleasure, which we feel in front of a copy of a work ("Arts of Mimicry"), just like in front of the original it originates from. At the beginning of the 18th century, this is how, in his daily publication *The Spectator*, editing the first issue in 1711, the English writer and essayist Joseph Addison wrote. See in: Joseph Addison, *The Spectator* No. 409-421, in *Eighteenth Century English Literature*, ed. Geoffrey Tillotson, Paul Fussell, Jr. and Marshall Waingrow, 332-553 (New York: Harcourt, Brace and World, 1969; (Denslagen 2009: 167).
⁷ The result of this conference is the declaration on authenticity, i.e. "The Nara Document on Authenticity". See: "The Nara Document On Authenticity (1994)", ICOMOS http://www.international.icomos.org/charters/nara_e.htm (accessed September 29, 2011)

heart, that it excites us, wins us, or helps us... and there is no goodness in art which is independent of the power of pleasing." (Ruskin 1904:18)

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TABLE. 2. FOLLIES.

1. Mow Cop Castle, near to Mow Cop, Staffordshire, Great Britain, built in 1754 as a summerhouse looking like a medieval building.
2. “The Long Thin Yellow Legs of Architecture”, Rotterdam, The Netherlands, designed by Coop Himmelb(l)au, built in 1988 as a sculpture for an exhibition.
3. “Untitled (folly)”, photo design by Jim Kazanjian, done in 2010 as a collage made of pieces from other photographs.
4. “The Canford”, commercial “off-the-shelf design”, prefabricated standard design follies available on market today.

Collage made of photographs taken from:

1. “SJ8557 : Mow Cop Folly, Mow Cop, Staffordshire”, Geograph, <http://www.geograph.org.uk/photo/88648> (accessed December 12, 2012)
2. “Folly for Sculpture In the City”, Coop Himmelb(l)au, <http://www.coop-himmelblau.at/architecture/projects/the-long-thin-yellow-legs-of-architecture> (accessed December 12, 2012)
3. “In Focus: Jim Kazanjian”, Archinect Features, <http://archinect.com/features/article/35541103/in-focus-jim-kazanjian> (accessed December 12, 2012)
4. “The Canford”, Garden Dreams, <http://www.garden-dreams.net/Offshelf/The%20Canford.html> (accessed December 12, 2012)

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prolaskom vremena pojam autentičnosti i njegova upotreba dobijaju drugačiji smisao. Danas se autentičnost ne mora nalaziti samo u fizičkim karakteristikama jedne građevine, već i u njenom značenju za kulturu i nastavak razvoja društva kome pripada.

Zato je teško tvrditi da građevine, podignute s namerom da predstavljaju ruševinu, a koje smo u ovom istraživanju nazvali *lažnim ruševinama*, ne poseduju neku vrstu autentičnosti. Ako je osnovna svrha očuvanja građevina prenošenje arhitektonskih ideja i oblika kao značajnih izraza i vrednosti jednog doba sledećim pokolenjima, kao i negovanje tradicije i duhovnosti jednog društva, onda pitanje vrste, potrebe, značenja i uopšte postojanja njihove fizičke autentičnosti zaista nije važno.

REZIME

AUTENTIČNOST U PREZENTACIJI ISTORIJE: UTICAJ RUŠEVINE NA DOŽIVLJAJ POSMATRAČA

KLJUČNE REČI: AUTENTIČNOST, RUŠEVINA, FOLLY, PREZENTACIJA, ORIGINAL, KOPIJA, POSMATRAČ, DOŽIVLJAJ.

Za doživljaj posmatrača ruševine nije bitno iz kog je perioda građevina čiji je ona ostatak, koja ju je nacija gradila ili koju je namenu imala, pa ni to da li je ta ruševina *istinska* (istorijska) ili *lažna* (*folly*). Stanje propadanja, bilo da je nastalo prolaskom vremena ili prikazano sa namerom, prisutno je kod svake ruševine i navodi posmatrača da razmišljaju o svojim i životima ljudi iz prošlosti.

Priča o autentičnosti je nastala u osamnaestom veku, a *poštovanje* prema njoj je *propisano* dva veka kasnije. Oduvek se nalazila pomalo u oblasti subjektivnog doživljaja i prihvatanja istorije od strane svakog pojedinca i svake kulture, pa

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SYMMETRY OF THE ICONOGRAPHY OF SURFACES AND SPACES FROM THE VIMINACIUM TOMBS G 160, G 5517 AND G 2624

ABSTRACT

As a pictorial principle, symmetry played an important role throughout the whole ancient period, and has remained a significant principle in art right into the modern era. With the knowledge that different artistic workshops consisted of real masters and their associates, it is certain that they had considerable artistic knowledge. In the familiar repertoire of ancient scenes and motifs, painters experimented with elements and principles not only to produce good art work, but also to reach different, or to reinforce existing, meanings. That is why symmetry was an integral part of complicated afterlife compositions from the late antique and early Christian tombs. In this paper, three tombs from Viminacium will be explored as examples of various forms of symmetry, not only in the iconography of painted surfaces, but also in the tomb's space, which, in the context of the afterlife, could be observed as an alternative reality, arranged using strict canons.

KEY WORDS: SYMMETRY, ICONOGRAPHY, SPACE, TOMB, VIMINACIUM, PAINTING.

INTRODUCTION

The word symmetry originates from the Greek language and it signifies uniformity, a lovable disposition of the whole. Symmetry is the universal principle of nature, the most important principle of harmony both in the universe and in art. It played a basic role in classical Greek and Roman art and during the renaissance and neo-

classic periods.¹ However, it has also been one of the most important pictorial principles in contemporary artistic movements. In some periods it was deliberately neglected,² but it is certain that it has been used in art from its very beginnings as one of

¹ It is a well known formulation of Johann Joachim Winckelmann from his famous work "Thoughts on the Imitation of Greek Works in Painting and Sculpture (1755)" regarding "noble simplicity and quiet grandeur".

² For instance baroque or rococo.

* The article results from the project: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

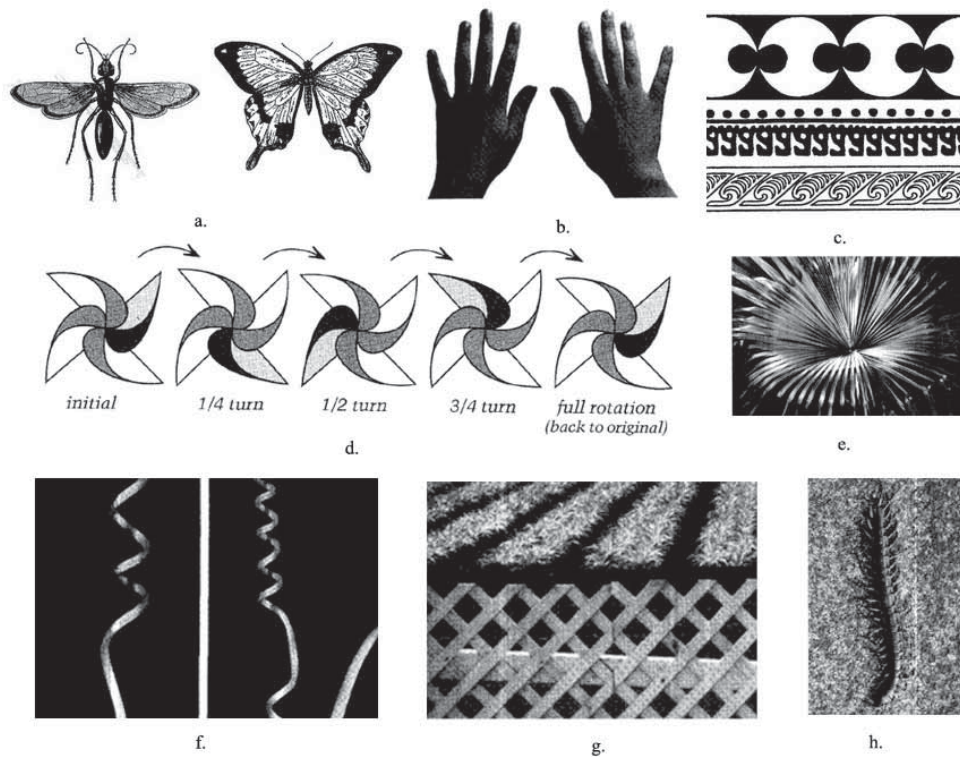


Fig. 1a.
Bilateral symmetry – examples of insects. (ac-
cording to: Hargitai and Hargitai 1994, 18)
Fig. 1b.
Right hand, left hand symmetry – example of hu-
man hands. (according to: Hargitai and Hargitai
1994, 28)
Fig. 1c.
Translational symmetry – examples of different
ornaments. (according to: Hargitai and Hargitai
1994, 124)
Fig. 1d.
Rotational symmetry – example of a pinwheel.

(according to: Hargitai and Hargitai 1994, 38)
Fig. 1e.
Radial symmetry – example of a plant. (accord-
ing to: Hargitai and Hargitai 1994, 68)
Fig. 1f.
Spiral symmetry – examples of the plants. (ac-
cording to: Hargitai and Hargitai 1994, 152)
Fig. 1g.
Ornamental symmetry – example of a fence. (ac-
cording to: Hargitai and Hargitai 1994, 177)
Fig. 1h.
Repetitive symmetry – example of a centipede.
(according to: Hargitai and Hargitai 1994, 134)

the basic principles of natural creation, and there-
fore recognised as an indication of a good work
of art.³

One of the best known symmetry types
used in the arts is geometrical symmetry. Ac-
cording to a contemporary interpretation of the
term, symmetry originates from the use of differ-

ent transformations of a specific figure which are
thus mapped to create its own copy. The position,
size or shape of the basic figure can be changed
in the copies, but if any of these features remain
unchanged, the figures are symmetrical. Among
others, the aforementioned transformations are
translation, rotation and reflection. Symmetry is
almost never perfect. One of the aspects of imper-
fection is dissymmetry, apropos combined sym-
metry where one figure is symmetrical in its ma-
jor features, but also displays a slightly disturbed

3 Vitruvius dedicated the whole chapter to the symmetry
of building in his third of ten books on architecture: “The
design of a temple depends on symmetry, the principles of
which must be most carefully observed by the architect”.
(Morgan 1914: 72.)

symmetry in some other features. Asymmetry represents a complete absence of symmetry, while antisymmetry is present when the figure is symmetrical in one of its characteristics, while some others are the complete opposite. (Жадрешин – Милић 2008: 86-87)

Different types of symmetry depend on the transformational processes under which a figure is changing. Bilateral symmetry is when two halves of an object or a being reflect a mirror image to each other, i.e. a reflection of each other. (Hargitai and Hargitai 1994: 2) In bilateral symmetry the object has only one mirror plane, so this symmetry is actually only one case of mirror symmetry, which means the presence of one or more mirror planes. (*ibid*: 53) (Fig. 1a) Right hand, left hand symmetry happens when two objects, which do not need to be symmetrical themselves, appear in a pair, positioned next to each other as an object and its image in the mirror. (*ibid*: 28) (Fig. 1b) Translational symmetry is the repetition of a motive, without changes, by shifting it a constant distance. (*ibid*: 124) (Fig. 1c) Rotational symmetry occurs when an object is rotated around its axis in a process that consists of several steps. The rotation is repeated several times, and can result in the object returning to its starting position. (*ibid*: 39) (Fig. 1d) Radial or cylindrical symmetry represents a type of combined symmetry which occurs as a result of a large number of object repetitions around a defined point (rotational symmetry), and its reflection so that, in the end, the shape created from many identical, but rotated objects, represents a circle. (*ibid*: 68) (Fig. 1e) Spiral symmetry represents a kind of a symmetry of similarity, (Жадрешин – Милић 2008: 92) apropos translation followed by rotation, where their volumes are changing gradually and constantly.⁴ (Fig. 1f)

Within the scenes from Viminacium tombs, one can notice the formation of a rhythm, with parts of the scene set in translational symmetry,

⁴ Spiral can be connected with the golden ratio. See: Livio 2003: 116-123; Hargitai and Hargitai 1994: 160-164.

by way of repetition of the geometrical figures thus creating decorative patterns with crossing lines. This style can be referred to as ornamental symmetry. (Weyl 1952: 83-115) (Fig. 1g). By combining translation with rotation and reflection, repetitive symmetry emerges. (Hargitai and Hargitai 1994: 131) (Fig. 1h)

Mirror and right hand, left hand symmetry dominates both in art and in nature, and has been most widely represented in visual arts from ancient Egypt to modern days. Rotational,⁵ translational⁶ and ornamental⁷ types of symmetry are also widespread, especially in architecture and the applied arts. (Voloshinov 1996: 110)

SYMMETRY OF ICONOGRAPHY OF PAINTED SURFACES

When art became a profession, painters were hired to decorate public or private buildings. They started to carefully consider which elements could be used to create an image in a more aesthetic manner. Elements of a good composition are: form, colour, light and dark and expression, which are obtained by the careful use of line, surface, symmetry, balance, contrast, colour, shading, texture, modelling etc. Thus in a work of art, symmetry can be used as symmetry of lines, surfaces or bodies.⁸ (Vasić 1968: 27-29) Using various symmetry types, even ancient painters were able to create different shapes of the same motif, the same motif in a diverse range of appearances and with different meanings.

⁵ Rotational symmetry of the twelfth order, associated with the number of angels, is quite popular in Christian architecture.

⁶ Translational symmetry forms the basis of borders, fences, etc.

⁷ Ornamental symmetry is the philosophical core of all Moslem ornamentation.

⁸ The aesthetic phenomenon of symmetry is an expression and feeling of balance and tranquility. Psychology and anthropology determine symmetry as an integral part of mans perception of the world. (McBeath et al. 1997: 217-223; Washburn 1999: 547-562)

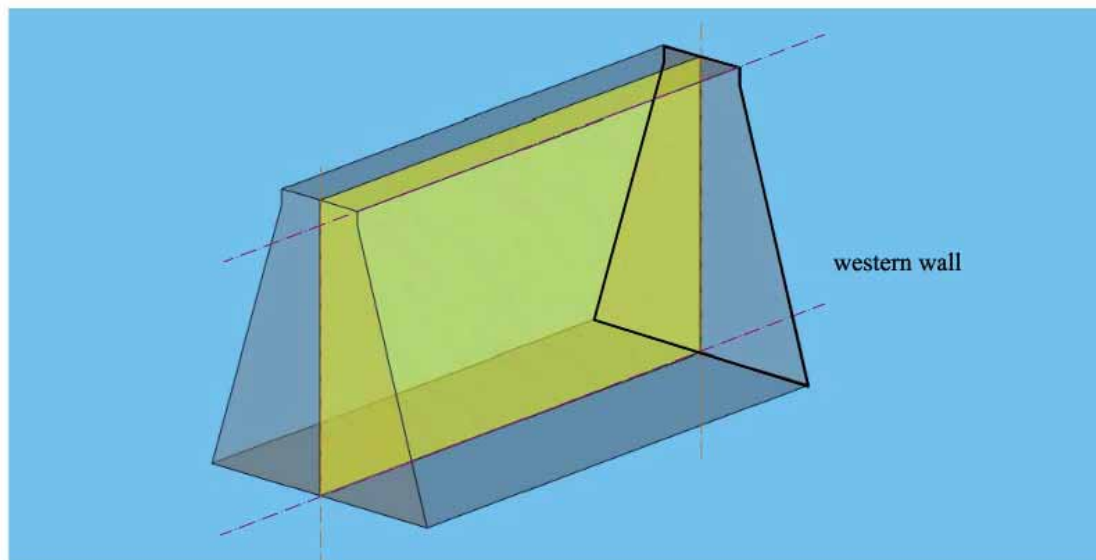


Fig. 2. Trapezial end walls (eastern and western) and rectangular, inclined lateral walls (southern and northern) in the described tombs with the plane of symmetry of the tomb space. (Schemes by Emilija Nikolić)

The aim of this paper is to examine various symmetry types used in the paintings of Viminacium's tombs, but also the connection between symmetry usage and the possible influences on the motif repertoire and the tomb's programme, narrative or symbolism. "It is important to note that exact symmetry hardly ever exists in art, since nature itself seems to avoid strict symmetry and produces slight flaws in its ideal laws. Thus, the phenomenon of approximate symmetry in art exists both in the conscious attempts of an artist to overcome the aesthetic coldness of ideal symmetry, and in the subconscious, given that approximate symmetry is also a fundamental law of nature." (Voloshinov 1996: 111-112)

The three Viminacium tombs⁹ which will be studied in terms of symmetry possess the usual arrangement of walls within the space: two trapezoidal end walls (eastern and western) and two rectangular and inclined lateral walls (southern and northern). (Bacih 1907: 83-91) (Fig. 2)

⁹ Tombs G 5517 and G 2624, with fresco copies, are reconstructed at the location next to the tomb G 160 which is in situ with original frescoes. This type of fresco presentation provides an insight into the links between symmetry, iconography and symbolism within the tomb's space.

"Tomb with cupids", G 160

Tomb G-160 (Korać 2007: 125-140, 186-188), with its original frescoes, is found at Viminacium necropolis Pirivoj, and presented *in situ*. (Fig. 3a and Fig. 3b)

Southern and northern wall.

Offering scene.¹⁰ In this scene one can see bilateral symmetry in the depictions of the male and female servants, which is seen in the frontal depiction of any human form. (Fig. 4) This type of symmetry is also present in the motifs of a cup and a plate. Each of them is placed in a central position in relation to its field, so that the fields themselves display the attributes of bilateral symmetry. Although these motifs are not mutually the same, owing to the direction of both bodies toward a common point, (i.e. the western wall of the tomb), the fields do stand mutually in left and right hand symmetry.

Peacock.¹¹ There is a visible bilateral sym-

¹⁰ One of the typical scenes in pagan funerary art. (Đurić 1985: 161-174)

¹¹ Peacocks are popular motive both for pagan and Chris-

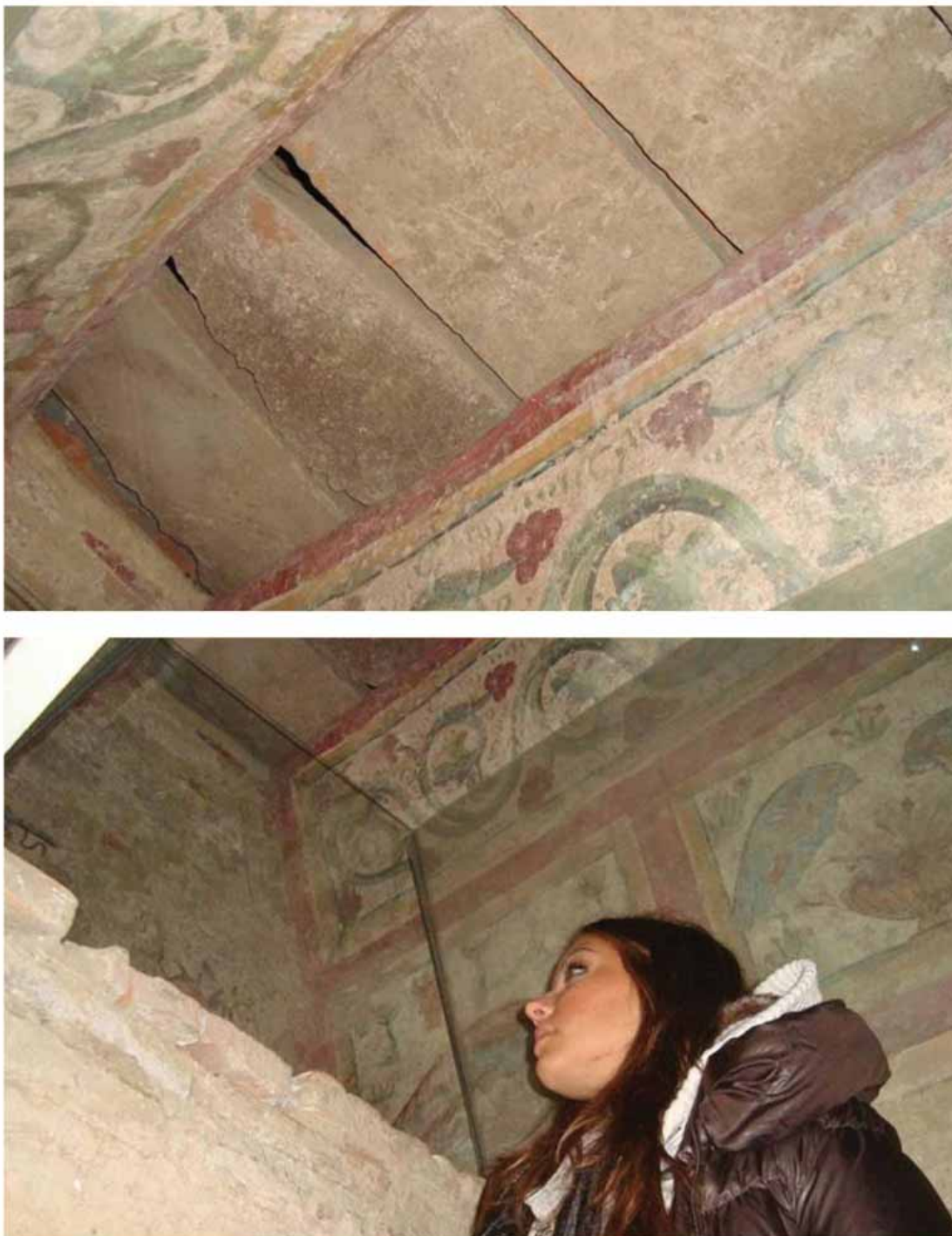


Fig. 3a. In situ presentation of the tomb G 160. (Photos by Jelena Andelković Grašar)

metry in the single depictions of a calathos, flowers and plants, as well as in the tails of the peacocks which are stretched across the diagonal of both rectangular fields. (Fig. 5) The flowers in the calathos are positioned in radial symmetry, while ornamental symmetry occurs in the depiction of the texture of the calathos. The eyes on the peacocks' tails are bilaterally symmetric by nature, and are depicted using the process of translational symmetry along the tail. The mutual arrangement of the calathos, and the flowers and plants disposition, originate from the right hand, left hand symmetry, as well as from rotational symmetry. The field on the northern wall of the tomb possesses all the qualities of right hand, left hand symmetry, but if the peacock's tail is observed as an important motif of this scene, then it can be seen to contain an element of bilateral symmetry too. As regards the same field on the southern wall, it consists of total bilateral symmetry. Two fields depicting the scenes with peacocks, on the southern and northern wall, are not completely the same and do not have an identical arrangement of the motifs of calathos, flowers and plants. However, these two fields can be considered symmetrical – a form of right hand, left hand symmetry, due to the mutual symmetry of the peacocks which are the central motifs of the scenes. Owing to this symmetry, within the whole space of the tomb, the peacocks can be observed as if they flank the main, western wall.¹²

Scene with the birds over the kantharos.

Within this scene one can notice right translational and hand, left hand symmetry in the mutual position of the birds and flowers, as well as bilateral, ornamental, and radial symmetry within individual depictions of the kantharos and flowers. (Fig. 6) Radial symmetry can be noticed in the radial direction of the branches and the flower within the kantharos. Ornamental symmetry is present

in the depiction of the texture of kantharos. The birds have small differences in the posture of their bodies; however, this does not reduce the symmetry of the scene. The entire scene has bilateral symmetry, and the two fields are equally placed in an arrangement of right hand, left hand symmetry. They possess the most perfect single symmetries of all the motifs and scenes, as well as the most perfect symmetry of a field, compared to all the other fields in the tomb.

Grapevine.¹³ Considering that this motif occupies the whole field, and in view of its symmetry, it can be regarded as a scene possessing bilateral symmetry, but also consisting of several smaller, different motifs, created with the use of various symmetry types. (Fig. 7) The basic line of direction of the grapevine displays bilateral symmetry, while other lines equally fall into the right hand, left hand symmetry category. Individual motifs, such as grape clusters and vine leaves, possess bilateral symmetry. The tendrils of the vines naturally have spiral symmetry. The overall motif can be obtained from several smaller motifs, which include the same right hand, left hand symmetry as well as translational symmetry. The two fields with these scenes are both bilaterally symmetrical, although the middle leaves and tendrils of the vine, through which the axis of symmetry of each scene runs, are not bilaterally symmetrical as motifs, and the scene on the northern wall has one of the tendrils turned in the opposite direction from that which would be expected. Within the tomb space, the fields are positioned in a right hand, left hand symmetrical pattern in relation to each other.

tian art. (Anđelković et. al. 2011: 231-248)

¹² In the same way peacocks flank the mistress of the "Pagan tomb" G-2624. (Korać 2007: 69-72; Anđelković et. al. 2011: 236)

¹³ More about symbolism of the motive in: (Рогић, Анђелковић 2011: 102)

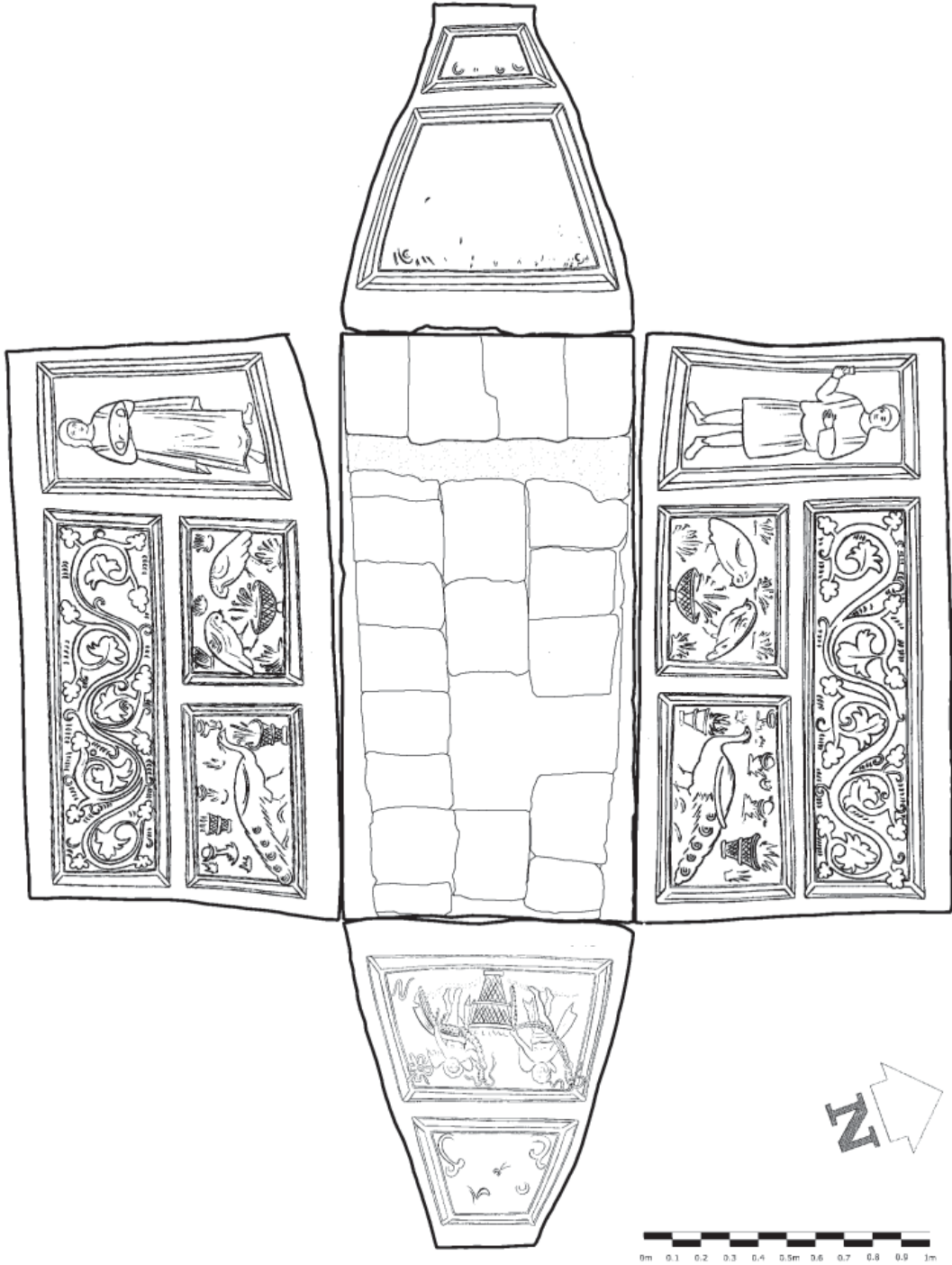


Fig. 3b. Four walls of the tomb G 160 with its frescoes. (Schemes by Dragana Rogić)

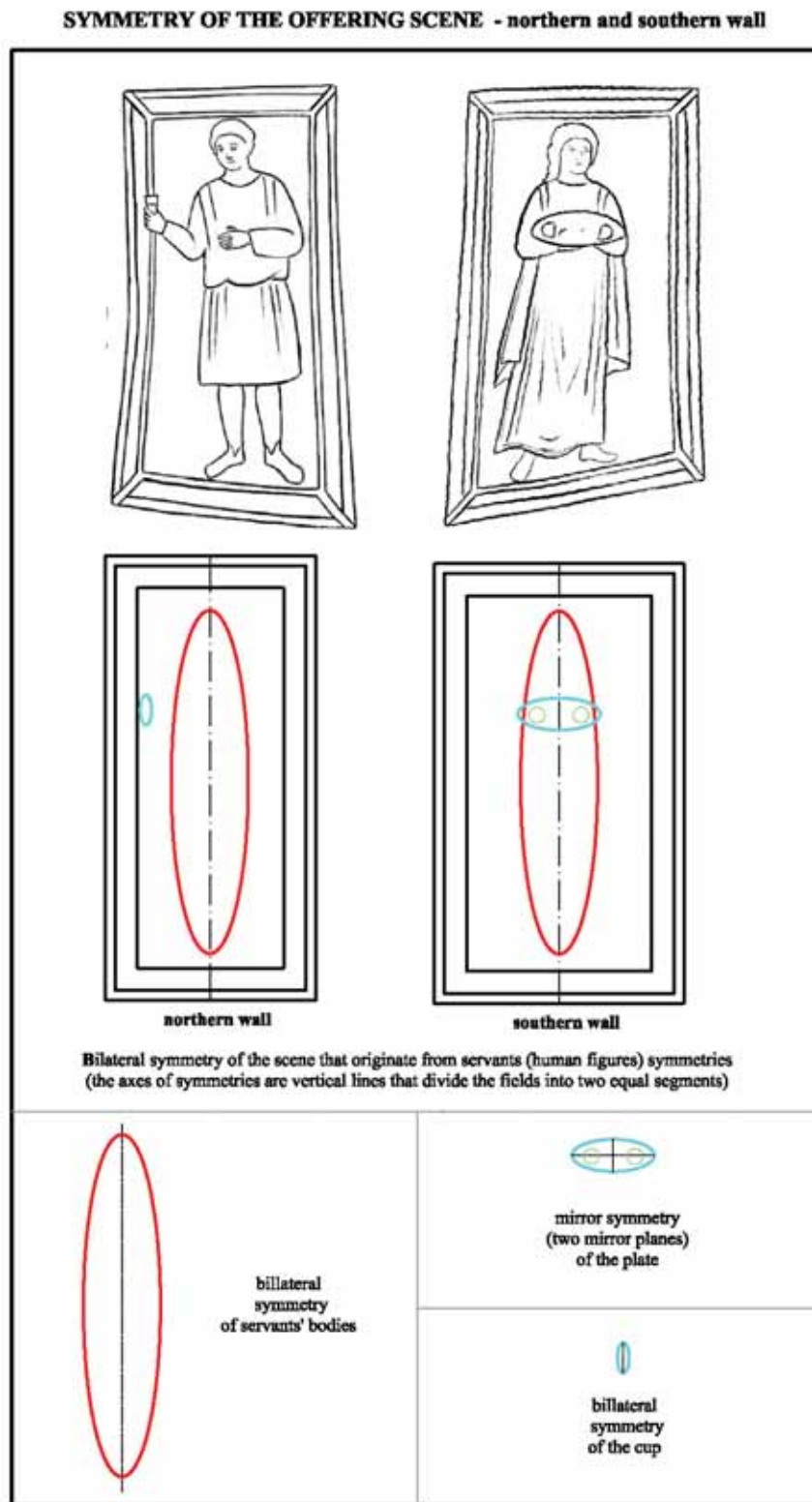


Fig. 4. Symmetries of the offering scene in the tomb G 160. (Schemes by Emilija Nikolić)

Eastern wall.

Scene with the cupids.¹⁴ In this scene, the cupids possess bilateral, and the calathos possess bilateral and ornamental symmetry. (Fig. 8) The garlands are formed using repetitive symmetry with a combination of translational and right hand, left hand symmetry. The flower in the upper right corner is formed with rotational symmetry of its petals, and, itself has mirror symmetry with two mirror planes.¹⁵ The position of the cupids' bodies, particularly the legs, gives them a mutual right hand, left hand symmetry, although it is interrupted with the opposed position of their hands, heads and garlands. The whole scene, i.e. the field, possesses bilateral symmetry, with the central bilaterally symmetric calathos between the cupids and its radially positioned plants and ornamental symmetry surface. All this suggests that the image in the trapezium above the cupids, which is damaged and therefore unrecognisable, probably possessed the same types of symmetry. This could lead us to conclude that the whole eastern wall could have had a common type of symmetry – bilateral symmetry.

Western wall.

The reconstruction of the scenes and motifs from this wall is almost impossible, but it can be concluded that it had bilateral symmetry within its fields, along with right hand, left hand symmetry in the fields with scenes which contained several motifs, or bilateral symmetry in the scenes with only a single motif.

14 Although cupids were a popular motive in ancient decorative art, there are only few examples of cupids in funerary art. (Minns 1915: 143-147; Rostovtzeff 1919: 144-163; Venit 1999: 641-669)

15 This four petal flower in cross form shape is a very well known motif in late antique and early Christian funerary art. The unanswered question is whether painters had a natural floral pattern to work from or they created it from their imagination. Today, floral symmetry is a very well documented field in biology. (Рогић, Анђелковић 2011: 94-95, 100; Giurfa et al. 1999: S41-S50; Endress 1999: S3-S23)

“Christian tomb”, G 5517

Tomb G 5517 (Korać 2007: 33-62, 157–168) is a reconstruction and, therefore, not in its original location. The presented frescoes are replicas of the originals kept at the National Museum in Požarevac. The difference between this and other tombs of the same type is in the narrative of the decoration: the scenes are composed as individual panels, but are arranged to be read as a story in a clockwise direction. (Fig. 9a and Fig. 9b)

Northern wall.

Scene with earthly horseman. In front of the reconstruction of what is thought to have been the entrance to the tomb, there is the first scene describing an earthly horseman, being followed by a lion. (Fig. 10) This scene is set in the frieze formed by two red stripes. Within this frieze it is clear to see that the scene is full of rhythm. Looking at the main figures, there is not any visible symmetry. The figures of the rider and the lion are subordinated to the principles of movement, rhythm and dynamics. However, within the main antique, and especially late antique idea of *horror vacui*, all other motifs in the scene are arranged in the background of the main motifs, following some of the symmetry types. The floral motifs from the earthly landscape and the rider's face all possess bilateral symmetry, some possess radial symmetry, and they are all set around the main scene mostly in a variation¹⁶ of translational symmetry, which is upgraded, especially in this place, to ornamental symmetry that fits into the decorative scheme and context of rhythm. So, from here all pictorial elements and principles suggest that the next element of the story is the paradise scene with peacocks and the tree of life on the right.

16 As previously mentioned, translational symmetry is the repetition of a motif, “without changes”, creating a rhythm. “Without changes”, cannot be applicable to this painting, because of the possibilities of the fresco technique and the lack of space within the tomb, so we again can refer to the use of approximate symmetry. (Voloshinov 1996: 111-112)

SYMMETRIES OF THE SCENES WITH PEACOCKS - northern and southern wall

		TWO CALATHOS		
		northern wall	southern wall	
				basic figure (motif)
				setting the axis of symmetry for the right hand, left hand symmetry
				formation of a new figure symmetric to the basic one
Bilateral symmetries of the scenes that originate from the main motifs of the scenes - peacock tails symmetries (the axes of symmetries are diagonal lines that divide the fields into two equal segments).				
	bilateral symmetry of the calathos		bilateral symmetry of the flowers and plants	setting the axis of symmetry for the right hand, left hand symmetry
	radial symmetry of the plants in the calathos		bilateral symmetry of the peacock tail	transformation of the basic figure into the new symmetric one
	ornamental symmetry of the calathos surface		translational symmetry of the eyes on the peacock's tail	setting the centre of symmetry for the rotational symmetry
		TWO FLOWERS		
	basic figure (motif)		setting the axis of symmetry for the right hand, left hand symmetry	formation of a new figure symmetric to the basic one
				new transformation of the already transformed basic figure into the new symmetric one

Fig. 5. Symmetries of the scenes with peacocks in the tomb G 160. (Schemes by Emilija Nikolić)

The whole scene is, therefore, without any particular ruling symmetry, but it can be said that all the symmetries of its motifs and the *horror vacui* contribute to the balance of the scene.

Eastern wall.

Paradise scene. This scene, as with the previous one, is set in the frieze formed by two red stripes. (Fig. 11) In this scene, the kantharos is positioned as a focus and as an axis, not only for the symmetry of the peacocks, but for all other

motifs, i.e. for the entire scene. The kantharos itself possesses bilateral symmetry, while the *aqua vitae* is depicted with a sort of radial symmetry. In the upper part of the scene, the *aqua vitae* becomes an axis for the motifs of the tree of life, which are positioned in right hand, left hand symmetry. One of the most common scenes in the late antique and early Christian period presents peacocks flanking a kantharos. Usually, in such a scene, the peacocks¹⁷ are depicted in almost per-

¹⁷ As previously mentioned, the eyes on the peacock's

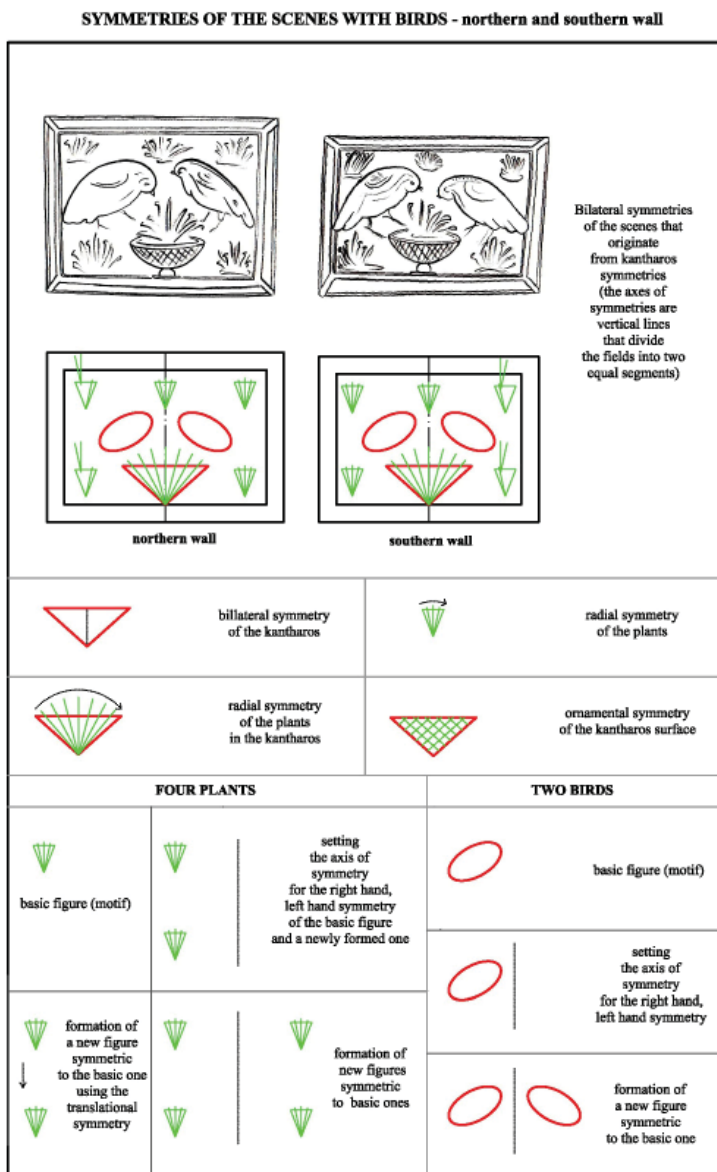


Fig. 6. Symmetries of the scenes with birds in the tomb G 160. (Schemes by Emilija Nikolić)

fect symmetry, while here the right hand, left hand symmetry has been distorted by the turned head of the peacock on the right (Andelković *et al.* 2011: 240). With regard to this irregularity, the small element of dissymmetry is of great importance to the overall understanding of the painting's narrative, as it encourages us to look to the right and continue reading. The eyes on the peacocks' tails

tail are bilaterally symmetric by nature, and here depicted with the process of translational symmetry along the tail.

are depicted using the translational symmetry along the tail. Collectively, the whole scene can be considered to have been created using bilateral symmetry.

At this point we should notice that a similar scene with imperfect (referred to as either approximate or natural) right hand, left hand symmetry of peacocks over an amphora can be seen on the western wall of the Viminacium tomb G 5464. (Korać 2007: 21, 156.)

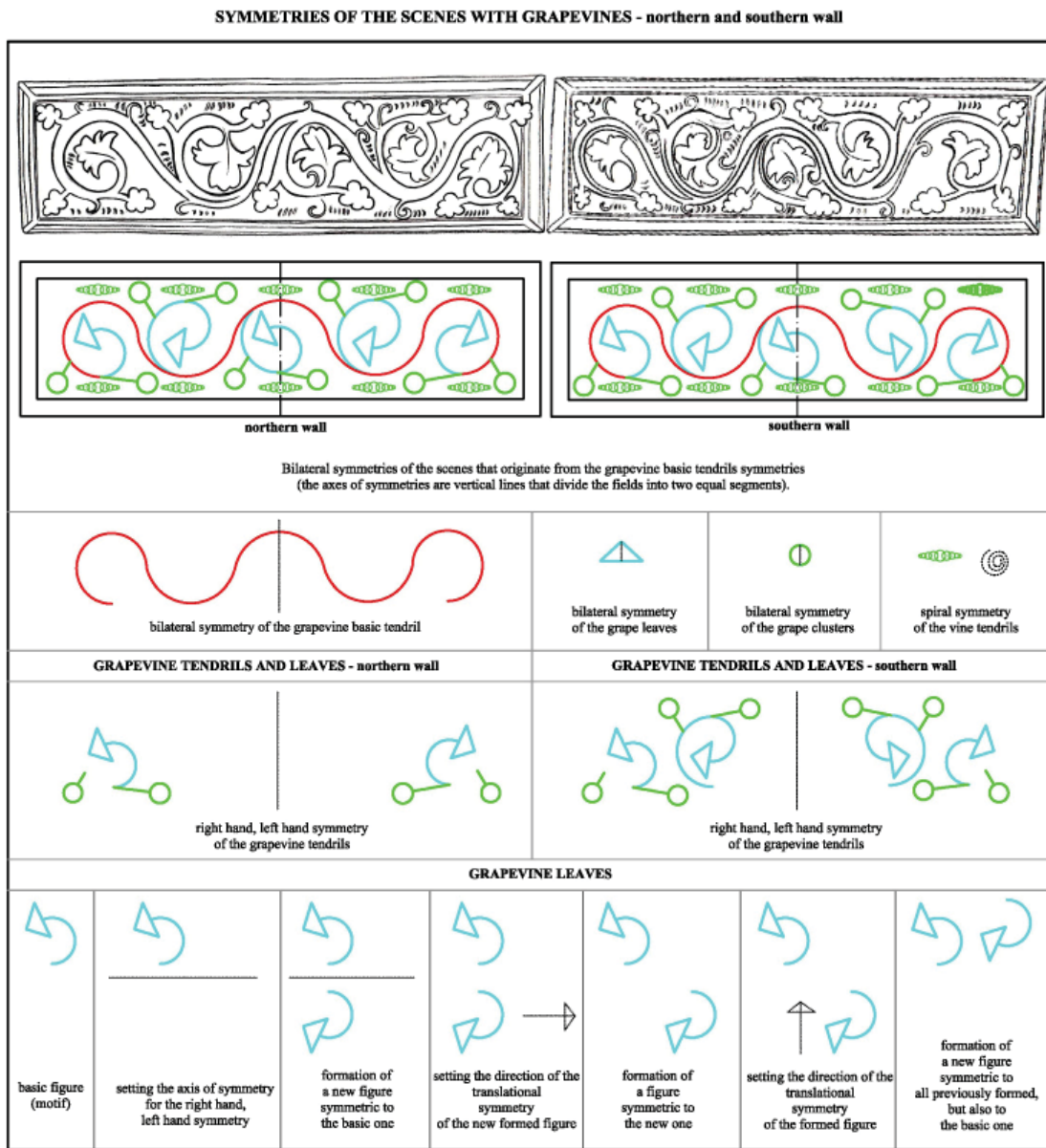


Fig. 7. Symmetries of the scenes with grapevines in the tomb G 160. (Schemes by Emilija Nikolić)

Southern wall.

Scene with heavenly horseman. The main figures depict the heavenly horseman, who is followed by a dog and in front of whom there is a leopard. (Fig. 10) This “moving” frieze is again set between two red stripes. Trees and floral motifs are set in a heavenly landscape mostly conforming to translational, radial and ornamental symmetry, but not in exactly the same way as in

the northern wall’s scene. All the figures again gesture to the right of the scene, where Christ’s monogram is depicted.

Western wall.

Christ’s monogram. Unlike the three aforementioned panels, where two red stripes form the frieze, the main scene here is located within the trapezoidal frame of red borders. (Fig. 12)

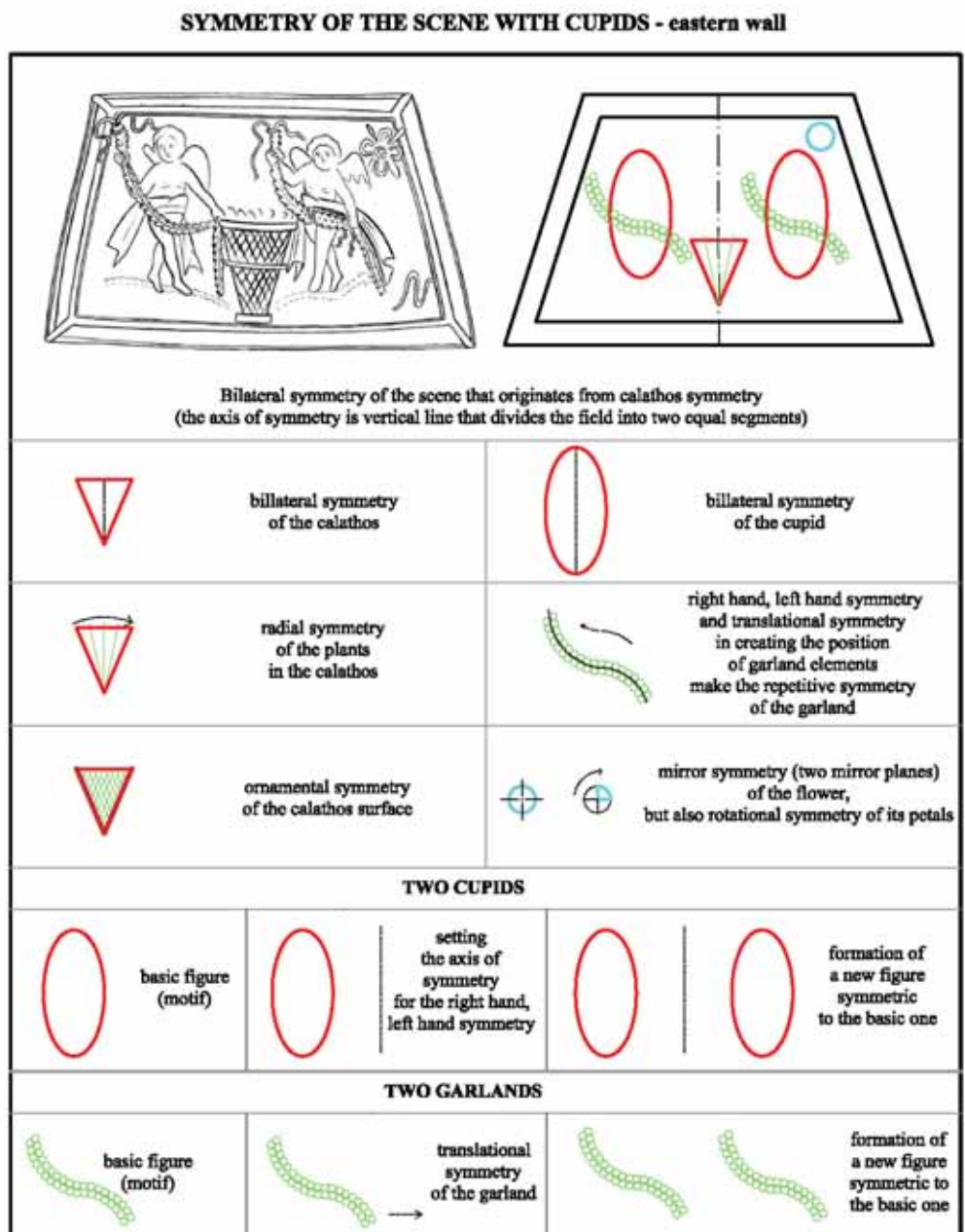


Fig. 8. Symmetries of the scenes with cupids in the tomb G 160. (Schemes by Emilija Nikolić)

The monogram itself is composed of straight lines of the letters X (Hi)¹⁸ and P (Ro), crossed in the middle, resembling rays and, as a result, we can speak here of imperfect rotational symmetry as well as imperfect bilateral symmetry. The sign is surrounded with a laurel wreath, which consists of small leaves, repeating in a certain rhythm, which

is created using a combination of bilateral and translational symmetry, which combine to represent repetitive symmetry. Within the monogram, the apocalyptic letters A (alpha) and Ω (omega) are positioned according to right hand, left hand symmetry. Below the monogram there are some freely painted red linear motifs arranged in trans-

¹⁸ This letter has bilateral symmetry.

lational and ornamental symmetry.¹⁹ The entire scene is created with bilateral symmetry.

Northern, eastern and southern walls

Grapevine.²⁰ Except the western wall, where the Christ's monogram occupies most of the wall surface, making it important as the focus of the composition, all three other walls contain the frieze above the upper red stripe, with one of the most typical ancient motifs – the grapevine. (Fig. 11) Since the greater part of this frieze is not well preserved (except a small part on the eastern side) it is hard to make a judgement regarding the symmetry. As in many other depictions of the same motif, the basic line of the grapevine's direction possesses bilateral symmetry, while the other lines possess imperfect right hand, left hand symmetry. The clusters are a set of blue and red points, rather than represented as a fruit with any kind of symmetry. The vine leaf possesses bilateral symmetry. The tendrils of the vine, naturally, already have spiral symmetry, and here, they are depicted very vividly. The motif of the grapevine can be obtained from several smaller, mutually identical motifs, in a process which includes right hand, left hand symmetry as well as translational symmetry. We can say that eastern scene with grapevine possesses bilateral symmetry that originates from the symmetry of the main tendril, but imperfect, because of the irregular position of the grape clusters and vine leaves. If the friezes on the northern and southern side had been better preserved, we would, maybe, be able to speak about the mutual relationship of all three grapevine scenes in terms of symmetry.

A similar arrangement of the grapevine can be seen on the northern and southern walls of the Viminacium tomb G 5464 (*ibid.*: 22, 156). It is interesting to note that symmetries from the northern grapevine scene here correspond to the one on

the southern wall, both displaying right hand, left hand symmetry. On the eastern wall of the same tomb there is a good example of natural symmetry (such is the symmetry of the grapevine and its tendrils) applied in basic, symbolic shapes, such as spirals. Here again, the spiral can be observed as the essential form, from which painters formed the shape of the grapevine. As an ancient shape, the spiral form (vine, ivy, snail or seashell) symbolically alludes to an evolution of a natural force or condition, it is an open and optimistic motif and it possesses a cosmic symbolism of fertility. (Gerbran, Ševalije 2004: 863-866)

“Pagan tomb” G 2624

The tomb G 2624 (Korać 1993: 107-122; *idem.* 2007: 69-100, 168–185) is also a reconstruction and contains copies of the original frescoes that are kept at the National Museum in Požarevac. (Fig. 13a and Fig. 13b)

Western wall.

Portrait of a lady. Considering that the west wall in pagan tombs usually held a portrait of the deceased, it is believed that the portrait of a young woman on the west wall represents a portrait of a deceased woman. (Fig. 14) The entire decoration programme of this tomb is subordinated to this image. Here, the symmetry plays an important role in the composition of the scene. In the first place, as is known, the human figure possesses bilateral symmetry, which is of great importance here because of the meaning and appearance of the woman's figure. In accordance with her luxurious dress and beautiful jewellery, it can be concluded that she belonged to the higher ranks of society. To express her noble solemnity and seriousness, the painter depicted her frontally and almost perfectly symmetrically. The almost perfect bilateral symmetry of the lady is only broken with her raised right hand and her looking to the side. In addition, the entire

¹⁹ It can not be said with any certainty what kind of symmetry is applied here, since this part of the scene is not well preserved.

²⁰ See reference 13, and compare with “Grapevine” from the tomb G 160.

composition is symmetrical and set within a red frame. Blue stripes behind the woman's shoulders are positioned by way of right hand, left hand symmetry. The blue halo behind her head is positioned bilaterally symmetrical and the garlands are in the symmetry of left and right hand in relation to the centre of the scene. Symmetry was also used in the smaller details, such as in the fine bottle in the woman's hand, which is of bilateral symmetry, or in the repetitive, radial, translational and ornamental symmetries visible in the decoration of the cloth, the collar as well as the pearls in the necklace. The whole scene is created with bilateral symmetry.

Eastern wall.

Offering scene.²¹ This scene, shown on the opposite wall to the scene depicting the woman, contains the figure of a male servant, depicted with a plate and some ritual bread, together with floral motifs in the background. (Fig. 15) This male servant is depicted in full figure, in motion, but positioned diagonally within the field described by the red borders. The plate in his hands is depicted using mirror symmetry with two mirror planes. Here, the human body is depicted in bilateral symmetry, but diagonally positioned. Although the flowers²² and the ivy leaves, which are bilaterally symmetrical in nature, are repeated on both sides of the background space, we cannot talk of perfect right hand, left hand symmetry, but of several symmetries used in the same way as the calathos, flowers and plant symmetries in the peacock scene from the G 160 tomb. Bilateral symmetry of the whole scene is lost with the diagonally positioned male servant body, but, the pallium is positioned in opposite rotated direction, so the balance of the scene is achieved.

21 Compare with the "Offering scene" from the tomb G 160, and reference 10;

22 These flowers, as well as the flowers in the background of the peacocks on both of the walls, are of the four petal type and of cruciform shape, as mentioned above. They have natural bilateral and rotational symmetry. See reference 15.

Northern and southern walls.

Peacocks.²³ The peacocks painted on the walls of the tomb are similar, but not identical.²⁴ (Fig. 16) The scenes are framed with red borders. The peacock on the northern wall stretches over the entire wall, dividing the background wall diagonally. On the lower part of the divided space, there is an amphora, depicted using bilateral symmetry, which stands on a linear motif on the ground, which is also divided in two parts, displaying right hand, left hand symmetry. In the upper part of the divided space, there is a garland, depicted using blue and red lines. Since four petal flowers are freely arranged in the background of the scene, without any order or rhythm, here we can talk of a combination translational and rotational symmetries. The peacock on the southern wall, also diagonally divides the background space into two parts. In the lower part, there is an amphora depicted using bilaterally symmetrical, but, unlike the amphora on the northern wall, there is only one part of a freely painted linear motif. In the upper part there are two crossed garlands, depicted only in red. As their parts can be observed as mirror images, it can be said that the garlands are depicted using left and right hand symmetry, but created by the repetition of the smaller motif using translational symmetry. Four petal flowers²⁵ are depicted in the background of the whole scene, arranged in a similar way to those on the northern wall. Imperfect bilateral symmetry of the scenes originates from the peacock tails symmetries which are its main motifs.

23 See footnote 11 and compare with "peacocks" from the tomb G 160.

24 Their mutual symmetry within the tomb's space, will be discussed later.

25 See footnotes 22 and 15.

SYMMETRY OF THE ICONOGRAPHY OF SPACE

Primarily, symmetry was used as an initial pictorial principle, equivalent to the proportion and geometry of a composition. In contemporary art²⁶ and design, on the subject of symmetry, science has developed a new theory of “dynamic symmetry”. (McWhinnie 1986: 241-245) The development of the idea of symmetry grew from the comprehension of external geometrical symmetry to an increased understanding of the internal structure of the universe, accessible only to the mind. (Voloshinov 1996: 109) So, the principle of symmetry developed from an artistic to a scientific principle,²⁷ where it occasionally becomes the concept for an individual theory. (Dion 1991: 511-517) This is why the principle of symmetry can be applied in the case of tomb’s space, not only with regard to the regularity of all other elements, but also as a symbolic connection between elements, iconography and space.²⁸

Aside from the fact that ancient artists took care with, and knew about, symmetry as an important principle in the formation of an image, it is more than certain that they were creators of conceptual programs and contextual meanings. Therefore, the arrangement of the motives, scenes, compositions and pictorial elements which created them went beyond the mere creation of iconography. The artists who painted walls of tombs were also contemplating their meaning within the specific space and their mutual relationships. This is why the position and orientation of the scenes and motifs were crucial for the creation of a three-dimensional space for the afterlife within a sacred

space²⁹ such as a tomb. So, the aforementioned tombs from Viminacium were painted according to a pictorial legitimacy, but there are also noticeable regularities in the plan’s design which is symmetrical within the tomb’s space.

“Tomb with cupids” G 160

The northern and southern walls, together display right hand, left hand symmetry. However, if the western wall is the pivot of the iconographical repertoire, that is to say, if the tomb space is comprehended as a visual unity of individual motifs of paradise, the whole tomb gains total bilateral symmetry, i.e. mirror symmetry. (Fig. 17) Mirror symmetry is also important in a symbolical context, because it alludes to another world, i.e. the afterlife, (Gerbran, Ševalije 2004: 624-628) which reinforces the symbolism of the individual motifs.

“Christian tomb” G 5517

Within this tomb, copies of the frescoes were placed in a setting similar to the original one, in order not to distort the correct reading of the iconographical and symbolical story. To understand the meaning of this complex pictorial story, we must actually turn clockwise around our axis, demonstrating the importance of keeping frescoes in their original spatial context. Thus, all four walls become participants of the rotational symmetry of the observer, which occurs in the middle of the tomb’s space, on the axis of the observer’s body, while one attempts to read the narrative. (Fig. 18) Thus, symmetry, iconography and symbolism, assembled within the tomb’s space, provide the viewer with an impression of a “kinetic”

26 Orientated towards abstract and conceptual art.

27 We have already mentioned psychology, anthropology, and biology, but there are sciences such as physics, chemistry, molecular processes and atomic physics, electronics, etc. which are also connected with this principle.

28 With the idea of collecting the individual scenes and motifs into the universal image of cosmic drama. (Цветковић-Томашевић 1978: 87-101).

29 In terms of considering some space as sacred we can use methods of hierotopy. See: Lidov 2006: 32, ref. 2.

composition, somewhat untypical for ancient art. For the two scenes with horsemen, it can be said that they are positioned using the antisymmetry. If we observe them as sole figures, horsemen are similar to one another in their body movement, head direction and other physical characteristics, but different in their symbolism.

“Pagan tomb” G 2624

Similar to the “Tomb with Cupids”, the northern and southern walls stand in left and right hand symmetry, in relation to the woman whose image is the pivot and axis for the two peacocks in the apotheosis scene. The peacocks are oversized, and this scale was probably meant to reinforce the symbolism (Andelković *et al.* 2011: 231–248; Jančićjević 2009: 135–143). Again, in the spatial context of the tomb, looking at the peacocks, we can see mirror symmetry. (Fig. 19) The woman (as the mistress of the tomb) appears tranquil and solemn owing to the use of the frontal representation and the vertical and horizontal axes of symmetries, in contrast to the young man (as the woman’s servant) on the opposite wall, who is depicted in motion by the use of “diagonal axis symmetry”. This tomb space reveals not only the use of skilled painters who were artistically educated, but also many hidden symbolical messages which, as we can see, can be concealed behind an artistic tool such as symmetry.

CONCLUSION

Most of the fresco-painted tombs from Viminacium are not well preserved, so it is not possible to reconstruct the whole programme and its meaning, or even its symmetry. However, the aforementioned three tombs have all the necessary elements to be comprehended from the perspective of symmetry. Not only did the paint-

ers create the motifs within the scenes, then the scenes themselves, and finally the wall compositions, with calculated and meaningful symmetry types, they also obviously took care with the careful use of symmetry in the context of the afterlife symbolism. It is well known in the history of the arts that pictorial elements and principles, such as colour or balance, were very important for image creation.³⁰ Our aim in this paper was to point to symmetry as a principle, significant not only for simple pictorial image creation, but also for creating the meaning, content and symbolism of the image. Besides its fundamental usage in iconography, this paper examined the role of symmetry within the tomb’s space, as a special artistic, architectural and sacred reality. In this context, images are not only individual motifs, but create a part of a complex scene, which is subordinated to the philosophy of death, and creates an intimate reality of the deceased’s afterlife. In such a context, symmetry goes beyond its limits as a principle and becomes a tool for creating architecture, whilst expressing philosophical ideas. Used in the right places, in appropriate measures, it can help us understand the craft and artistic virtue which Viminacium painters possessed.

Translated by:

Jelena Anđelković Grašar

³⁰ Also used in terms of symbolism.

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SIMETRIJA IKONOGRAFIJE POVRŠINA I PROSTORA VIMINACIJUMSKIH GROBNICA G 160, G 5517 I G 2624

KLJUČNE REČI. – SIMETRIJA, IKONOGRAFIJA, PROSTOR, GROBNICA, VIMINACIJUM, SLIKARSTVO

Još je antički čovek znao za pogodnost slike kao medija komunikacije. Kada se njome počeo baviti slikar, te kada je postala dekor, a onda i nosilac složenih poruka, ubrzo su ustanovljena pravila po kojima nastaje. Linija, ton, valer i boja gradili su sliku, ali kvalitet su joj davali simetrija, ravnoteža i volumen. Slikari koji su vladali ovim elementima i principima činili su ih stožerima dobre slike.

Jedan od najznačajnijih likovnih principa je simetrija. Analizirajući fresko slikarstvo grobnica sa Viminacijuma primećuje se da su najzastupljeniji tipovi geometrijske simetrije: bilateralna (simetrija ogledala), rotaciona, translatorna, radialna, spiralna, ornamentalna i simetrija leve i desne ruke. Pored ideje da se ustanove simetrije koje su vladale u ikonografskom repertoaru grobnica, cilj rada je traganje za uzajamnim vezama između likovnih principa (simetrije) i narativa ili simbolike samih scena i njihovih kompozicija. Zato su izabrane freske iz tri viminacijumske grobnice: „Grobnice sa kupidonima“ G 160, „Hrišćanske grobnice“ G 5517 i „Pagan-ske grobnice“ G 2624. Pored pomenutih tipova simetrije korišćenih u građenju slika iz grobnica, zajednička im je i aproksimativna simetrija, tj. nesavršena simetrija, koja je karakteristična i za prirodne simetrične oblike. Posmatrajući simetriju sa savremenog stanovišta, kao pojam karakterističan ne samo za umetnost, već i za nauku, u ovom radu je postavljamo i u kontekst prostora groba, gde je takođe, kao i u ikonografiji slike, imala ne samo karakter principa, već i jaku simboličku ulogu u prostoru namenjenom drugom životu, a gde je zajedno sa motivima, učestvovala u stvaranju druge stvarnosti. Sve ovo dovelo je do zaključka da su slikari Viminacijuma dobro poznavali likovne zakonitosti, te učestvovali ne samo u građenju slike, već i u njenom smeštanju u okviru jednog određenog prostornog konteksta.



Fig. 9a. Frescoes of the tomb G 5517 presented as individual panels on the walls of the National Museum in Požarevac, here presented as tomb's reconstruction set up in the Archaeological Park of Viminacium. (Photos by Miomir Korać)

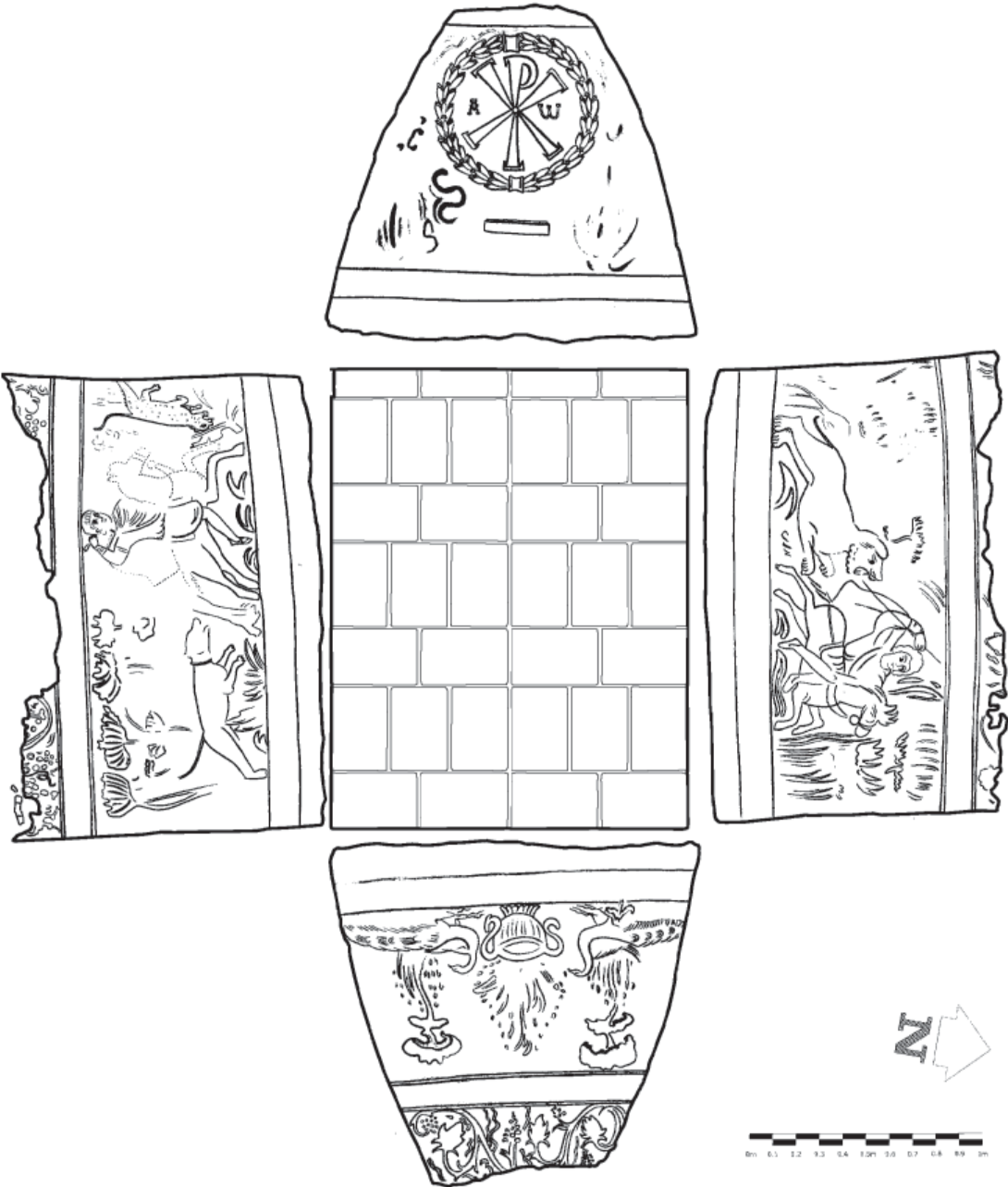


Fig. 9b. Four walls of the tomb G 5517 with its frescoes. (Drawing by Dragana Rogić)

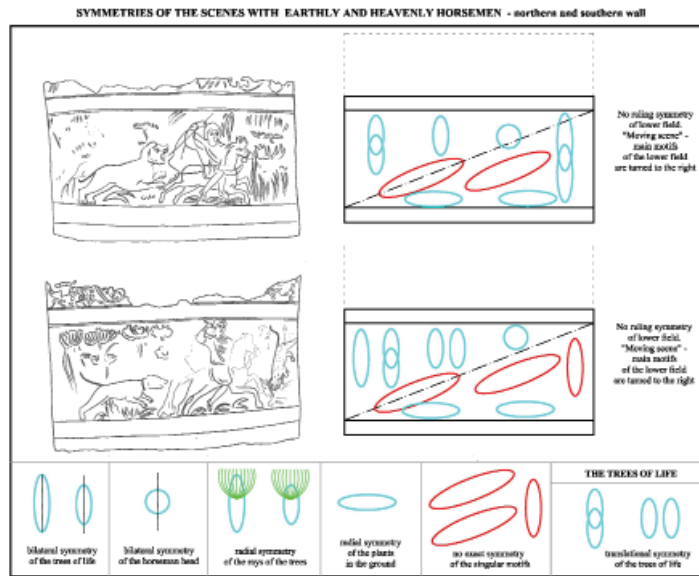


Fig. 10. Symmetries of the scenes with earthly and heavenly horsemen in the tomb G 5517. (Schemes by Emilija Nikolić)

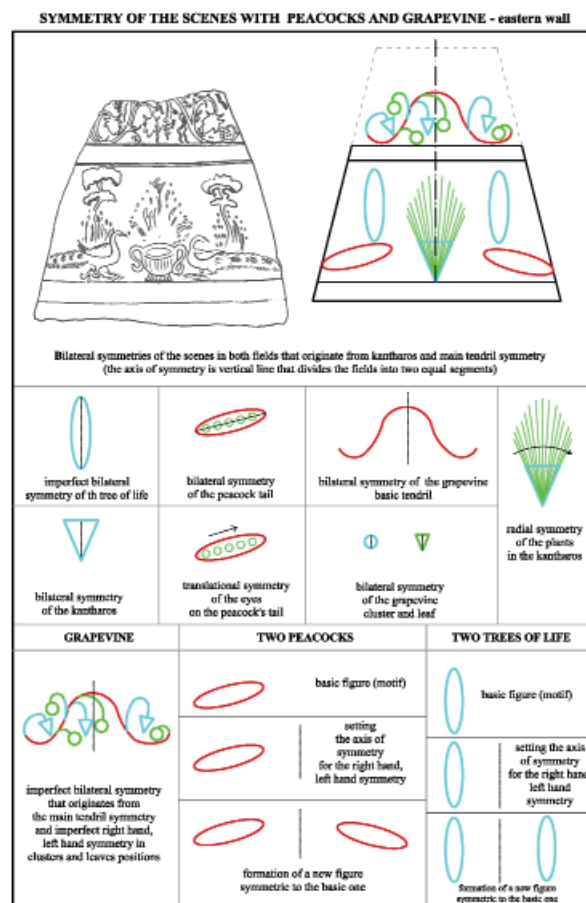


Fig. 11. Symmetries of the paradise scene and grapevine scene in the tomb G 5517. (Schemes by Emilija Nikolić)



Fig. 13a. Frescoes of tomb G 2624 presented as individual panels on the walls of the National Museum in Požarevac, here presented as tomb's reconstruction set up in the Archaeological Park of Viminacium. (Photos by Miomir Korać)



Fig. 13b. Four walls of the tomb G 2624 with its frescoes. (Drawing by Dragana Rogić)

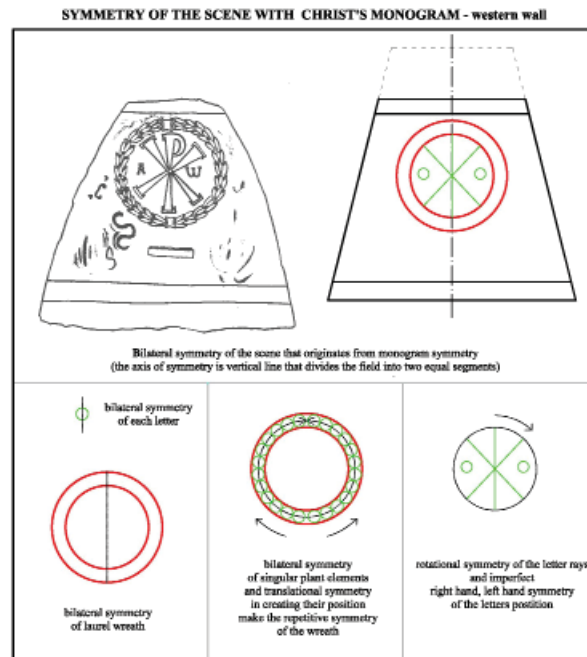


Fig. 12. Symmetry of the scene with Christ's monogram in the tomb G 5517.
(Schemes by Emilija Nikolić)

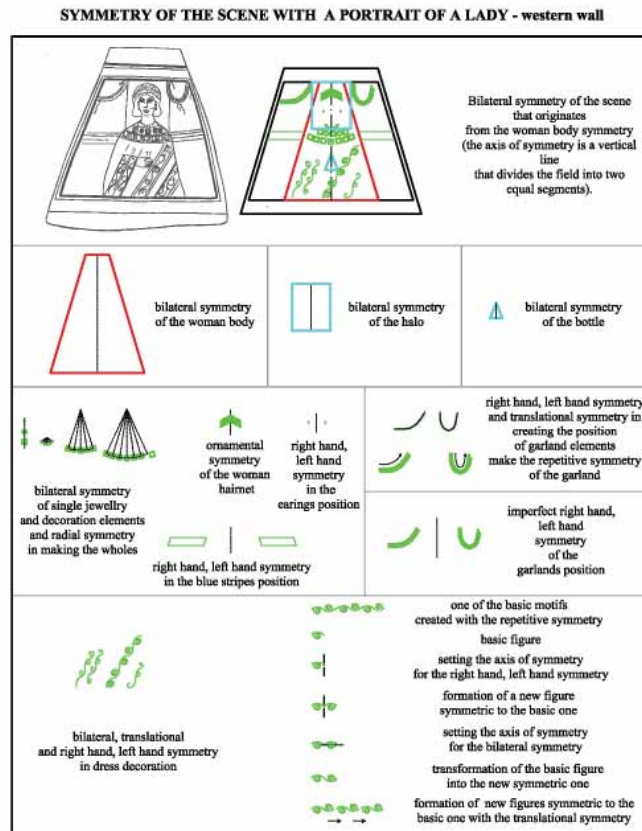


Fig. 14. Symmetry of the scene with a portrait of a lady in the tomb G 5517.
(Schemes by Emilija Nikolić)

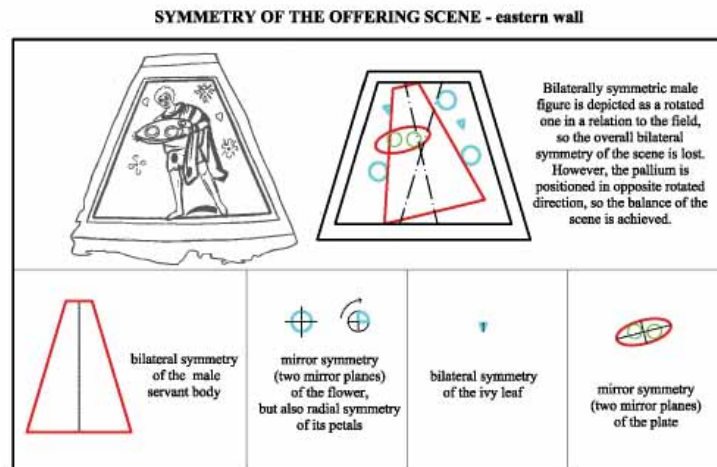


Fig. 15. Symmetry of the offering scene in the tomb G 2624. Schemes by Emilija Nikolić)

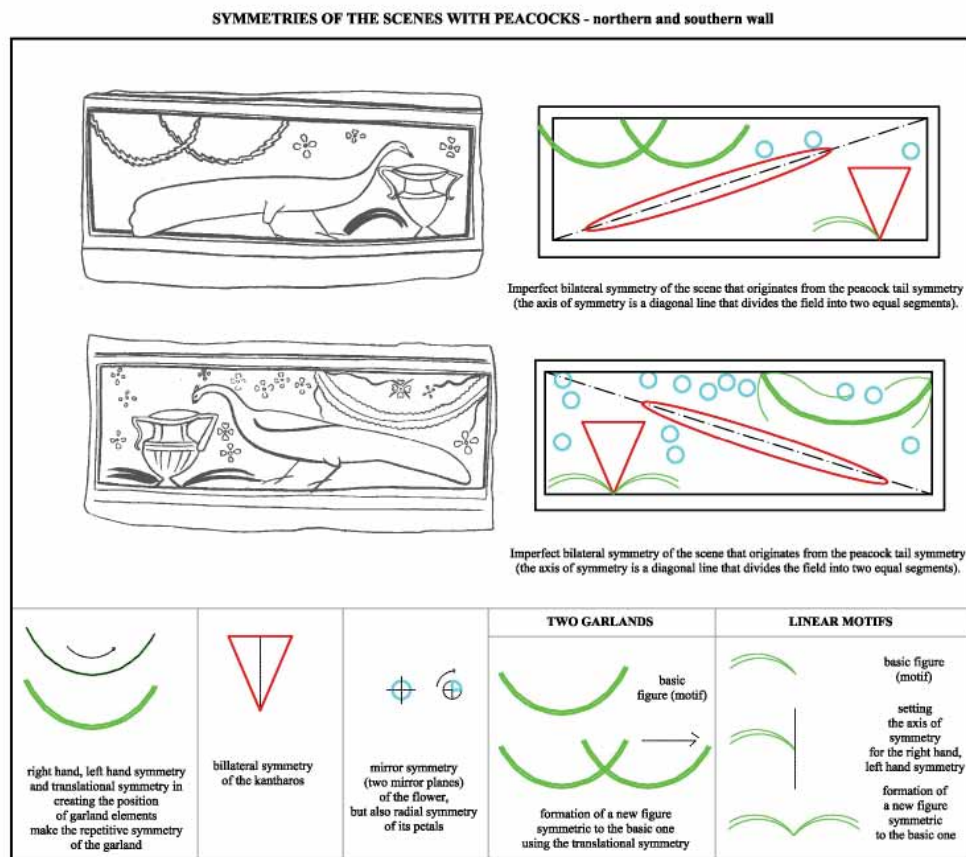


Fig. 16. Symmetries of the scenes with peacocks in the tomb G 2624. (Schemes by Emilija Nikolić)

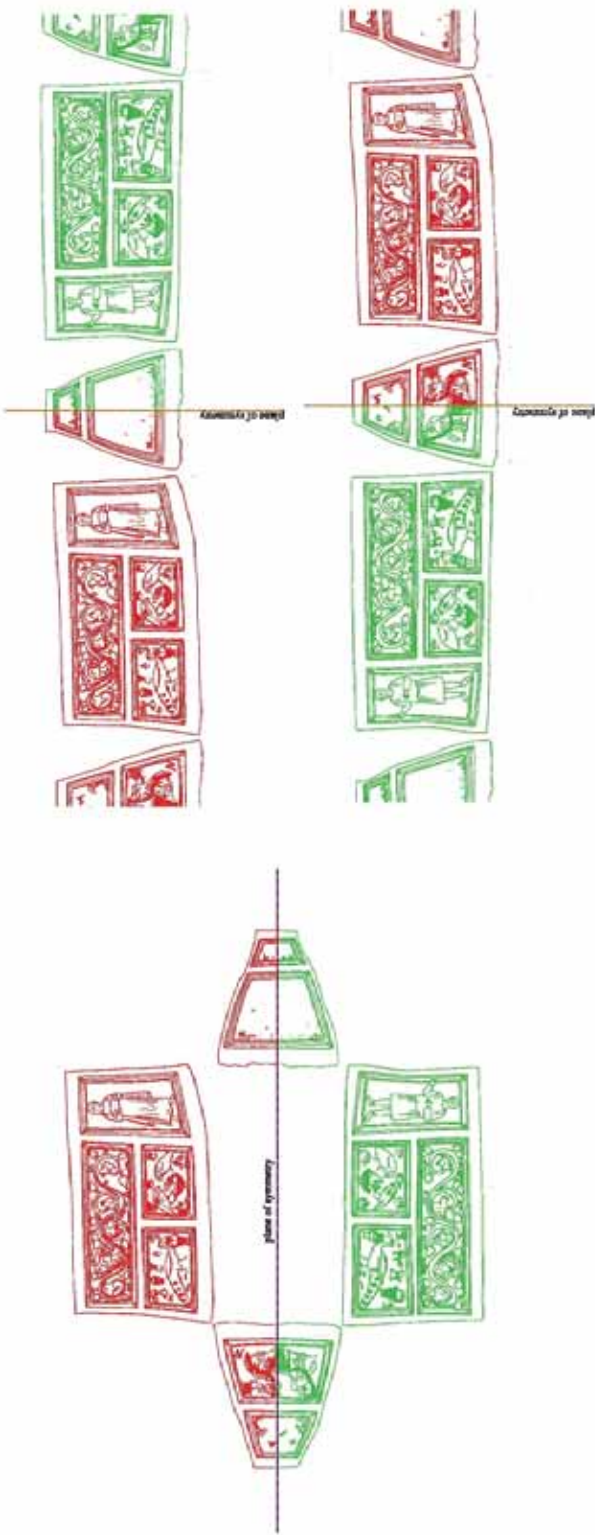


Fig. 17. Symmetry of the tomb's space in G 160.
(Schemes by Emilija Nikolić)

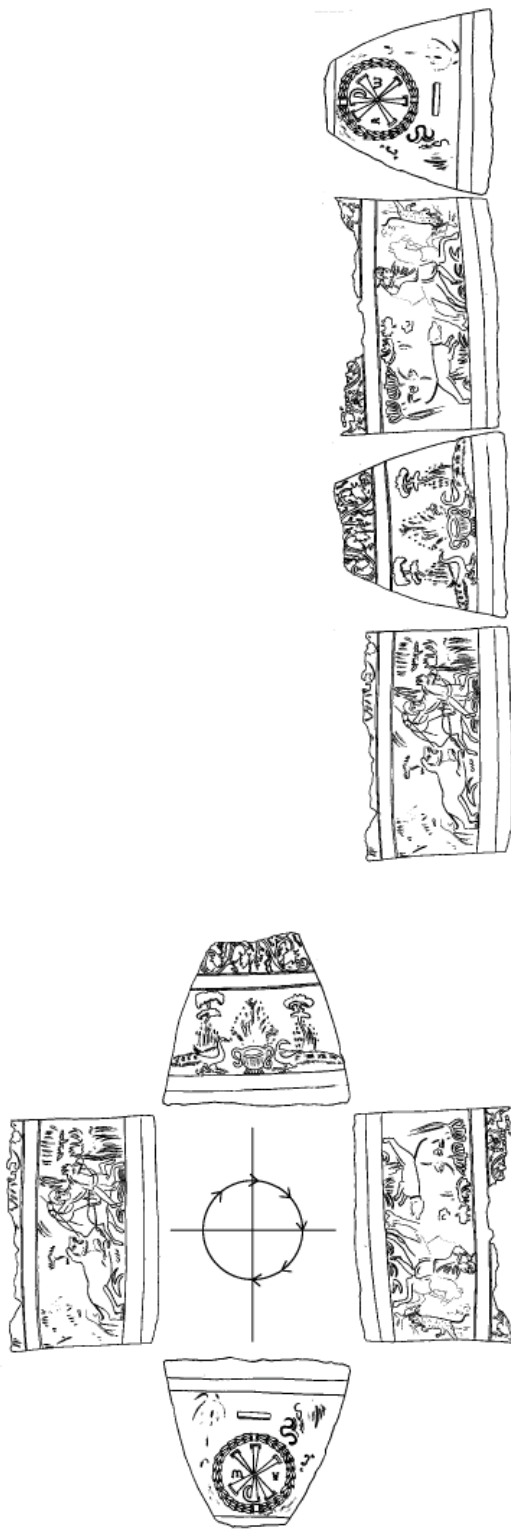


Fig. 18. Symmetry of the tomb's space in G 5517.
(Schemes by Emilija Nikolić)

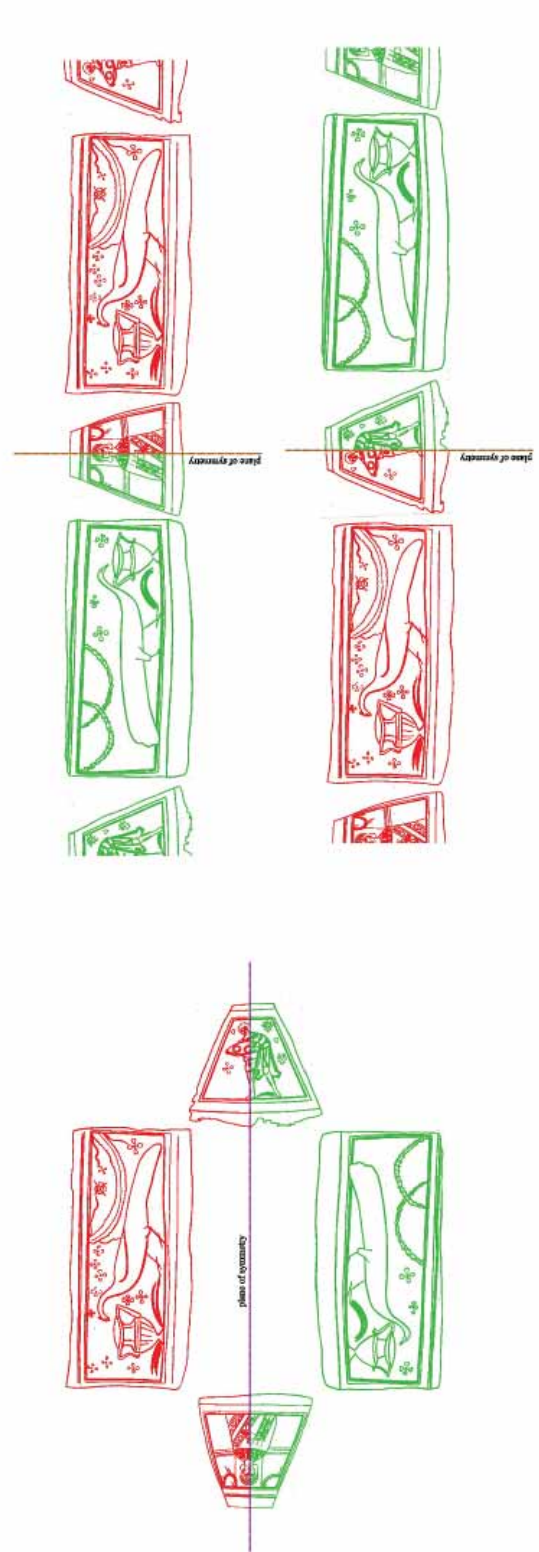


Fig. 19. Symmetry of the tomb's space in G 2624.
(Schemes by Emilija Nikolić)

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ANALYSIS OF BLUE AND GREEN PIGMENTS FROM THE FRESCO PAINTED TOMBS OF VIMINACIUM

ABSTRACT

Blue and green pigments from fresco painted tombs of Viminacium were analysed using non-destructive EDXRF spectrometry. Based on the results gained, it can be concluded that within this Late Antique palette of green colour, there were copper based pigments: malachite, verdigris or chrysocolla and green earth, while the blue pigments included Egyptian blue and azurite.

KEY WORDS: EDXRF, PIGMENT, GREEN, BLUE, WALL PAINTINGS, LATE ANTIQUE.

INTRODUCTION

The wall paintings of Viminacium represent very precious finds. In the territory of Serbia, there are, altogether, nine wall painted tombs from the Late Antiquity, among which five were discovered in Kostolac-Viminacium (M. Korać 2007: 15).¹ The tombs were discovered in the period from 1983 to 1990, during archaeological excavations. The analysed frescos are very

well preserved and belong to the period from the beginning to the second half of the 4th century. Late Antique tombs, as well as earlier tombs, were decorated because a tomb represented a home in the after-life (Rogić, Anđelković 2012: 85). However, there is a difference in the decoration of tombs. Given the quality of the paintings from the tombs discussed in this paper, it can be concluded that they were very luxurious.

This paper deals with the analyses of blue and green pigments used for depicting images on tomb walls in Viminacium. Four tombs, marked as G-5517, G-2624, G-3130 and G-5464, were chosen for analysis. Unfortunately, fresco pig-

¹ At Viminacium, 28 fresco painted tombs were discovered, among which only five were well-preserved, while the others were not preserved at all. Those paintings are fragmented and devastated due to robberies during Antiquity and in modern times (M. Korać 2007: 15).

* The article results from the projects: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, and ON177012 and TR37021 funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

ments from the tomb G-160 were not analysed due to technical reasons. The paintings were made using the fresco technique.² Among the colours used for painting, one can see: blue, green, white, red, ochre, brown and black along with mixtures of these colours.

DESCRIPTION OF TOMB PAINTINGS

The tomb G-5517 (site Pećine) is known as the “Tomb with Christ’s monogram”. It was discovered in 1990, during archaeological excavations³ and dated to the first half of the 4th century.⁴ The frescoes were very well preserved, removed and conserved.

The painted decoration covers the entire interior of the tomb.⁵ The Christ’s monogram within a laurel wreath is the motif depicted on the western, front side. Under the monogram, at a point 0.62 m above the floor, there is a brick placed as a small shelf. On the eastern, front wall, there is a picture of two peacocks with a cantharos between them and floral motifs behind them. On

2 Fresco technique is a process of painting on a wet mortar surface. The mortar is made of water slaked lime and an aggregate filling. The binding material for painting is lime water containing dissolved calcium-hydrate. Colour fixing is achieved through a chemical reaction resulting in the formation of a transparent film of calcium carbonate on the surface of the painting. Pigments resistant to the alkaline surrounding were used, mostly natural pigments (earth, mineral), but also some artificial ones (for example Egyptian blue).

3 The grave construction consisted of bricks and filling and was of a trapezoidal cross-section. Its base width measures 1.70m and the width at the top is 0.90m. The grave is paved with bricks. The preserved outer grave dimensions are 2.92 x 2.20 x 1.69 m, while the preserved inner dimensions measure 2.10 x 1.95 m.

4 Constantinus.

5 On the floor of the grave there were remains of the deceased with grave-goods. The bones were dislocated and fragmented due to robbery, while four skulls remained – three fragmented and one complete. The long bones were also fragmented. At the upper grave level there was a bronze coin – C 13280 (Constantine). At a point 0.30 m above the floor there was another coin - C 13281 (S. Severus). Among the bones there was a glass flask.

the northern and southern sides there are hunting scenes. Above all of the scenes mentioned, there is a frieze of vines. The colours used are: blue, red, ochre, black, white and various nuances of these colours (Fig. 1).

The tomb G-2624 (site Pećine) was excavated in 1983, during archaeological excavations⁶ and dated to the first half of the 4th century.⁷ All four sides were decorated with frescos. The frescos were well-preserved, removed and conserved.

The inner tomb surface is covered with two layers of mortar. The first layer is lime mortar, 0.5 to 3 cm thick, used to straighten the tomb walls. Over this layer, there is a mortar layer on which the painting was performed (1 to 1.5 cm thick). The portrait of a young woman is depicted on the western frontal side, while on the eastern one there is a standing male figure. On the lateral sides there are peacocks facing the young woman (Fig. 2).

The tomb G-3130 (site Skladište mazuta) was discovered in 1983, during archaeological excavations⁸ and dated to the second half of the 4th

6 The grave was constructed from bricks. It was covered with bricks placed in the shape of a gable-roof, while under this construction, there were horizontally placed bricks (60 x 60 x 8 cm). The tomb was made out of 17 rows of bricks bound with lime mortar. The floor was also paved with bricks. Those placed in the western part were sloped, making a sort of a pillow, which was also covered with mortar. The tomb is of trapezoidal cross-section. The floor dimensions are 2.55 x 1.15 m, the dimensions of the opening are 2.55 x 0.47 m. The inner tomb height is 1.20 m. It is orientated W-E, with a deviation of 2° of its western part towards the north. Two fragments of a light grey pottery vessel glazed with olive-green glaze and three fragments of non-glazed pottery were discovered within the tomb. The tomb was robbed in Antiquity. Two persons were buried in it, their bones being dislocated.

7 Constantinus II.

8 The tomb was made of bricks bound with lime mortar and has a rectangular base. The outer dimensions are 260 x 205 x 80 cm, the inner ones 200 x 150 x 80 cm and the depth is 75.08 cm. The floor was paved with bricks but is not preserved. The floor substructure consisted of a 2 cm thick sand layer. The walls are 30 cm thick. At the preserved upper wall level there are the visible beginnings of wedge-shaped fugues, indicating a barrel vault. It is orientated W-E, with a 12 ° deviation of its western part towards the south. The skeleton was not preserved. The



Fig. 1. Wall paintings from the tomb G-5517 with marked places of analysis.



Fig. 2. Wall paintings from the tomb G-2624 with marked places of analysis.



Fig. 3. Wall paintings from the tomb G-3130 with marked places of analysis.



Fig. 4. Wall paintings from the tomb G-5464 with marked places of analysis.

century. The frescos remained preserved only in the lower tomb zone and were removed and conserved.

The inner tomb surface is covered with two layers of mortar. The first layer is lime mortar with fine sand, 2 cm thick. The second layer (on which painting was performed) contains a higher percentage of ground brick and is 1 to 1.5 cm thick. The western lateral side contains an imitation of marble within rectangular fields, while on the eastern side, a detail of bird's feet remain preserved. Among the colours, there are greenish-blue, red, black and ochre (Fig. 3).

The tomb G-5464 (site Pećine) was discovered in 1988, during archaeological excavations⁹ and dated to the second half of the 4th century.¹⁰ The cover and the upper wall level were destroyed. The frescos have been removed and the lower parts of the compositions are conserved.

On the western side, there are two peacocks, painted facing each other with a spherical amphora between them. The peacocks were depicted using a light blue colour, while the contours of their bodies were depicted with a dark brown colour. The contours of the white amphora were also made using dark brown. One of the peacocks (the one to the north) is bent over the vessel, while the other one (the one to the south) is lifting its head. The whole image is framed with a red edge. On the eastern wall there is a spiral linear motif painted red and blue. On the longitudinal sides there are spirally depicted vines with leaves and grapes. The dominant colours are blue, red, white and black (Fig. 4).

tomb was mostly destroyed during a robbery and there were no grave goods.

9 The tomb was built of bricks bound with mud. It possesses a rectangular base and a trapezoidal cross-section. The floor is paved with bricks, and in the western part bricks are placed in such a manner that they form a so-called pillow. The outer tomb dimensions are 2.80 x 2.00 x 0.90 m and the inner dimensions (floor) 2.20 x 0.60 m. The dimensions of the opening are 2.20 x 1.25 m and the depth is 1.15 m.

10 Iovianus.

BLUE AND GREEN PIGMENTS OF THE ANTIQUITY

Pigments can be divided into several groups: natural and mineral pigments, synthetic in-organic pigments, natural organic pigments, synthetic organic pigments and metals. Blue and green pigments used in the Antiquity belong to natural mineral pigments, synthetic inorganic pigments and natural organic pigments, while those analysed in this paper belong to two groups: natural mineral pigments and synthetic inorganic pigments.

Natural mineral pigments are oxides, sulphides, carbonates and metal sulphates which can be found in earth. In ancient times, pigments were obtained through grinding, flotation, sedimentation, refining and drying in the sun. The purity and quality of pigments depended on the depositing and drying process (Pathak 2003: 5). During calcination, heating at high temperatures, crystalline water is lost, admixtures are removed and the coverage is increased. Often, earth pigments possess higher grain and a better resistance to climatic conditions. They belong to the oldest types of pigments.

Also belonging to the group of natural mineral pigments are: green earth, azurite, chrisocola, malachite and lapis lazuli. These are all discussed in this paper.

Synthetic inorganic pigments are created by a chemical reaction as a deposit with specific colouring features and they mostly cannot be dissolved in water. They are manufactured using filtering, drying and grinding (Punda, Culic 2009: 45). This group includes Egyptian blue, which is a silicate of calcium and copper, followed by smalt (its composition being potassium glass coloured with cobalt oxide) and verdigris.

Natural organic pigments are obtained from animal or plant organisms, by depositing the colour independently or through a reaction. Among the pigments discussed in this paper, in-










Green colour		
Pigment	Colour	Chemical formula
Malachite		$\text{Cu}_2\text{CO}_3 \cdot \text{Cu}(\text{OH})_2$
Green earth		$\text{K}[(\text{Al}, \text{Fe}^{\text{III}}), (\text{Fe}^{\text{II}}, \text{Mg})](\text{AlSi}_3, \text{Si}_4)\text{O}_{10}(\text{OH})_2$
Verdigris		$\text{Cu}(\text{OH})_2 (\text{CH}_3\text{COO})_2 \cdot 5 \text{H}_2\text{O}$
Greenish – blue colour		
Chrysocolla		$\text{CuSiO}_3 \cdot n\text{H}_2\text{O} + \text{Cu}_2\text{CO}_3(\text{OH})^2 + \text{CuCO}_3(\text{OH})^2$
Blue colour		
Azurite		$2 \text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$
Egyptian blue		$\text{CaCuSi}_4\text{O}_{10}$
Smalt		$(\text{Co}(\text{SiO}_2)_n)$
Lapis lazuli		$\text{Na}_8[\text{SO}_4](\text{AlSiO}_4)_6]$
Indigo		$\text{C}_{16}\text{H}_{10} \text{N}_2\text{O}_2$

Table 1. Green and blue pigments used in Antiquity.

Indigo belongs to this group.

In the prehistoric cave paintings of Altamira in Spain or Lasco in France, only green pigments were used, while in Egypt and during Antiquity, blue pigments obtained from ores were used (Berke 2009: 16). The first two inorganic pigments were produced in Egypt – lead white and Egyptian blue. In table 1 the features of green and blue pigments are shown, for which there is proof that they were used during Antiquity.

GREEN PIGMENTS

Malachite

Malachite¹¹ is a natural mineral (semi-precious stone), based on copper carbonate. It belongs to the group of natural inorganic pigments (Metka 1991: 315), with average transparency, of bluish green colour and has low stability. It was used from Antiquity until Baroque times.

Pliny referred to malachite as chrysocolla (a name used in modern times for a hydrated copper silicate). He mentions that malachite ores were obtained in Spain, Cyprus, Armenia and Macedonia. There was also a very cheap colour - *Apianum* which was actually false malachite, made of green earth and valued at one sestertius per pound (Pliny: XXXV. XXIX).

¹¹ Names from the literature: verdigris, Spanish green - lat. *viridie hispanicum*, Greek green - lat. *Viridie graecum*.

Malachite was excavated in the eneolithic copper mine “Mali šturac” (Rudnik mountain, Serbia), but other copper mines are also known to have existed: Rudna Glava in eastern Serbia (during the period of the Vinča culture), Jaramovac by Priboj (during the period of the younger Vinča culture) (Antonović, Vukadinović 2012: 95-97). In modern times, copper deposits in Serbia have been found in Bor, Majdanpek, Krivelj, Cerovo, Valjevo, Rudnik, Belo Brdo, Trepča, Kosovska Mitrovica and Čadinje.

Chrysocolla

Vitruvius writes that chrysocolla was imported from copper mines in Macedonia (Vitruvius: VII. IX). Chrysocolla is a hydrated mineral of copper silicate, its mineral admixtures being quartz, azurite, malachite, cuprites and others. Depending on the admixtures, it can be blue or green, sometimes even black. Teophrastus and Pliny wrote about the mineral of chrysocolla, but there is a possibility that they mistook chrysocolla for other copper minerals like malachite.

When chrysocolla was used as pigment, the colour varied from green to turquoise blue. This pigment was found on the wall paintings in the tombs of the 12th dynasty in El Bersha and in Kahun-u in Egypt (Scott 2002: 253). The name derives from the Greek words *chrysos*-gold and *kolla* glue, since it was used for soldering gold (Scott 2002: 253).

Green earth (Terre Verte)

It belongs to the group of pigments with natural inorganic origins. These are clays with large quantities of the green mineral glauconite¹² and celadonite¹³ as well as hydro silicates Fe, Mg, Al, K (Aliatis et al, 532). It can be of different nuances, ranging from very dark greenish-grey, olive-green, grey, blue and green to yellowish-

green. This pigment is very resistant to light and chemicals and it partly reacts with acids and bases. When burnt, this pigment becomes greener and better at covering. It is a non-toxic pigment.

Green earth was used in Egyptian, Greek and Roman times and in later periods. Deposits of green earth were found in the modern Czech Republic, Italy, France, the Baltic countries, Cyprus, Poland, Hungary, England, Germany and others. In Roman times, the name “green earth” was given to *creta viridis* or *apianum* (Aliatis et al, 532)¹⁴, and was a pigment found in Italy (Verona), Spain and in Cyprus.

Verdigris – Green of Greece

Average bluish-green colour of low stability, it is a copper acetate composition and it was used ever since Antiquity,¹⁵ throughout the Middle Ages, Renaissance and Baroque. It was obtained through the reaction of vinegar with copper (Kajtez 2011: 5). With ageing, it turns dark brown or black.¹⁶

Pliny wrote about the frequent use of this pigment and its production. It was produced in vine-growing areas, since vinegar is a product related to wine production. Vinegar was poured over copper plates; the copper reacts forming a bluish-green scum which is scratched off to produce a pigment. There is also a recipe in which copper is exposed to evaporate of fermented grapes. It is stated that at that time verdigris was often falsified. The way to check if it had been replaced with marble, pumice or rubber was to chew it, since these replacements grate under ones teeth. It could also be discovered by the use of the black paint used for painting leather (shoemaker’s black). The test was performed with a red-hot shovel and if verdigris was mixed with shoemaker’s black, it would become red. Forgeries can also be discov-

¹² Glauconite is encountered in sandy forms of surface sediment rocks.

¹³ It was found pure in split metamorphic rocks, Aliatis et al, 532. Celadonite was called “Verona earth”.

¹⁴ The name derives from a place in the Appiano valley (Verona); Aliatis et al, 532.

¹⁵ Mentioned by Theophrastus, Dioscorides and Pliny.

¹⁶ <http://www.webexhibits.org/pigments/individ/overview/verdigris.html>

ered by soaking papyrus with cecidia solution, because when it is covered with verdigirs, it becomes black, but it can also be detected with the naked eye, as it possesses an “evil” green colour.

BLUE PIGMENTS

Azurite

Azurite is an azure blue copper mineral, formed from surface changes to copper. It possesses an azure blue colour and its name derives from the Persian word *lazhward*. It is prepared by grinding, washing and sieving. Rough ground azurite has a darker colour, while the finer ground variety possesses lighter tones. In nature, it often appears together with malachite, which is a green colour and derives from further changes to azurite (Mattei et al. 2008: 302). The process of azurite degradation turns it from blue to green, i.e. to malachite. Another form of azurite degradation is that which occurs in an alkaline surrounding or by heating whereby it turns into black copper oxide, i.e. tenorite (Mattei et al. 2008: 302). Freshly formed azurite is dark blue and over time it becomes lighter, until it changes its colour to green and becomes malachite. It was identified in Egyptian, Greek and Roman paintings, as well as in later periods.

According to Pliny, azurite from Armenia was sold at the price of 300 sestertii per pound (Pliny: XXXV. XXVIII). During the first centuries of the New Era, in the modern town of Walferfangen in Saarland (Germany), there was a Roman mine in which the copper mineral azurite was obtained, becoming Egyptian blue following further processes. This pigment was traded in an area of several hundred square kilometres around the mine (Körlin 2010: 174).

Egyptian blue

Egyptian blue is one of the oldest synthetic pigments, used during the early Egyptian dynas-

ties and until the end of the Roman era (Mazzochin at all 2004: 129). The Romans called it *caeruleum* (Vitruvius). Rarely, this pigment was also used in Mesopotamia and Persia, in the Assyrian palace Til Barship, dated from 1000 – 612 BC, as well as on Persian reliefs from the 6th and 5th century BC (Scott 2002: 358). Egyptian blue was widely used in the Mediterranean and in the area of the Middle East, due to trade and the spread of the production technology.

The preparation of blue colours was first performed in Alexandria. The procedure is as follows: sand with nitrate blooms is sieved until it becomes like flour, it is further soaked and small balls are kneaded by hand which are then dried. After drying, they are put into pottery vessels and then into an oven. Once the copper and sand are red-hot, they amalgamate, turning into steel-blue (Vitruvius VII. XI).

Egyptian blue pigment was made when a mixture of quartz sand, calcium carbonate, copper (azurite or malachite) and small amounts of alkalis were heated to a temperature of between 800 and 900°C for several hours, resulting in the first synthetic pigment. Nuances of this colour are different, depending on the production procedure and the amount of grein, which is added during grinding. Nuances range from dark blue to pale blue, as well as greenish or greyish nuances. Greenish nuances of this pigment derive from wollastonite. Such a pigment is called Egyptian green and was discovered in Nephertiti's tomb (Scott, 2002: 263).

Egyptian blue is a completely stable pigment on all media and in all materials. Even under strong light the colour does not change. The chemical formula for this pigment is actually cuprorivaite. Chemical analyses of samples from Antiquity differ in their composition quite a lot from pure cuprorivaite. The difference is caused by the presence of certain amounts of quartz and other phases of sillitium dioxide, such as pigmented tridymite, which did not react with the copper during the production procedure. Wollastonite can

be present as a result of using larger amounts of lime in the initial material, while copper oxides, like cuprite or tenorite, can be formed if large amounts of copper are used. Still, cuprorivaite is a mineral which is very rare in nature and cannot be collected in quantities big enough to be used as a pigment. In the end, it was concluded that it is a natural parallel to cuprorivaite (Scott 2002: 259). From the discussion, we were able to conclude that nuances of Egyptian blue were quite different, while Berke explicitly mentions fabricing of this colour (Berke 2009: 17).

For Egyptians, blue represented the colour of the sky, the realm of gods and the colour of rivers, which represented floods and rich yields. Egyptian blue was used in combination with Lapis Lazuli for painting eyes, hair and the royal insignia, as well as other details in Egyptian paintings. The Egyptians considered blue as the colour of the universe and, therefore, temple ceilings were painted blue.

Under the microscope, Egyptian blue possesses large grains of an intense blue colour. Crystals are never visible. When grains are ground for use, the particles show irregular angular shapes. This pigment cannot be dissolved in the acids which are usually used for micro-chemical reactions. This feature differs from azurite, which can be dissolved in the same acids. The identification of three main elements, copper, calcium and silicate is enough to point to the existence of Egyptian blue.¹⁷ Egyptian blue can be identified through chemical analysis or the spectrometric analytical method. The painters of Egypt, Mesopotamia and Persia and later Greece and Rome, used Egyptian blue, while cobalt was used for painting glass - smalt (Riederer 1997: 23-45).

Smalt

Cobalt ores were used for painting glass in Egypt and Persia and in the classical period. Production of the pigment: cobalt ore is baked to-

gether with quartz and potash, sometimes melted glass is added. When it is poured into cold water, the blue falls apart into small pieces. After that, it is ground and floated. It has to be roughly ground in order to be used as a pigment. It was very rarely used in the paintings of ancient times and it grows in importance only from the Middle Ages onwards (Berke 2007: 21).

Lapis Lazuli or natural ultramarine

Ultramarine is a natural mineral pigment of the semi-precious stone Lapis Lazuli. This pigment is also called natural ultramarine. The name ultramarine derives from *azzurro oltramarino* – blue from across the sea.¹⁸

In ancient times, Lazulite was much admired because of its stability and gloss, which depended on its purity. The stone was extracted with great difficulty, because by washing with water, it gets a grey tone. It is a durable and non-toxic pigment, resistant to light and alkali (Turinski 1990: 33). Due to its preciousness, it was applied onto already painted surfaces (Kraigher-Hozo 1991: 319).

In ancient times, it was mined only in Afghanistan (Turinski 1990: 33). The use of Lapis Lazuli was highly developed in Persian, Mesopotamian and Egyptian cultures (Berke 2009: 16).

Indigo

Indigo is an organic pigment known from the ancient times and obtained from the so-called indigo plants *Indigofera Tinctoria*. The colour is obtained when leaves of this plant are cut, bound into large bundles and put into pits. After that, they are placed in water with lime or some other alkali and left to ferment. In such a way, indigo white is obtained, which turns into indigo blue as a result of oxidation (Kraigher-Hozo 1991: 319).

Pliny mentions indigo as a product from India, describing it as sludge around a reed, which

¹⁷ <http://hr.scribd.com/doc/94722977/Egipatsko-plava>

¹⁸ <http://www.handprint.com/HP/WCL/pigmt1a.html#lapislazuli>



Fig. 5. The analysis of frescos at the National museum in Požarevac.

possesses a black colour after drying and sieving. After dilution it produces a mixture of purple and blue. Another kind is the so-called “scum of purple”. Indigo forgers put pigeon faeces or earth from Sicily (white earth) in it. Pliny states that indigo is tested by annealing, resulting in pure purple. If it possesses a sea smell, it is considered to be collected around coastal rocks. The price of indigo is 20 dinars per pound. It was also used in medicine, for drying ulcers and the reduction of spasms (Pliny, XXXV. XXVII).

ANALYSIS OF BLUE AND GREEN PIGMENTS ON FRESCOES FROM VIMINACIUM TOMBS

Analytical technique

The analysis of pigments was performed in order to determine their elemental composition, by applying non-destructive EDXRF spectrometry (Fig. 5). The method applied was successfully used for the analysis of wall paintings and it has been established that it represents a valid

Tomb	Fresco	Measuring point	Colour
G-5517	1	1-2	Bluish-green
		1-3	Dark bluish-green
		1-5	Dark
		1-8	Blue
	2	2-7	Blue
G-2624	3	3-2	Blue
	4	4-6	Light blue
		4-7	Dark blue
G-5464	5	5-3	Blue
		5-7	Blue
		5-8	Blue
	6	6-5	Dark blue
		6-8	Light blue
G-3130	8	8-3	Green
		9-2	Green
	9	9-3	Green

Table 2. Picture of measuring points and corresponding colours.

analytical method for characterising pigments in wall paintings (Akyuz 2009, Hradil 2008, Marey Mahmoud 2011). Information about the content of certain chemical elements makes it possible to not only conclude which pigments were used but also how they were used.

The portable EDXRF spectrometer, in-house developed at the Vinča Institute of Nuclear sciences in Belgrade (Gajić-Kvaščev, 2012), consists of an air cooled X-ray tube (Oxford Instruments, Rh-anode, max 50 kV, 1 mA) with a pin-hole collimator and a SiPIN X-ray detector (6 mm²/500 µm, Be window 0.5 mil/12.5 µm thickness and 1.5 inch detector extension), associated with a DSP (X123, Amptek Inc.) for spectra acquisition. Two laser pointers were used for the

proper positioning and visualisation of the measuring spot in the cross-point of the exciting X-ray beam and detector axis, respectively. No filter and 40 kV of high voltage, 800 µA and a 100s measuring time were selected as experimental parameters, and were kept constant during all measurements. Also, the distance between the sample and the x-ray tube was 21 mm, between the sample and the detector, 22 mm, while the angle between the detector and the x-ray tube was 45°. The AD-MCA (Amptek Inc.) software was used for spectra processing.

Tomb G-5517

Frescos from the tomb G-5517 were analysed at the National museum in Požarevac. Due to

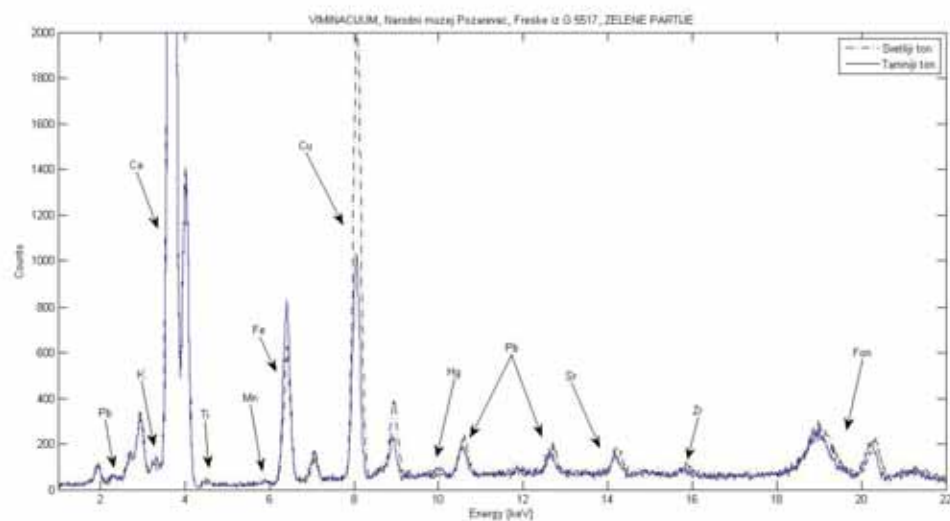


Fig. 6. Compared EDXRF spectra of green parts on frescos from the tomb G-5517.

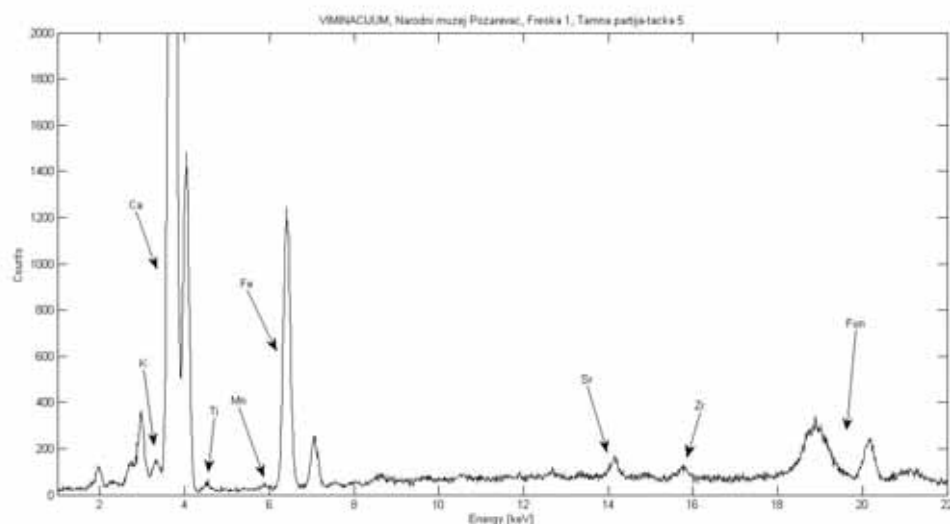


Fig. 7. EDXRF spectra of black earth.

specific conditions, not all of the frescos were accessible for analysis. Owing to the same reasons, it was not possible to perform analyses on all the parts of the painted layer. Two frescos from the tomb G-5517 were analysed, which were painted on the lateral sides (Fig. 1). An overview of the measuring points with corresponding colours is shown in table 2.

On these frescos, only two green parts of lighter and darker tone were analysed. Compared

EDXRF spectra of these analyses are shown on Fig. 6. According to these spectra, we can conclude the following. The presence of an intense copper peak (Cu) within the spectrum indicates the usage of a green pigment based on this element, i.e. malachite, verdigris or chrysocolla. The limitations of the applied analytical method used for the identification of the elemental content do not make it possible to distinguish between these three pigments. The research performed so far

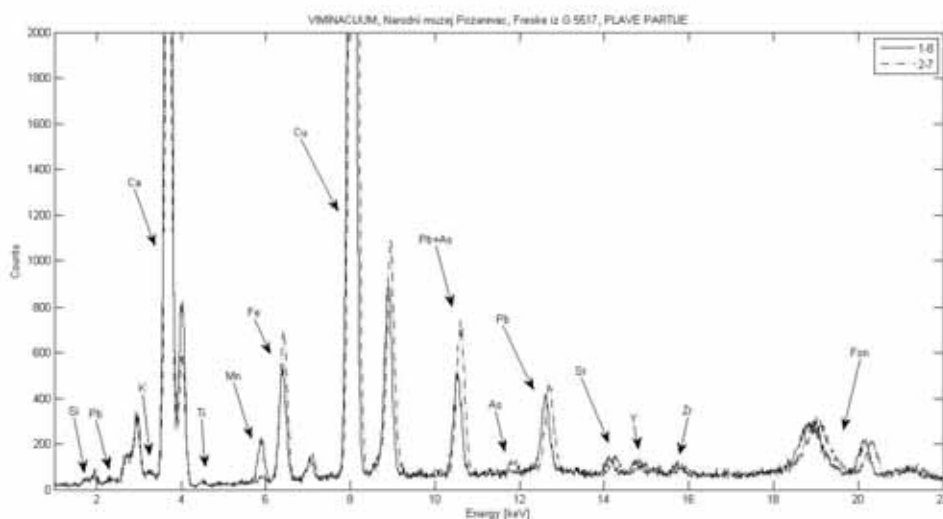


Fig. 8. Compared EDXRF spectra of blue parts of frescos from the tomb **G-5517**.

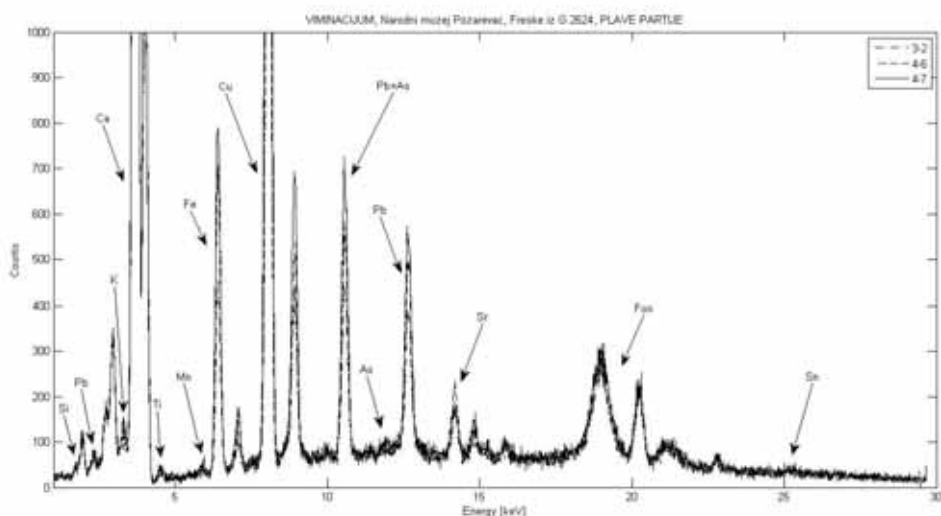


Fig. 9. Compared EDXRF spectra of blue parts painted using Egyptian blue and azurite.

(Gil 2008, Bevilacqua 2010: 185, 241) showed that a more precise identification according to the EDXRF spectrum can be obtained based on the presence of elements in traces. It is known that impurities which can appear in EDXRF spectra of malachite include Zn, As and Sb, although Zn is marked as an ever-present indicator of malachite. According to the intensity of the calcium (Ca) peak, which is almost the same for both nuances of green (Fig. 6), we can conclude that a mix-

ture of pigments was used to obtain the desired nuance. In this sense, we can say that the darker tone of green was obtained by mixing a copper pigment with some kind of dark earth. An indicator for black earth is an intense peak of iron (Fe) within the spectrum of point 3 (Fig. 6), as well as peaks of potassium (K), titanium (Ti) and manganese (Mn), which show the presence of these elements in traces. Confirmation of this is also obtained from the spectrum shown in Fig. 7. A small

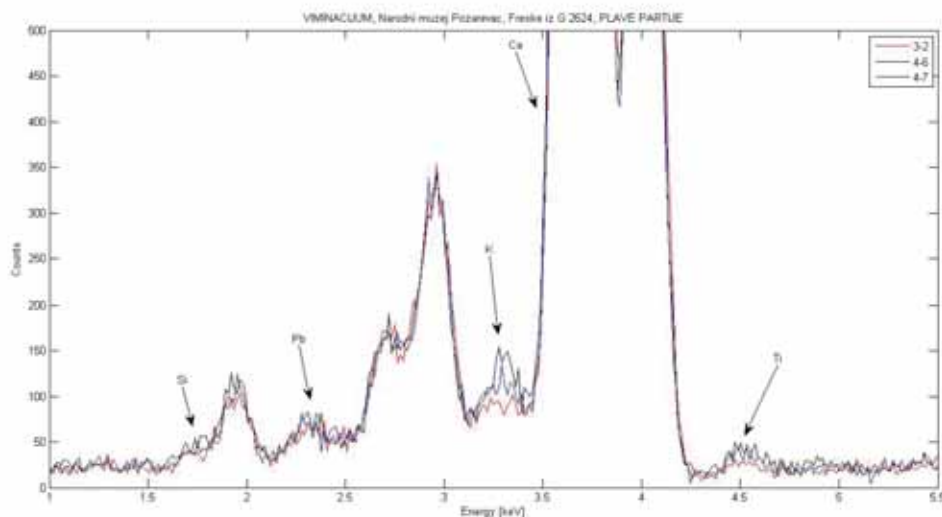


Fig. 10. Detail from the spectra in Fig. 9.

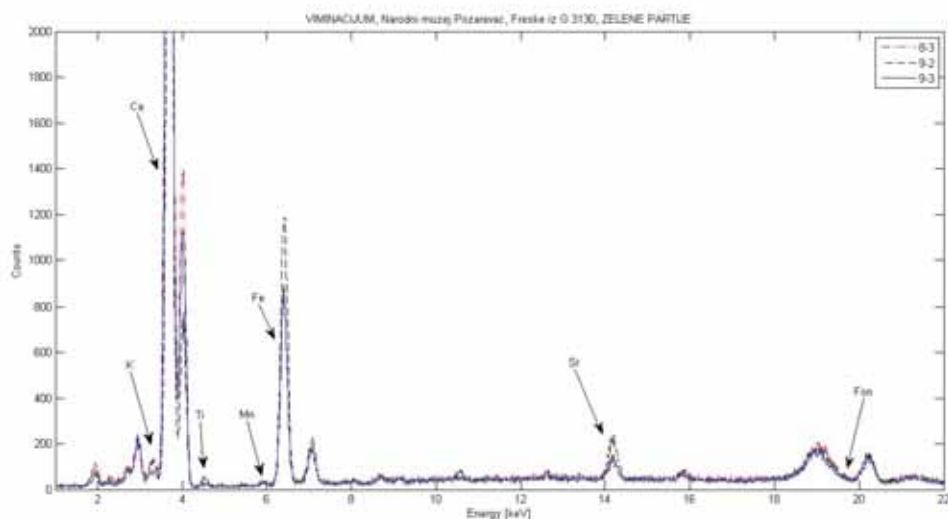


Fig. 11. Compared EDXRF spectra of green parts painted using green earth.

trace of mercury (Hg) indicates more impurities and less use of vermilion to obtain the desired nuance. A slightly higher peak of lead (Pb) within the spectrum of the lighter tone indicates a small admixture of lead white for lightening the copper green pigment.

Blue parts on the frescos from the tomb G-5517 were analysed at two points. Compared spectra for these two points are shown in Fig. 8. A very intense peak of copper (Cu) indicates that, for these parts, either Egyptian blue or azurite

was used. A more precise identification of these two pigments can be obtained according to impurities which can be detected with the method applied (Bevilacqua 2010: 185). In this way, the presence of Si and As in these spectra shows that, for these parts, Egyptian blue was used. Unlike the green parts, in which it is suspected that there was the use of a mixture of pigments applied in one layer, here a multi-layering of the analysed painted points can be supposed. This conclusion is derived from the intense peak of manganese (Mn),

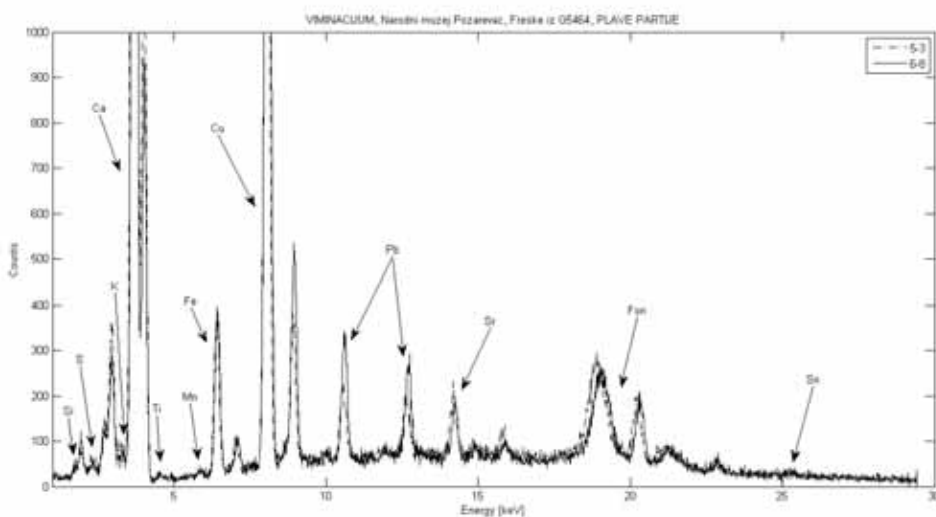


Fig. 12. EDXRF spectra of blue parts painted using Egyptian blue pigment.

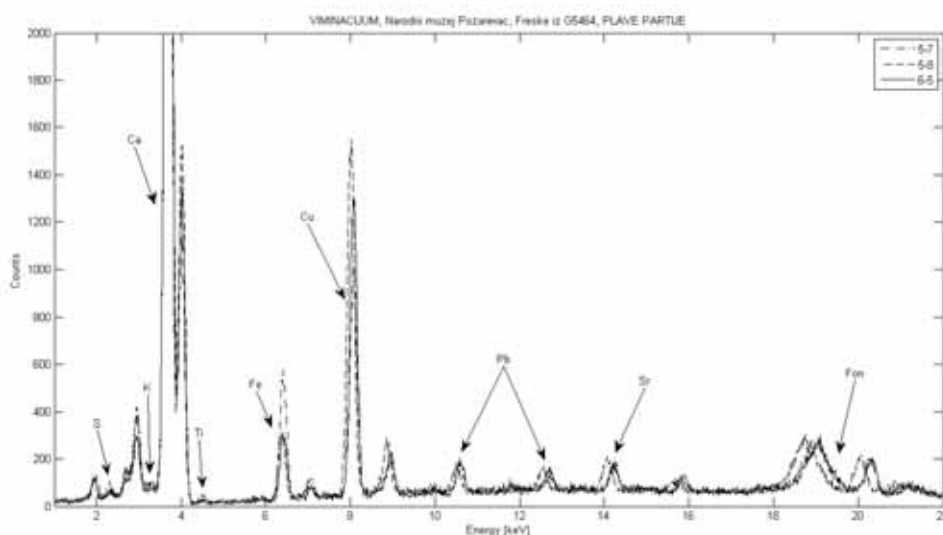


Fig. 13. EDXRF spectra of blue parts painted using azurite.

as well as from different intensities of the peaks of calcium (Ca) and iron (Fe) for the same nuances of the basic pigment.

Tomb G-2624

The frescos from the tomb G-2624 were analysed at the National museum in Požarevac. An overview of the analysed points with the corresponding colours is shown in table 2. Blue parts of these frescos were analysed at three points. Compared EDXRF spectra of these analyses are

shown in Fig. 9.

A detail from Fig. 9 is shown in Fig. 10. According to these graphs, one can conclude that, apart from the precious Egyptian blue, azurite was also used for painting blue parts.

Tomb G-3130

Frescos from the tomb G-3130 were analysed at the Domus Scientiarium in Kostolac (Viminacium). An overview of the analysed points with the corresponding colours is shown in

table 2. The green parts in these frescos were analysed at three points. Compared EDXRF spectra of these analyses are shown in Fig. 11. According to these spectra it can be concluded that for the painting of the green parts of these frescos, green earth was used.

Tomb G-5464

Frescos from the tomb G-5464 were analysed at the Domus Scientiarium in Kostolac (Viminacium). An overview on the analysed points with the corresponding colours is shown in table 2. The blue parts on these frescos were analysed at five points. Compared EDXRF spectra of these analyses are shown in Fig. 12 and 13. According to these spectra we can conclude that, apart from Egyptian blue, azurite was also used.

CONCLUSION

In this paper, only pigments which were used during Antiquity are discussed. This study includes experimental work on specific examples of late antique tomb paintings from Viminacium. Since all of these wall paintings belong to the same period (4th century), compared results obtained are of great importance. The current knowledge of pigments used during antiquity and late antiquity in Serbia is not based on specific examples, but on examples from literature and written sources. Here, complete analytical data are obtained about the pigments used in late antiquity, since analyses derive from a huge sample. These results will be compared with future results of pigments from other Viminacium objects.

The identification results of the pigments used for the wall paintings using the non-destructive EDXRF spectrometry method shows that this analytical method can successfully be used for this purpose. Limited accessibility to the frescos during this procedure, as well as the reduced number of well preserved painted parts for this kind of

analysis, made it impossible to perform research on a larger scale or to draw more precise conclusions. Even so, the work of teams of experts from the natural sciences and humanities made it possible to overcome these limits.

Green pigments – On tomb frescos from Viminacium, green parts were analysed on three frescos. According to these analyses, it can be said with a degree of certainty that, for the wall paintings of tomb G-5517, some of the copper based green pigments were used: malachite, verdigris or chrysocolla. The applied analytic method is limited to the analysis of the composition of the elements, while the more precise analysis distinguishing between the three pigments is performed indirectly, i.e. according to the elements in traces. In this case, owing to the presence of zinc (Zn) in traces, we can presume that malachite was used (Zn is an ever present indicator of malachite). To obtain darker tones, malachite was mixed with black earth. Data can be found in literature regarding the mixing of Egyptian blue or azurite with yellow ochre to obtain desirable tones of green. However, these analyses did not confirm this approach (no typical elements of yellow ochre such as titanium-Ti or manganese-Mn, were detected).

Apart from copper based green pigments, the analyses confirmed that green earth was used on frescos from the later period. Through these analyses, no use of both kinds of pigments was confirmed in frescos from one single tomb, but it can not be stated for sure, because of low availability of suitable measuring points

The use of the aforementioned copper based green pigments was well known and widespread during the period in which the frescos were painted. Indirect analysis based on the detected elements in traces can be of further help in the detection of the pigment used. The precise identification of the copper based pigment used is not possible with the method applied. The precise identification requires either the application of some other non-destructive method (for which

there were no technical conditions) or the collection of samples for a detailed chemical analysis.

Blue pigments – Within the spectra of blue parts from the Viminacium tomb paintings, copper is the most abundant chemical element, providing important information about the pigment used. According to this, as well as to the analyses of elements in traces which indicate certain pigments, it was concluded that Egyptian blue and azurite were used most probably. On frescos from the tomb G 5464 both pigments were used, which corresponds to the data found in literature regarding the addition of small amounts of the more precious Egyptian blue to the more affordable azurite (Siddall 2006).

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REZIME

**ANALIZE PLAVIH I ZELENIH
PIGMENTATA SA FRESKO
OSLIKANOG GROBA IZ
VIMINACIJUMA**

KLJUČNE REČI: EDXRF, PIGMENT, ZELENO, PLAVO, ZIDNO SLIKARSTVO, KASNA ANTIKA.

Rad se bavi analizom plavih i zelenih pigmentata kasnoantičkih zidnih slika grobnica (G-5517, G-2624, G-3130 i G-5464) iz Viminacijuma. Ove grobnice pronađene su prilikom arheoloških istraživanja u periodu od 1983 do 1990 godine.

Elementalni sastav pigmentata određivan nedestruktivnom EDXRF spektrometrijom. Na osnovu rezultata možemo reći da su zelene nijanse zidnih slika iz Viminacijuma uglavnom pigmenti na bazi bakra kao malahit, verdigris i hrizokola, mada je korišćen i zemljani pigment - zelena zemlja. Plavi pigmenti su na bazi bakra. Na osnovu analize elemenata u tragovima koji su pratili pojedinih pigmentata zaključeno je da su korišćeni Egipatsko plava i azurit, kao i njihove kombinacije.

Do sada su primeri analiza pigmentata zidnog slikarstva antičkog i kasnoantičkog perioda u Srbiji navođeni na osnovu literature, nije poznato

da su rađene analize na ovako velikom uzorku. Dobijeni rezultati moći će da se porede sa budućim rezultatima analiza zidnog slikarstva istog perioda iz drugih objekata Viminacijuma, kao i sa drugih arheoloških nalazišta u Srbiji kojima će se dobiti potpunija saznanja o paleti kasnoantičkog perioda u Srbiji.

ARGO ALS KRIEGSSCHIFF UND ALS FRACHTSCHIFF: ASTRALIKONOGRAPHIE ZWISCHEN ANTIKE UND MITTELALTER

ZUSAMMENFASSUNG

Die 48 Konstellationen des antiken Sternenhimmels hat man im Altertum als Figuraldarstellungen mit Menschen, Tieren oder Sachen dargestellt. Die Griechen und Römer folgten dabei den Vorbildern aus Mesopotamien und Ägypten, sie formten jedoch die Bilder der Sternkonstellationen auf eigene Weise. Das entscheidende Medium war die Buchmalerei. In der Wahl der Motive spiegelt sich das Leben und die Erfahrungswelt der Illustratoren. So hat man für das Sternbild der Gemini (Zwillinge) im Tierkreis zwei verschiedene Mythenbilder ausgewählt. Für das weit im Süden gelegene Sternbild des Schiffes (Argo) griff man auf aktuelle Schiffsbilder zurück, in einem Falle sogar auf einen ganz modernen Kriegsschiffstypus der römischen Marine. Die mittelalterlichen Buchausgaben der antiken Astronomen halten sich bei den Illustrationen noch in vielen Punkten an die antiken Vorbilder.

KEY WORDS: STERNENHIMMEL, IKONOGRAPHIE, ANTIKE, MITTELALTER.

ANTIKE UND MITTELALTERLICHE BILDQUELLEN

Für die Ikonographie antiker Sternbilder stehen uns im Bereich des Tierkreises (Zodiakos, Zodiacus) unzählige Bildwerke aus dem Altertum zur Verfügung¹. Dies betrifft aber nur die zwölf Tierkreiszeichen; es bleiben die übrigen 36 Sternbilder des antiken Sternenhimmels, dessen Konstellationen die Alten auf 48 begrenzten². Hier sind

¹ Gundel 1992.

² Thiele 1898; Schlachter und Gisinger 1927; Gundel 1992; Künzl 2000; idem 2005.- Für die moderne Zeit hat die Internationale Astronomische Union (IAU) im Jahre 1922 eine Liste von 88 verbindlich festgelegten Sternbil-

die antiken Bildquellen schon spärlicher. Ganz erhalten präsentiert sich der Mainzer Himmelsglobus (Abb. 1); am Globus des Atlas Farnese fehlen einige Bilder (Abb. 2). Auch die Planisphäre der Salzburger Kalenderuhr ist leider nur ein kleines Fragment; ihre Bilder wären sonst eine entscheidende Hilfe gewesen.

Umso dankenswerter ist es, dass eine Reihe mittelalterlicher Himmelskarten (Planisphären) die antiken Bildtraditionen fortsetzt. Planisphären sind flache Sternkarten, mit dem Nordpol im Zentrum, dem exzentrischen Ekliptikpol und dem ebenfalls exzentrischen Ring der Ekliptik; sie

_____ dem erstellt.

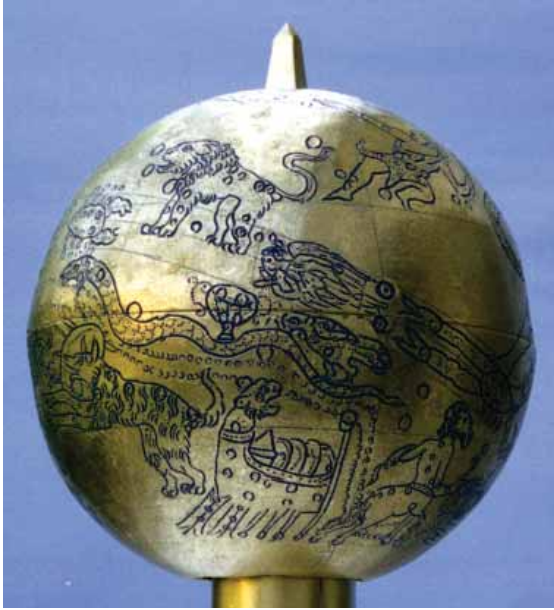


Abb. 1
Römischer Himmelsglobus. Messing. Dm. 110 mm. 150-220 n. Chr. Mainz, Römisch-Germanisches Zentralmuseum Inv. O.41339. Galvanoplastische Kopie mit dunkler Einfärbung der Linien. Fot. Verf.



Abb. 2
Römischer Himmelsglobus. Globus des Atlas Farnese. Marmor. Dm. 65 cm. Um Christi Geburt. Neapel, Nationalmuseum Inv. 6374. Kopie im Museo della Civiltà Romana, Rom. Fot. Verf.

können entweder nur in der Form der Hemisphäre die nördlichen Sternbilder bieten, oder man nimmt bis zum südlichen Wendekreis die dann nach außen immer mehr auseinanderliegenden Sternbilder auf.

Der Wunsch nach flachen Sternkarten muß bereits im Hellenismus oder der frühen Kaiserzeit aufgekommen sein. Außerdem konnte man Planisphären in die Bücher als Illustration aufnehmen. Im 2. Jh. n. Chr. existierten solche Sternkarten sicherlich, denn ihre Konstruktion wird von Claudius Ptolemaeus beschrieben. Außerdem haben wir ungefähr aus derselben Zeit das einzige antike Fragment einer Planisphäre, die Salzburger Kalenderuhr (Abb. 3). Im Mittelalter sind die farbigen Planisphären der Prachtausgaben der antiken Astronomieautoren (Aratos, Ptolemaeus u.a.) unsere Hauptquelle³.

BESONDERHEITEN DER ANTIKEN IKONOGRAPHIE

Eine umfassende ikonographische Analyse der antiken und mittelalterlichen Sternbildfassungen ist noch nicht geschrieben worden. Löhnen würde sie sich schon. So konnte man feststellen, dass das Sternbild Widder (Aries) meist als aufrecht gehendes oder springendes Tier dargestellt wird (z. B. auf dem Globus Farnese; Abb. 2)⁴. Wenn er einen Reif trägt oder durch einen Reif zu springen scheint, wie im Codex Vossianus lat. 79 Fol. 34v⁵, so ist damit der Äquinoktialkolor gemeint. Den ruhenden Widder, so wie wir ihn auf dem Mainzer Globus sehen (Abb. 4), finden wir auf einer kleinen Reihe von Belegen, die alle ins hellenistische und römische Ägypten weisen. Die Planisphäre im Codex Vaticanus graec. 1087 (fol. 310v) aus dem 15. Jahrhundert zeigt neben dem ruhenden Widder einen anderen Hinweis auf

³ Saxl 1915a; idem 1915b; Saxl u.a. 1953; von Euw 1987.

⁴ Thiele 1898: 27 Abb. 5 u. Taf. 4 oben.

⁵ Thiele 1898: 108 Fig. 33; Gundel 1992: 328 Nr. 460 (2) Abb. S. 329.

Ägypten: Ara (Altar) im Süden ist in dieser Handschrift leuchtturmartig nach Art des Pharos von Alexandrien wiedergegeben.

DIE GEMINI, BEISPIEL FÜR EINE IKONOGRAPHISCHE PARALLEL-TRADITION

Die Gemini (Zwillinge) erscheinen auf dem Mainzer Globus als zwei nackte Jünglinge, die sich umarmen (Abb. 5); die Gruppe entspricht damit jenen antiken Auffassungen der Gemini, welche sie als Castor und Pollux, die Dioskuren (Söhne des Zeus-Iuppiter) sahen. Die Darstellung der beiden nackten Jünglinge, die sich hier an den Dioskuren (freilich ohne ihre Piloi, die Filzkappen der Seeleute) orientiert, konnte im Altertum verschiedenen mythischen Gestalten angeglichen werden (Amphion und Zethos, die Kabiren von Samothrake).

Auf der Salzburger Kalenderuhrscheibe (Abb. 3) ist der eine noch erhaltene Zwilling als Hercules aufgefaßt, man muß also den zweiten als Apollo ergänzen⁶. Im Tempelschatz von Marenco (Alessandria/Italien) erscheinen die Gemini ebenfalls als Hercules mit der Keule und Apollo mit der Leier (Abb. 6)⁷. Die Gemini als Hercules und Apollo sind durch alexandrinische Münzen der Zeit des Antoninus Pius bezeugt, was man mit dem astrologischen Tetrabiblos des Ptolemaeus in Verbindung brachte⁸. Auch auf der Tabula Bianchini im Louvre finden sich die Gemini als Hercules mit der Keule und Apollo mit der Kithara⁹. Dasselbe gilt für das Marmorrelief Daressy¹⁰. In

⁶ Maass 1902: 196; Künzl 2000: 511 Taf. 64,4.

⁷ Künzl 2000: 511 Taf. 63,1.

⁸ Thiele 1898: 67-69 Abb. 13; Lehr 1971: 8 Abb.- Vgl. auch die in den von F. Boll vorgelegten Texten vorherrschende Interpretation als Hercules und Apollo: Boll 1903: 122-128.

⁹ Boll 1903: 299-305 Taf. 5; Gundel 1992: 110f. Abb. 51. 226 Nr. 63; Abry 1993: Taf. VI; Stückelberger 1994: 41.

¹⁰ Boll 1903: 305-306 Taf. 6; Neugebauer und Parker 1969: 103 Nr. 80 Taf. 40B; Gundel 1992: 226 Nr. 62. Abb.



Abb. 3

Flache Sternkarte (Planisphäre) als Teil einer Kalenderuhr. Bronze. Aus Salzburg/Österreich. Planisphärenfragment einer Kalenderuhr. Aus Salzburg/Österreich. Bronze. 2. Jh. n. Chr. Salzburg, Museum Carolino-Augusteam. Nach Benndorf u.a. 1903, 39 Fig. 18.

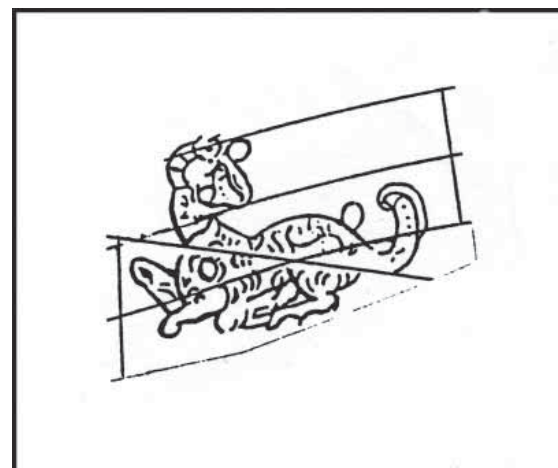


Abb. 4

Liegender Widder (Aries) vom Mainzer Himmelsglobus (vgl. Abb. 1). 150-220 n. Chr. Zeichnung Julia Ribbeck, Mainz, Römisch-Germanisches Zentralmuseum.

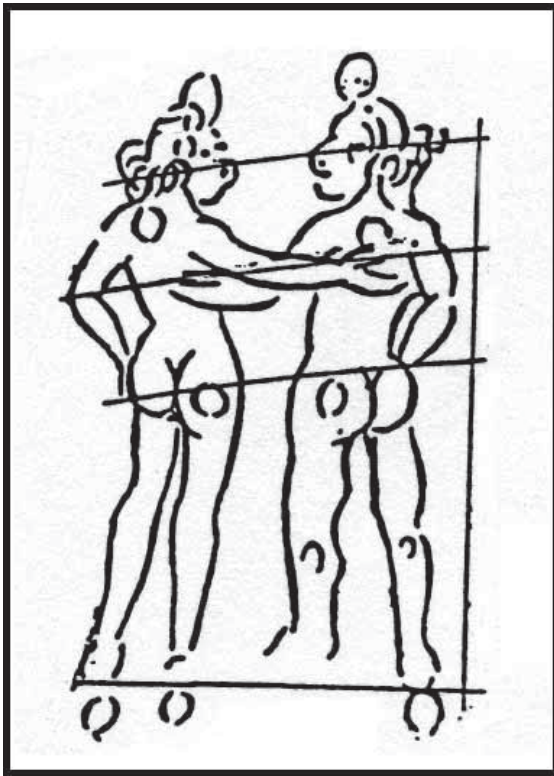


Abb. 5
Die Zwillinge (Gemini) vom Mainzer Himmels-
globus (vgl. Abb. 1).
150-220 n. Chr. Zeichnung Julia Ribbeck, Mainz,
Römisch-Germanisches Zentralmuseum.



Abb. 6
Hercules und Apollo als Zwillinge (Gemini).
Silberapplike aus einem Tempelschatz. 2. Jh. n.
Chr. Aus Marengo, Alessandria/Italien. H. 17 cm.
Turin, Museo di Antichità. Fot. Mainz, Römisch-
Germanisches Zentralmuseum T 63/3296.

der Tat sind die genannten Zeugnisse alle in das 2. Jh. n. Chr. (Marengo, Salzburg, Münzen aus Alexandria) oder ungefähr in diese Zeit (Tabula Bianchini, Relief Daressy) zu datieren, der vermutete Einfluß des Claudius Ptolemaeus ist deshalb nicht unwahrscheinlich. Nun sind auch Hercules und Apollo Söhne des Iuppiter, wenn auch keine Zwillinge wie die Ledasöhne Castor und Pollux (griech. Kastor und Polydeukes).

Auf den mittelalterlichen Planisphären sind die Gemini im Codex Vaticanus graec. 1087¹¹ vielleicht ebenfalls noch auf das Paar Apollo-Hercules zu beziehen; der linke stützt sich auf einen Rest einer Kithara, der andere auf eine Art dünnen

Stecken, in dem der Rest der Keule zu verstehen ist. Diese Deutung empfiehlt sich auch deswegen, weil die Darstellung des Zodiacus derselben Handschrift als Ring um Sonne und Mond die Gemini deutlich als Hercules und Apollo zeigt¹². Deutlich ist die Keule am linken Zwilling des Codex Harleianus 647 zu sehen, wobei in diesem Falle sein Gefährte ein Objekt hält, das auf den ersten Blick wie eine Lanze aussieht; da der Schaft der Waffe aber sehr kurz ist und auch unten keine Beschädigung erkennbar ist, muß es ein Pfeil sein, was wieder einen Apollo kennzeichnet. Die Gemini mit Keule (erkennbar, aber fast wie ein Hirtenstab geformt) des Codex Bernensis 88 gehen ebenso wie die Darstellung des Codex

S. 227; Abry 1993: Taf. II,1.

11 Künzl 2000: 511 Taf. 65,2.

12 Gundel 1992: 319 Nr. 424.



Abb. 7
Die Zwillinge (Gemini) als Mischung von Hercules und Apollo mit den Filzmützen der Dioskuren Castor und Pollux. Codex Vossianus lat. Q 79 fol. 16v. Um 840 n. Chr. Leiden, Universitätsbibliothek. Foto: Leiden, Universitätsbibliothek.

Bononiensis 188, auf dem ebenfalls die Keule erkennbar ist, die Kithara aber nicht (gleichfalls wie am Codex Bernensis 88) auf das Vorbild des Leidener Codex Vossianus lat. 79 zurück: Dort tragen die Gemini zwar die Filzkappe der Dioskuren (Abb. 7)¹³, die freilich nun statt eines Sternes wie im Altertum ein Kreuz bekrönt. Zugleich aber hat der Künstler mit der Zither (Kithara) den einen als Apollo und mit der Keule den anderen als Hercules bezeichnet.

Die Hercules-Apollo-Tradition der Gemini, seit dem 2. Jh. n. Chr. nachweisbar und besonders mit Ägypten verbunden, erweist sich also als sehr langlebig.

¹³ Thiele 1898: 98 Fig. 24; Gundel 1992: 328 Nr. 460 (2) Abb. S. 329.



Abb. 8
Das Schiff (Argo) auf dem Globus des Atlas Farnese. Marmor. Um Christi Geburt. Neapel, Nationalmuseum Inv. 6374. Nach Thiele 1898, Taf. 5 oben.

KRIEGSSCHIFFE UND FRACHTSCHIFFE

Argo, das große Schiff am Himmel des Südens, wird als Halbschiff dargestellt. Hier fällt zunächst auf, dass es am Mainzer Globus (Abb. 1) ganz anders als auf dem Globus des Atlas Farnese (Abb. 2) gestaltet ist. Auf dem marmornen, großformatigen Himmelsglobus des Atlas Farnese (Abb. 8), den man sich bunt bemalt vorstellen muß, erscheint ein frühkaiserzeitliches Schiff mit Mast, zwei Steuerrudern und großer Heckzier (Aphlaston): Dargestellt ist die hintere Hälfte des Schiffes¹⁴. Die Riemenreihen für eine Rudererbesatzung fehlen, also dürfte ein Frachtschiff gemeint sein. Wie wenig der entwerfende Meister Genauigkeit anstrebte, zeigt sich in dem

¹⁴ Thiele 1898: Taf. 5 oben.

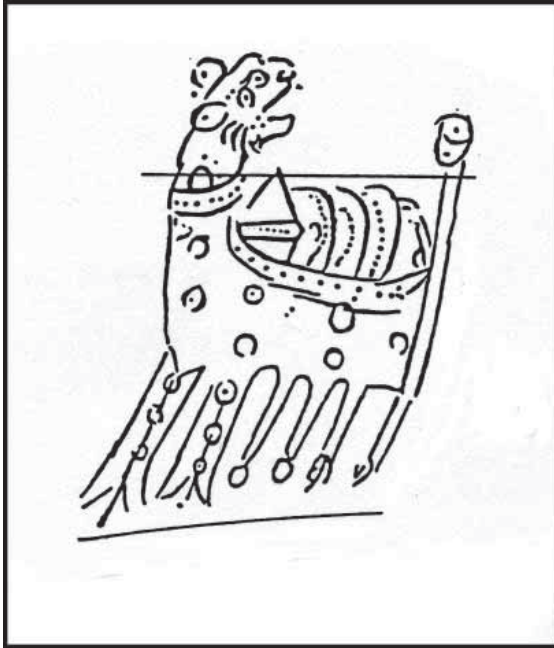


Abb. 9
Das Schiff (Argo) als Kriegsschiff am Mainzer Himmelsglobus (vgl. Abb. 1).
150-220 n. Chr. Zeichnung Julia Ribbeck, Mainz, Römisch-Germanisches Zentralmuseum.



Abb. 10
Das Neumagenschiff. Teil eines Grabmals von Trier, gefunden in Neumagen an der Mosel. Um 200 n. Chr. Gerudertes Kriegsschiff, als Weintransportschiff außerplanmäßig eingesetzt. Trier, Rheinisches Landesmuseum. Kopie Mainz, Museum für Antike Schifffahrt. Fot. Verf.

Detail der runden Schilde als Dekor der oberen Bordwand; dies ist ein Motiv, welches man von der Darstellung römischer Kriegsschiffe kennt, beispielsweise von einem Relief aus Praeneste (Palestrina, in der Nähe von Rom)¹⁵.

Auch das Schiff Argo des Mainzer Himmelsglobus erscheint als Halbschiff, hier allerdings mit einem Tierkopf am Heck, welcher über das Deck nach vorne schauen soll (Abb. 9)¹⁶. Das Schiff ist ein Ruderschiff mit zwei breiten Steuerrudern hinten. Auf dem Deck steht direkt neben dem Heck eine Art Haus mit Giebel, worunter eine Kajüte zu verstehen ist, während die gebogenen Objekte wohl Schilde darstellen sollen.

Diesen militärischen Ruderschiffstypus kennt man bisher aus dem Norden des Römerreiches, beispielsweise aus Darstellungen wie dem Weinschiff von einem Grabdenkmal des frühen 3. Jhs. n. Chr. aus Neumagen, Rheinland-Pfalz im Landesmuseum Trier (Abb. 10)¹⁷. Auch auf der hundert Jahre früher geschaffenen Traianssäule in Rom sind solche schnellen, schlanken Militärboote auf der Donau zu sehen (Abb. 11)¹⁸. Es handelt sich um binnentaugliche Biremen des 2. bis 4. Jahrhunderts, zweireihige Riemenfahrzeuge mit Einzelbemannung (Biremes)¹⁹, welche für die Organisation der Reichsverteidigung an den Nordgrenzen sehr wichtig waren. Die römischen Reichsgrenzen zwischen Nordsee und Schwarzem Meer waren überwiegend Flussgrenzen, welche mit Hilfe von Binnenflotten verteidigt werden mussten.

Der Mainzer Himmelsglobus (Abb. 1) ist vermutlich im römischen Ägypten entworfen worden; seinem Künstler lag für das Schiff Argo ein Entwurf vor, der ein modernes, schnelles und nicht sehr großes Militärboot darstellte. Das heißt freilich nicht, dass nicht auch vor dem Mainzer

¹⁵ Bockius 2007: 45 Abb. 48.

¹⁶ Künzl 2000: 521 Abb. 13 Nr. 33.

¹⁷ Bockius 2007: 57 Abb. 59.

¹⁸ ibidem: 65 Abb. 68.

¹⁹ ibidem: 53-58.- Allgemein zur antiken Seefahrt vgl. auch Bockius 2006; Casson 1994; Höckmann 1985.

Globus (150-220 n. Chr.) dieser Schiffstypus einmal in der Sternbildikonographie zitiert worden war. Hier fehlen uns bisher Belege aus der entscheidend wichtigen Buchillustration²⁰. Die uns vorliegenden außerordentlich seltenen antiken Himmelsgloben wie jene in Mainz (Abb. 1) und in Neapel (Abb. 2) sind außerdem keine professionellen Astralgloben antiker Astronomen, sondern Dekorationsstücke, wobei freilich kein Zweifel besteht, dass sich die Künstler dabei an die Ikonographie der astronomischen Fachliteratur gehalten haben.

Von den mittelalterlichen Bildern des Schiffes Argo überliefern die einen in mehr oder weniger großer Vereinfachung den frühkaiserzeitlichen Typ des Atlas Farnese, also ein Schiff ohne Riemenreihe und mit einer Heckzier. Man findet diesen Frachtschiffstypus in der Planisphäre des Codex Bernensis 88 (Abb. 13)²¹, welcher vor 1029 zu datieren ist. Sehr ähnlich und auf die gleiche Bildquelle zurückgehend erscheint das Schiff im Codex Bononiensis 188 (Planisphäre, fol. 20r.)²², welcher in das 10.-11. Jahrhundert gehört. In beiden Fällen fehlt das Steuerruder. Dieses wiederum ist am Frachtschiff der Planisphäre des Codex Harleianus 647 aus dem 9. Jahrhundert angegeben (Abb. 12)²³.

Daneben hält sich über das gesamte Mittelalter die andere Tradition der Argodarstellung in Form eines Kriegsschiffes. Der Codex Vaticanus graec. 1087 (Abb. 15)²⁴, der schon in die Zeit der Renaissance des 15. Jahrhunderts gehört, weist sowohl die Ruderreihe wie auch die Kajüte auf dem Deck auf.

Daß diese Version nicht allein steht, zeigt das Ruderschiff dieses Typs des Hemisphärenbildes im Codex Sangallensis 250 aus dem 9. Jahr-



Abb. 11
Rom, Traianssäule. Konvoi leichter Militärboote auf der Donau. Frühes 2. Jh. Kopie im Museum für Antike Schifffahrt, Mainz. Fot. Verf.



Abb. 12
Das Schiff (Argo) in der Planisphäre des Codex Harleianus 647 (fol. 21v.). 9.-11. Jh. London, British Museum. Fot. British Museum.



Abb. 13
Das Schiff (Argo) in der Planisphäre des Codex Bernensis 88 (fol. 11v.). Vor 1029. Fot. Burgerbibliothek Bern.

²⁰ Stückelberger 1994.

²¹ Künzl 2000: Farbtafel IX,2.

²² ibidem: Farbtafel IX,1.

²³ ibidem: Taf. 66.

²⁴ Boll 1903: 92 Taf. 1; Gundel 1992: 312 Nr. 396. Abb. S. 311; Stückelberger 1994: 41 Abb. 19; Künzl 2000: Taf. 65,2.



Abb. 14
Das Schiff (Argo) im Codex Vossianus latinus Q 79-64v. Karolingische Prachthandschrift des Aratos. Um 840. Leiden, Universiteitsbibliotheek. Phot. Leiden, Universiteitsbibliotheek.



Abb. 15
Das Schiff (Argo) in der Planisphäre des Codex Vaticanus graecus 1087 (fol. 310v). 15. Jh. Rom, Vatikan, Biblioteca Apostolica Vaticana. Fot. Biblioteca Apostolica Vaticana.

hundert. Das Schiff als Ruderschiff des Typs Neumagen zeigt auch schon der ebenfalls aus dem 9. Jh. stammende Codex Vossianus lat. 79 (Abb. 14)²⁵, die Überlieferung hielt sich also über lange Zeit.

Die Hyginushandschrift des 9. Jahrhunderts in Dresden, Codex Dresdensis Dc. 183 fol. 13, zeigt ebenfalls das Schiff im Typus des Neumagener Kriegsschiffs, wenn auch vereinfacht ohne Ruder, aber mit den beiden Steuerrudern²⁶. Die Darstellung des Einzelbildes Argo im Bernensis 88 (fol. 7r.) folgt dem Vorbild des Codex Vossianus (Abb. 14), in beiden Fällen wird ein leichtes antikes Militärboot dargestellt. Es ist ganz interessant zu sehen, dass im Codex Bernensis 88 das Einzelbild Argo als Kriegsschiff (fol. 7r.) von dem Frachtschiff der Planisphäre derselben Handschrift (Abb. 13. fol. 11v.) ganz verschieden ist; daran hat man sich offensichtlich nicht gestört.

Die Schiffe des Atlas Farnese (Frachtschiff) und des Globus in Mainz (Militärboot) geben demnach fundamental unterschiedliche Quellen wieder.

Wie lange sich seltene Bildvarianten hielten, zeigt der liegende Widder in Albrecht Dürers Nordhemisphäre von 1515 (Abb. 16)²⁷. Wenn man auch seine direkten Quellen nur ein oder indirekt etwa drei Jahrhunderte zurückverfolgen kann²⁸, so sind doch die Verbindungen zu den antiken Darstellungen (Abb. 4) anderthalb Jahrtausende zuvor offensichtlich - die lange Dauer solcher Bilder bezeugend.

Es sind uns die antiken Bilder der Helden und Tiere am Himmel so vertraut geworden, dass ein wichtiger Aspekt kaum ins Auge fällt: Die antike Ikonographie der Sternkonstellationen konnte sich über das Mittelalter hinweg gegen jegliche Christianisierung behaupten. Schon in der Spätantike und dann im Laufe des Mittelalters versuchte

²⁵ Thiele 1898: 123f. Fig. 48.

²⁶ ibidem: 43 Fig. 7; Stückelberger 1994: 32 Anm. 17; Obrist 2001: 25 Abb. 16.

²⁷ Benndorf u.a. 1903: 36 Abb. 17; Gundel 1992: 314 Nr. 400.

²⁸ P. Kunitzsch, briefl. 1. 7. 2004.

man aus christlicher Sicht, die zwölf Tierkreiszeichen in die zwölf Apostel umzubenennen. Den liegenden Widder als apokalyptisches, leidendes Lamm zu interpretieren, gehörte in dieselbe Kategorie²⁹. Im 17. Jahrhundert hat man die zwölf Apostel sogar auf ihre Symbole zu reduzieren gesucht, und dafür einen lateinischen Zweizeiler erfunden. Ein Schüler des großen Astronomen Johann Bayer in Augsburg, Julius Schiller, veröffentlichte 1627 sein *Coelum Stellatum Christianum*, einen christlichen Sternatlas, in dem beispielsweise der Nördliche Kranz (Corona Borealis) als Dornenkrone erscheint.

Dauerhaften Erfolg hatten diese Bestrebungen nicht. Gerade im Dreißigjährigen Krieg, Deutschlands historisch folgenreicher Katastrophe, hatten die Menschen andere Sorgen, als sich um die Umbenennung von Himmelsbildern zu kümmern. Schon im Mittelalter hatten die germanischen Himmelsnamen³⁰ die Christianisierung Nordeuropas nicht überlebt. So ist es beim klassischen gräko-römischen Sternenhimmel geblieben.

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Abb. 16

Albrecht Dürer, Nordhemisphäre, 1515.

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²⁹ Hübner 1983; Hübner 1984: 162.

³⁰ Reuter 1934.

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REZIME**ARGO KAO RATNIČKI I KAO
TERETNI BROD. ASTRALNA
IKONOGRAFIJA OD ANTIKE DO
SREDNJEG VEKA**

KLJUČNE REČI: ZVEZDANO NEBO, IKONOGRAFIJA, ANTIKA, SREDNJI VEK.

U prošlosti, 48 konstelacija na nebeskom svodu tumačene su kao slike ljudi, životinja ili predmeta. Grci i Rimljani su u ovome pratili uzore preuzete iz Mesopotamije i Egipta, iako su slike sazvežđa formirali na sebi svojstven način. Odlučujući medijum bilo je književno slikarstvo. U izboru motiva se ogledaju život i iskustveni svet ilustratora. Tako je sazvežđe Gemina (Blizanci) predstavljano na dva različita načina, oslanjajući se na dva različita mita. Za sazvežđe broda (Argo), postavljeno daleko na jugu, upotrebljavani su različiti motivi brodova koji su u tom trenutku bili u upotrebi, u jednom slučaju čak izgled sasvim modernog ratničkog broda rimske mornarice. Srednjevekovna izdanja antičkih astronoma se, kada su u pitanju ilustracije, u mnogim elementima oslanjaju na antičke uzore.

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INHERITING THE THRONE DURING THE PRINCIPATE IN THE LIGHT OF REVERSE IMAGES ON ROMAN IMPERIAL COINS

ABSTRACT

During the Principate, there were no rules regarding inheriting the throne. The principle of sons inheriting the throne from their fathers was not very successful, leading mostly to civil wars and murders. Adoption, which was continuously conducted from the time of Nerva to Marc Aurel, turned out to be a better solution. In any case, this question played an important role in the political ambitions of most of the emperors and in accordance with this, it represented a part of imperial propaganda at all levels. Motifs on coins represented one of the segments of such propaganda and supported the popularisation of the chosen heir in order to secure a peaceful transition on the throne.

KEY WORDS: PRINCIPATE, INHERITING, REVERSE IMAGES, PRINCEPS IUVENTUTIS.

The transformation of the Roman state from a republic to an empire was already being prepared during the 1st century BC and took place under Augustus, by establishing the Principate. Whilst displaying great leadership skills and establishing political and military goals during the civil war, Octavian wisely created and established a new state regulation. The regime was actually placed in the hands of the first man of the state, who united the *imperium*, and had supreme command over the army and a number of magistrates, through whom the law was applied.¹ The Sen-

1. Octavian incorporated both the tribunal and the consular

ate still existed and kept some of its formal duties until the end of the empire, one of which was confirming the election of a new princeps. Augustus therefore found a solution to a new situation within the framework of the existing institutions. In connection to this, a solution had to be found to the question of inheriting the throne, which, unlike all other questions, was not compatible with the old framework. It showed that, for this delicate problem, it was not easy to apply strict rules. At-

rule, in a special way, as a sort of personal privilege, while magistrates were still elected each year. Apart from that, he was also entitled *pontifex maximus*.

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tempts by several of the principes to seek a legal solution for naming their heirs mostly took one of two paths: a selection among family members or adoption. Bad choices invariably lead to civil wars and a greater involvement of the army in the election of the principes, which during the 3rd century, after the Severus dynasty, became a rule.

Octavian tried to introduce an inheritance principle among family members thereby creating a dynasty. Actually, at the beginning of his rule, he himself appeared as Caesar's heir, which was always stated in his official titular rank (*Caesar divi filius*), indicating the right of inheritance. In his dynastic politics, many changes happened between his direct relatives and Livia's children. After a number of tragic events and the early deaths of some of his family members (Marcel, Gaius, Lucius) Octavian had no other solution than to adopt Tiberius, making him his heir (Suet. Aug. 64,65). Later rulers of the Iulian-Claudian dynasty relied mostly upon the army, which acquired a leading role in electing the emperor. The most important role was played by the praetorians and not by the army as a whole. Their selection was approved by provincial legions, which turned into a sort of dictatorship and imposed the election of the praetorians. Claudius introduced financial support to the praetorians for their services connected to his investiture (Suet. Claud. 10).² By leading a scandalous private life, Nero completely neglected his connections to the army, which again led to certain political ambitions of some of the generals, who were already familiar with rivalries among different parts of the Roman army. All of this led to riots, initially in Gaul, Spain and Numidia, which escalated to civil war. It turned out that provincial armies were able to impose their will on the election of principes.

Vespasianus from the Flavian dynasty won the civil war, although without any famous ancestors or military leaders in his family. By that time,

² Claudius was the first emperor who paid the praetorians for their support in his election.

in Roman society, the idea of inheriting the throne within one family was already quite accepted, although for the election of a new princeps, a major role was played by officers and provincial legions (Tacitus Hist. II.76). Vespasianus selected his sons as his heirs, first Titus, then Domitianus, who, like Augustus, attempted to establish his own dynasty. Still, dissatisfaction caused by his absolutistic reign and by his character led to a plot in which he, as the last member of this dynasty, was murdered. These and other events showed that the election of the wrong heir could lead to civil war and the destabilisation of the state. Nerva, as a member of the senatorial class, ascended the throne supported by the praetorians. Nevertheless, he was suddenly faced with strong resistance from the provincial army. He therefore adopted Traian, the governor of Upper Germania (Germaia Superior), who was very popular among the soldiers. Adoption was practised continuously during the reign of the Antonine dynasty, and proved to be a better solution. This practice was interrupted by Marc Aurel, who had no doubts about the choice of his heir and gave titles to his son Comodus at a very early age that were usually given to a co-ruler. After his father's death, Comodus was proclaimed the new princeps, even by the senate. Since Comodus possessed none of the qualities of a good ruler, his insignificant reign again ended with the murder of the princeps and civil war. After the end of the war and the establishment of the Severan dynasty, it turned out that provincial legions again played a more important role in choosing the principes than the senate and the praetorians. The elevated role of the army during the Severan reign led to the absolute dependence of the state on the decisions of the soldiers and later on the rule of the so-called soldier-emperor, which lasted until the end of the Principate. After the death of Alexander Severus up until the beginning of Diocletian's rule, many rulers ascended to the throne. With only a few exceptions all ascended with the help of the army. Their origin was of no importance, only their abil-

ity to stand up to foreign enemies mattered. During this time there were also attempts to establish dynasties which usually resulted in the murder of the emperor and his co-ruler son. The army became a decisive political factor in bringing their commanders to the throne, causing numerous civil wars whilst also leading to negligence in the defence of the borders, weakening the state as a whole. Instability on most of the borders along with the ever increasing cost of permanent warfare, general insecurity, a reduction in trade and production and riots led the state into anarchy. It was clear that the Principate, established by Augustus, was in crisis during the second half of the 3rd century and that it was necessary to transform the system of state leadership. The old-fashioned system of the Principate was replaced by a tetrarchy under the reign of Diocletian.

Dynastic politics during the Principate represents an important segment of the coinage based official propaganda. The basic way was to give the title of *princeps iuventutis* to a chosen candidate by the current princeps. This title had been respected since republican times, and was given to a young man intended to lead younger and older boys chosen to play roles in the Trojan play (*ad ludum Troiae*). In the republic, the *princeps iuventutis* was the leader of the cavalry and his major features were a spear and a silver shield (Stevenson 1964: 652). Ever since Augustus's time, this title was given to younger male members of the imperial family, destined to be future heirs to the throne. *Princeps iuventutis* was given a silver shield and a spear, while images on coins adequately depicted this important act in the life of a future ruler. Ever since their youth, principes were prepared and educated for the role which was expected of them which included important state and military functions. Different images on coins accompanied the inscription PRINCEPS IVVENTVTIS, all aimed at introducing the future heir to the people and the army, and to represent him as a qualified and capable ruler.

During almost his entire rule, Octavian looked for an appropriate heir.³ His biggest favourites were his grandchildren Gaius and Lucius. Accordingly, he first used the title *princeps iuventutis* for them, describing them as heirs to the throne. First Gaius, then Lucius, was given this title in the years 5 and 2 BC (Kienast 2010: 74-75). Even before that, Octavian began to introduce Gaius to military life in order to give him the necessary experience. He accompanied Octavian and Tiberius during the Gallic campaign in 8 BC and on the obverses of the aurei and denarii of the Lugdunum mint, Gaius was depicted on a galloping horse, holding the reins in his right hand, with a sword and shield in his left. Behind him, can be seen a legionary eagle between two military insignia, with the inscription C CAES AVGVS F (Fig. 1) (RIC Ia: 54, nos. 198,199).⁴ Ever since 2 BC in the same mint, aurei and denarii were minted on which both of the princeps are depicted, along with the inscription C L CAESARES AVGVSTI F COS DESIG PRINC IVVENT (Fig. 2) (RIC Ia: 55-56, nos. 205-212).⁵ Gaius and Lucius are standing, dressed in togas, with their hands placed on their shields. Behind each shield there is a spear and between the tops of these spears there

3 Since he had no sons of his own, Octavian had his daughter Iulia married three times, with the hope of getting an heir from these marriages. Alternatively, there were Livia's sons, Drusus and Tiberius, both very capable soldiers. Initially he wanted Marcellus for his heir, the son of his sister Octavia, whom he married to Iulia. Marcellus died in 23 BC, leaving no heir from his marriage to Iulia. In 21 BC, he married Iulia to Agrippa, his old friend and fellow-soldier, and five children resulted from this relationship. In 19 BC Agrippa was included in a type of co-ruling and was given much authority. After his death in 12 BC and the death of Drusus in 9 BC, Augustus turned his attention towards his grandsons Gaius and Lucius. He married Iulia to Tiberius, in spite of his dissatisfaction, and seven years later, he withdrew to the island of Rhodes. Gaius and Lucius were introduced into public life and it seemed that they were the most appropriate candidates for the throne. A tragedy occurred and both of the grandsons died, Lucius in 2 AD and Gaius in 4 AD. There was no other solution left for Octavian but to adopt Tiberius, who was, on the other hand, forced to adopt Germanicus, Drusus's son.

4 Illustration taken from BMC I, Pl. 12.15.

5 Illustration taken from BMC I, Pl. 13.9.

is a *simplum* and a *lituus*. The *simplum* stands next to Gaius as a sign of his pontificate, while the *lituus* stands next to Lucius, as a symbol of his augurate.⁶ In less frequent series there is also an X under the *lituus* and the *simplum*.⁷

After Gaius and Lucius, the coinage entitled *princeps iuventutis* was minted only for Nero, who was adopted by Claudius in 50 AD and gained his title in 51 AD (Kienast 2010: 96).⁸

6 Among these series are examples on which the *simplum* (Gaius) was presented to the left and the *lituus* (Lucius) to the right, but also series on which the position is reversed: *lituus* (Lucius) on the left and *simplum* (Gaius) on the right.

7 The problem with these series lays in determining the end of their minting period. Mattingly was first of the opinion that they were minted until 11 AD (BMC I: cxiv), later until 9 or 10 AD (RIC I: 48), while in the revised edition RIC I Sutherland and Carson determined the end date as: "(?) 4 AD or beyond" (RIC Ia: 28, 55, ref. *). Grant thinks that they were minted even after Augustus's death, which is less possible, because both of Octavian's grandsons died before him, Lucius in 2 BC and Gaius in 4 AD (Grant 1954: 79). While dealing with this problem and by relying on the great number of samples of the series without the X beneath the *lituus* and *simplum*, Macdonald realised that, without exception, Gaius's shield overlaps Lucius's shield (in addition, each prince is depicted with his priestly symbols either on the left or on the right). We can conclude from this that the protocol was being followed that states the superior position of Gaius as the older brother of Lucius. Macdonald noticed that the examples with the X do not follow this rule, which, according to him, is important for the dating of the series. According to him, on the examples with the X it was no longer important to state the privileged position of Gaius and therefore, these series were minted after his death, at some time between 4 and 13 AD. The series without the X were minted between 2 BC and 4 AD. He understands the X to be a control mark denoting later minting (Macdonald 1979: 28-29).

8 In June 4 AD at Augustus's persistence, Tiberius adopted Germanicus, who was proclaimed a caesar. It is not clear whether Germanicus was also given the title of *princeps iuventutis* on the same occasion (Kienast 2010: 80). At the same time, Tiberius's son Drusus was proclaimed a caesar. The enthroning of Tiberius was not under suspicion and the senators were only expected to agree, as it had already been arranged while Octavian was still alive. After the suspicious death of Germanicus in 19 AD and that of Drusus in 23 AD, Tiberius retired to the island of Capri. Shortly before his death, he considered as heirs Germanicus's son Gaius Caligula, as well as his grandson Tiberius Gemellus, Drusus's son. Gemellus was closer to his heart, but still under age, while Caligula was at the peak of his strength and was well favoured among the people and soldiers (Tac.

Claudius minted aurei and denarii for Nero, with the inscription EQVETER ORDO PRINCIPI IVVENT written in four lines on a shield, under which there was a spear (Fig. 3) (RIC Ia: 125, nos. 78, 79).⁹ In addition, there was a coin with a bust of the young Nero and the inscription NERO CLAVD CAES DRVSVS GERM PRINC IVVENT (Fig. 4) (RIC Ia: 126, nos. 82, 83).¹⁰

Numerous variations, promoting the politics of the dynasty, were minted by Vespasianus for his sons, in particular Domitianus, but also later by Titus, for his younger brother. From the beginning of his rule Vespasianus left nobody in any doubt that he intended to establish a dynasty which, according to Suetonius, he also stated in front of the senate (Suet. Vesp. 25). As well as the images entitled *princeps iuventutis*, there were others aimed at presenting the future heirs to the public. Along with the legends CAESAR AVG F COS CAESAR AVG F PR (Fig. 5),¹¹ CAE DOM ET T CAES IMP VESPAS and LIBERI IMP AVG VESPAS busts of Titus and Domitianus were depicted, facing each other (RIC II: 48, n. 283; 61, n. 386; 57, nos. 358, 359; 52-54, nos. 313-315, 321, 322, 330, 331). On a sestertius with the inscription T ET DOM C EX S C, from the year 70 AD, the principes were depicted as magistrates, each sitting on his own platform, facing each other, with two figures between them wearing togas (Fig. 6) (RIC II: 64, n. 404).¹² The abbreviation C suggests that they are caesars and not consuls. Titus already possessed a consulate, while Domitianus

Ann. VI.52). After Tiberius's death, with the help of the praetorians and the Senate, Caligula was proclaimed a new princeps. He very quickly got rid of Tiberius Gemellus. After Caligula's murder there was turmoil. The praetorians brought Claudius into their camp, while the consuls, helped by the city cohorts, took the Capitoline Hill and the Forum, intending to establish the republic again. However, the Senate was insecure and people gathered to ask for the rule of only one man, suggesting Claudius's name. The soldiers swore allegiance to him and Claudius promised 15,000 sestertii to each of them (Suet. Claud. 10).

9 Illustration taken from BMC I, Pl. 33.10.

10 Illustration taken from BMC I, Pl. 33.4.

11 Illustration taken from BMC II, Pl. 15.8.

12 Illustration taken from BMC II, Pl. 31.9.

was a praetor during the same year. In this way, homage to Domitianus was indirectly paid, showing him equal with his older brother (BMC II: lvi). During the same year, sestertii were minted with depictions of Titus and Domitianus in military uniforms, facing each other. Domitianus stands on the right side, holding a spear and a parasonium, while Titus stands on the left side, holding a spear and a scroll (Fig. 7) (RIC II: 66-67, nos. 413-415; 101, n. 738).¹³ Domitianus is shown as *princeps iuventutis* with a spear and a parasonium, while Titus, shown as emperor, holds a spear and a scroll as symbols of public life. The inscription on these examples is CAES AVG F DES IMP AVG F COS DES IT S C, showing that Titus was proclaimed an emperor,¹⁴ while Domitianus obviously received the second consulate. This presents a problem, because Domitianus did not receive the COS II until 73 AD.¹⁵ It was most likely that Vespasianus tried to reduce the gap between the brothers, just like on the previously described example, thus showing a certain sympathy and understanding towards his younger son.¹⁶ On denarii minted in 71/72 AD, Titus and Domitianus are shown facing each other and holding shields, with the inscription VESPASIANI AVGVSTI FILI DOM ET T (RIC II: 33, n. 152).

Titus and Domitian officially gained the titles *princeps iuventutis* in December 69 AD (Kienast 2010: 111, 115). Depictions on the reverse show them together, with the inscription T ET DOMIT CAESARES PRINC IVVEN in three different motifs: on horses galloping to the right, each holding a spear in his right hand, with an infantry soldier in front of them, carrying a vexillum (Fig. 8) (RIC II: 62, n. 390);¹⁷ on horses galloping

to the right, wearing military uniforms and each holding a spear in his right hand (Fig. 9) (RIC II: 49, n. 292);¹⁸ dressed in togas, sitting on curule chairs, one next to the other, with each holding a branch in his right hand (Fig. 10) (RIC II: 17-18, nos. 23-27; 49, n. 293).¹⁹

After 71 AD, Titus no longer appears in this role and the depictions with the inscription *princeps iuventutis* were minted for Domitianus only. No matter whether obverses bear the portrait of Vespasianus or Domitianus, on bronze coins a princeps wearing a military uniform is depicted, galloping and holding a spear (RIC II: 80, n. 536; 82, n. 579) or a sceptre (RIC II: 97, n. 697; 98, n. 711; 100, n. 728) with the inscription PRINCIP IVVENT (Fig. 11).²⁰ Apart from this image, on gold and silver coins there were a greater number of different images which were not usually combined with the inscription PRINCEPS IVVENTVTIS and as such, they represent exceptions in the minting of the Principate era. On aurei and denarii minted between 74 AD and 79 AD, the following images were represented: Spes walking, whilst holding a flower and hitching her dress (Fig. 12) (RIC II: 41, n. 233; 60, n. 380);²¹ Salus standing, leaning on a pillar and feeding a snake from a patera (Fig. 13) (RIC II: 42, n. 239; 43, n. 243);²² Vesta sitting and holding a paladium and a sceptre (Fig. 14) (RIC II: 43, n. 244);²³ a goat standing in a laurel wreath (RIC II: 43, n. 245); clasped hands holding an eagle on the bow of a ship (Fig. 15) (RIC II: 43, n. 246).²⁴ During his independent reign, Titus minted some of the aforementioned motifs for Domitianus (Salus, Vesta, goat in a laurel wreath (Fig. 16),²⁵ clasped hands), but there were also some new motifs: Pax sitting, an

13 Illustration taken from BMC II, Pl. 20.1.

14 Titus was entitled IMP on the 6th of August (?) 70 AD; cf. Kienast 2010: 112.

15 Domitianus was entitled COS II between the 1st of January and the end of February (?) 73 AD (Kienast 2010: 116).

16 Domitianus was openly against Titus, information given by Suetonius (Suet. Titus 9, Domit. 2).

17 Illustration taken from BMC II, Pl. 42.7.

18 Illustration taken from BMC II, Pl. 13.15.

19 Illustration taken from BMC II, Pl. 13.11.

20 Illustration taken from BMC II, Pl. 27.12.

21 Illustration taken from BMC II, Pl. 4.15.

22 Illustration taken from BMC II, Pl. 8.5.

23 Illustration taken from BMC II, Pl. 8.3.

24 Illustration taken from BMC II, Pl. 8.7.

25 Illustration taken from BMC II, Pl. 46.9.

adorant person next to her feet (RIC II: 121, n. 39); Minerva walking, waving a spear and holding a shield (Fig. 17) (RIC II: 121, n. 41); Aries on a globe (RIC II: 121, n. 44); an altar with a flame decorated with garlands (Fig. 18) (RIC II: 121, n. 46; 122, n. 50); a Corinthian helmet on a throne (Fig. 19) (RIC II: 121, n. 47; 122, n. 51).

These exceptions from the usual images, accompanied by the inscription *princeps iuuentutis* on the Principate coinage demand further explanation. Spes represents hope, an idea of restitution and youth, and this is why during the Empire, along with Iuventus, she was connected to emperors.²⁶ As *Spes populi Romani* she represents the hope of future generations and as *Spes Augusta* she symbolises the progress of the emperor and his heir son or sons, and is closely connected to Salus and Fortuna (OCD: 1009). Salus represents welfare in a very broad sense, connected to Fortuna and Spes. As *Salus publica populi Romani* during the Empire, she was first replaced with *Salus Augusta*, and as such, the idea of general welfare was connected to a single person, the emperor. The joined concepts of Salus and Spes, especially during the Principate, represented protectors of the emperor and his family, especially after a heir was born (Clark 1983: 82). The Salus cult developed and followed social changes, starting to mark general and public security and the defensive strength of the independent state against all kinds of dangers, both inner and outer (Ranieri 2001: 177).²⁷ Pax represents the personi-

fication of peace and welfare, brought about by peace itself. In the beginning, she was more a personification of inner concordance – a term barely different from Concordia. In this sense, she also represents a protector from the dangers of civil wars (RE, Bd. XVIII-4: 2430.30-38). Her cult became especially significant after the consecration of the *Ara Pacis Augustae* on Mars' field in 9 BC. A year earlier, Augustus placed statues of Pax, Concordia and Salus, to which each year in March, public sacrifices were offered.²⁸ Another important monument dedicated to Pax is the Flavian temple, consecrated in 75 AD (Dio Cass. LXVI.15), through which Vespasianus depicted him as a peace-maker, attributing numerous propaganda allusions to the time of Augustus.²⁹ Vesta

temple on the Quirinal in 302 BC which was dedicated by the dictator Bubulcus (RE Bd. I.A.2: 2057.30-43; LIMC VII: 661). From the beginning of the 2nd century BC, Salus was made equal to Hygieia and each year, after studying the Sibyllian books, offers were made to Apollo, Aesculapes and Salus. Hygieia gave no other features to Salus but the iconographical ones, so Salus was respected as the goddess of the welfare of the state (RE Bd. I.A.2: 2058.50-59; 2059.10-20). From the time of Augustus, she was respected together with Pax and Concordia, to whom statues were erected by Augustus in 10 BC. On the imperial coins they appear for the first time on Nero's minting, after he was saved from Pisos' plot. Nero also built a temple for Salus at this time (Tac. Ann. XV.74).

²⁸ In Augustus' propaganda, Pax was represented as the strongest symbol of the imperial rule and was respected as a deity, protecting the state and the emperor. This was, of course, understandable in times when everybody was yearning for peace after a long lasting bloody civil war (RE, Bd. XVIII-4: 2430.63-69; OCD: 793).

²⁹ Vespasianus introduced several of the new Pax types into his minting. There is an interesting motif of Pax standing, holding a winged caduceus above the altar on which there is a satchet (follis), in her left hand there is a branch and she is leaning on a column (RIC II: 20, n. 47). In this picture, Pax holds her attribute, an olive branch, as well as a caduceus Felicitas and she is leaning on a column, the symbol of Securitas. The propaganda message was that peace, introduced by Vespasianus, brings welfare and security in all segments of society. The other interesting example in Vespasianus' minting is an image of Pax holding a branch and a torch with which she sets a pile of weapons on fire; behind her there is a column with Minerva's statue, a shield is leant against the column and there is the inscription PAX AVGVSTI (RIC II: 68, n. 434). In this picture, Pax does not only mean that peace is accomplished, she becomes the virtue of the emperor

²⁶ During the first Punic war, A.A. Calatin, who was a consul in 258 and 254 BC, erected a temple to Spes in honour of the victory over Carthago. The temple burned twice and was rebuilt by Germanicus in 17 AD (Tac. Ann. II.49). The connection between Spes and Iuventas is particularly emphasised during the early Principate. The day when Augustus was given the toga virilis, on the 18th of October, was marked as supplicatio Spei et Iuuentuti. This can also be understood as a glorification of the charismatic young Augustus, as well as a declaration of his future virtues (Clark 1983: 82). On coins, it appeared for the first time during the time of Claudius, after his son and heir Britannicus was born in 41 AD (BMC I: clvi).

²⁷ Salus is one of the old Roman deities, respected along with Semo Sancus Dius Fidius before the building of the

was an ancient Roman goddess of homely fire, although her role in the official cult was much more important. In her temple, there was a public fire and the cult was taken care of by a *pontifex maximus* (the emperor himself during the time of the Empire) and the vestals. This is why, ever since the beginning of the Empire, it was closely connected to the imperial family, especially the emperor's wife. Domitianus considered Minerva his protectress and offered her the greatest honours (Dio Cass. LXI.1.2; Suet. Domit. 15). Minerva's images are numerous during the period of Domitianus' independent minting, so it is little wonder that she appeared even earlier, bearing with the title *princeps iuventutis*. Clasped hands holding an aquila represent a common iconographical motif accompanied by the legends *fides militum/exercituum* or *concordia militum/exercituum* in the sense of concordia or loyalty to the emperor and the army (Arsenijević 2006: 84-86, 98-100). The example of Domitian's type with the inscription *princeps iuventutis* minted in 79 and 80 AD, most likely alluded to concordia within the army, confirming Suetonius' words that Domitian thought of offering a reward of double money to any soldiers who supported him against his brother (Suet. Domit. 2). The goat in the laurel wreath represents Amaltheia, Zeus' nurse. The legend of Amaltheia was used here as mass propaganda showing great sympathy towards the young princeps, destined to be the heir. The role of Jupiter's representative on earth is emphasised, under whose reign the world is being restituted in a new golden age of peace and prosperity (Fears 1981: 79; Preimesberger 2011: 63).³⁰ The Corinthian helmet on a throne and the altar in flames belongs to the group of *pulvinaria* types; the helmet for Minerva and the altar

for Vesta.³¹ The Aries on a globe is an alternative depiction of Octavianus, whose horoscope sign was Aries. It was first minted by Vespasianus and later by Titus, in an attempt to connect themselves to Octavian.

As shown, Spes and Salus can be connected to the princeps, although they do not represent common types with the inscription *princeps iuventutis*. Pax and Aries evoke Octavian's time and the time of improved welfare after the years of civil war and suffering. Vespasianus wanted to stress the same idea, putting himself in the main role – a peace-maker, who saved the people and the state and, like Octavian, restored order. The motif of the goat Amaltheia, the nurse of the young Jupiter, carries the idea of *renovatio temporum* through growing and educating the youth. Moreover, the idea of a direct connection between Jupiter and Domitianus should not be excluded. The examples with clasped hands were most likely minted after Vespasianus' death, testifying to a discordance among the brothers which was, according to sources, caused by Domitianus (Suet. Titus 9; Domit. 2).

After Domitianus' murder and the proclamation of Nerva as the new emperor by the senate, the army was dissatisfied with this choice and as a result, Nerva adopted Traian in 97 AD. From the time of Traian's adoption in October 97 AD until Nerva's death in January 98 AD, no coins were minted which would indicate the position of the new heir. Nevertheless, during his first year of independent reign, Traian minted aurei and denarii with an image in which he was depicted receiving the globe from Nerva (Fig. 20) (RIC II: 246, n. 28).³² The accompanying inscription of PROVID indicates Nerva's wisdom in choosing the correct

himself, her special form, through which he becomes a peace-maker (BMC II: xlvi).

30 A similar propaganda idea was also developed later, during the time of Valerius II, with the inscription IOVI CRESCENTI and the image of a boy-Jupiter riding Amaltheia (RIC V.1: 116, n. 1).

31 The main reasons for minting the whole series of pulvinaria types during the reign of Titus were the three major catastrophes which occurred in 79 AD and 80 AD – the Vesuvius eruption, the great plague and a fire in Rome (Suet. Titus 8; Dio Cass. LXVI.21.1; BMC I: lxxii-lxxiii).
32 Illustration taken from BMC III, Pl. 10.3.

heir.³³ This idea was especially developed during the time of Traian and Hadrianus, not just as *providentia augusti*, but also as *providentia deorum* in connection with Jupiter.³⁴ In addition, Traian also minted aurei with the busts of Nerva and Traian the Elder facing each other, with the inscription DIVI NERVA ET TRAIANVS PAT/ER (Fig. 21) (RIC II: 297, nos. 726, 727).³⁵ In this way, Traian paid homage to his ancestors, to his biological father and to Nerva, who adopted him.

It was obvious that Traian held Hadrianus's military capability in high regard, since he left him commanding the greatest army in the east before he left for Rome, most likely on the 4th of August 117 AD.³⁶ Still, he never officially proclaimed Hadrian as his heir, the reasons for which remain unknown. Traian became seriously ill and he died on the road several days later. After receiving the notice about his death, the army of Syria proclaimed Hadrian as the new emperor (CAH XI: 299-300). Since it was only after this

33 It was known that Nerva's life was under permanent threat. He was especially endangered by the praetorians, who were dissatisfied with the murder of Domitianus (Dio Cass. LXVIII.3, 4). One of the reasons for adopting Traian, apart from his proven military capability, was his great popularity among the soldiers. However, Traian reached the throne not through a civil war, but peacefully, through adoption.

34 *Providentia augusti* referred to the emperor's care in a broad sense, from the choosing of the heir to supplying the citizens and it represents his ability to foresee everything concerning the welfare of the state and the people. The connection with Jupiter was specific. In examples in which the emperor was depicted within his thunderbolt, it shows not only under whose protection the emperor stood, but also by whom he was chosen to rule, i.e. they represented the *providentia* of Jupiter himself. Between 112 AD and 117 AD, Traian minted aurei, denarii and sestertii with the motif of a colossal figure of Jupiter, standing and holding a thunderbolt in his stretched arm, above him there is a significantly smaller figure of Traian who holds a branch; the inscription says CONSERVATORI PATRIS PATRIAE (RIC II: 261, n. 249; 287, n. 619). This original idea of layering the figures was later explicitly shown in scenes in which Jupiter hands the globe to the emperor. These scenes will be discussed later in the paper.

35 Illustration taken from BMC III, Pl. 17.18.

36 By becoming a Syrian legate, Hadrian received the so-called second position in the state, as he had eleven legions and a great number of auxiliary troops under his control.

that the notice came to Rome that Traian had proclaimed Hadrian as his heir on his deathbed, rumours were spread through the city, similar to those spread after Octavian's death (Tacitus Ann. I.7).³⁷ It was clear that coins soon needed to be minted, on which Hadrian would be called Augustus and an heir. Of interest is an aureus on whose obverse there is a bust of Traian in armour with a laurel wreath, and the inscription IMP CAES NER TRAIAN OPTIM AVG GERM DAC; while on the reverse there is a bust of Hadrian, also with a laurel wreath on his head and with the inscription HADRIANUSO TRAIANO CAESARI (RIC II: 338, n. 1).³⁸ According to this, one could conclude that Hadrian was a caesar and not Augustus and that the coins were minted while Traian was still alive. It is also possible that they were minted after Traian's death, but before the notice reached Rome (RIC II: 338, ref. 1). Either way, the first of Hadrian's Augustan series refer to adoption and the inheritance of the throne. On aurei and denarii minted in 117 AD we can see Traian depicted handing the globe to Hadrian (Fig. 22) (RIC II: 338, n. 2),³⁹ or Traian and Hadrian shaking hands with the inscription ADOPTIO (Fig. 23) (RIC II: 339, n. 3; 341-342, nos. 22 A-C).⁴⁰ The symbolic handing over of the reign over the world, depicted as handing the globe to Hadrian, as well as the scene with the *dextrarum iunctio* motif, with an

37 Hadrian was Traian's cousin, under his custody since he turned ten, along with Acilius Atianus (prefectus praetoriae at the time of Traian's death). Traian brought Hadrian to Rome and treated him as his own son (SHA, Vita Hadrianusi II.2). In keeping with all others of a similar position, he started his military career from the lowest ranks, but he was very successful and accompanied Traian on all of his military campaigns. He enjoyed the support of Plotina, Traian's wife, as well as that of Acilius Atianus, the praefectus praetoriae and Dio Cassius (Dio Cass. LXIX 1.1-2). Hadrian was not adopted at all, but ascended the throne with their help. Concerning rumours about Hadrian's proclamation see cf. SHA, Vita Hadrianusi IV.8-10; Strack 1933: 42.

38 This example was once in the Paris collection, while the British Museum possesses a replica (BMC III: 124, ref. *).

39 Illustration taken from BMC III, Pl. 46.1.

40 Illustration taken from BMC III, Pl. 46.4.

emphasised *adoptio* as an inscription, clearly show that inheritance was provided through *providentia augusti* (Traiana), by the handing over of the reign to the adopted heir. *Dextrarum iunctio* is a gesture of great ritual symbolism, which in the first place indicates the concept of Fides uniting the two persons depicted with an unbreakable bond, but also indicates concordance, i.e. Concordia.⁴¹

As previously mentioned, the development of the *providentia deorum* began under Traian and gained more direct associations during Hadrian's time. Therefore, on aurei minted between 119 AD and 122 AD, Hadrian is depicted dressed in a toga, receiving the globe from Jupiter with both hands, next to whose feet there is an eagle (Fig. 24) (RIC II: 353, n. 109).⁴² At the same time, sestertii and dupondii were minted under Hadrian, with the legend PROVIDENTIA DEORVM, on which he was depicted in a toga, looking up at an eagle who flies towards him, bearing a sceptre in its beak (Fig. 25) (RIC II: 415, n. 589; 418, n. 602). On the aurei minted at the end of his reign (134-138) Jupiter is standing, holding a sceptre and crowning Hadrian (RIC II: 369, n. 250).

Of special interest is the motif on aurei and denarii (119-122) showing Hadrian as a genius of the "golden age", standing in an oval frame, holding a symbol of permanent inheritance in his hand, a phoenix on a globe with the inscription SAEC AVR (Fig. 26) (RIC II: 356, n. 136).⁴³ The inscription *saeculum aureum*, usually hidden behind phrases like *felicitas temporum* or *saeculi felicitas*, was clearly stated in this case and it represents a unique example in Roman minting (BMC III: cxxx). In this way, Hadrian was represented as a link in the unbroken chain of the rule of the world.

In 136 AD, Hadrian adopted Lucius Aelius and minted him coins until his death on the

1st of January 138 AD (SHA, Vita Hadrianusi XXIII.10-16). None of his minted caesarian series indicate inheritance except a bronze medalion showing Hadrian and Aelius shaking hands in the presence of Concordia (Gnnechi II: 9, n. 1). Hadrian, already very ill, had to choose an heir once again. On his birthday in 138 AD, he announced that he was going to adopt Antoninus Pius, under the condition that he himself adopts Marc Aurel (engaged at the time to the daughter of the late Aelius) and Lucius Verus (Aelius' son) (SHA, Vita Hadrianusi XXIV.1). Antoninus Pius was proclaimed as a caesar and coins were also minted in his name, but without any allusions of inheriting the throne.

After Hadrian's death, Antonius Pius married Marc Aurel to his daughter Faustina the Younger and, in 139 AD, entitled him *caesar* and *princeps iuventutis* (SHA, Vita M. Aurel. VI.3; Kienast 2010: 137). Although he adopted Lucius Verus while Hadrian was still alive, Antonius Pius never gave him any of the titles that he gave to Marc Aurel. His only images on coins appeared during the reign of Antonius Pius on aurei minted between 140 AD and 143 AD, on which they are in a quadriga steered by Antonius Pius and in front of them there are two smaller figures of adopted sons (RIC III: 37, n. 93). In the name of Marc Aurel however, coins were minted from the beginning. First, in 139 AD, there are portraits of A. Pius (obverse) and M. Aurel (reverse) (RIC III: p. 77, nos. 411-414) and in 140 AD there was a series in all metals with the depiction of the standing Iuventas holding a patera and pouring incense over a candelabra with the inscription IVVENTAS (Fig. 27) (RIC III: 79, n. 423; 173, n. 1232; 174, n. 1238).⁴⁴ Sestertii and dupondii with the same inscription were minted at the same time, with an image of Iuventas holding a branch, with a trophy behind her (Fig. 28) (RIC III: 173, n. 1233; 174, n. 1239).⁴⁵ Somewhat later, in 145

41 Concerning the interaction of the concepts Fides and Concordia within the image of shaking hands on Roman imperial coins see cf. Arsenijević 2006: 84-86, 98-100.

42 Illustration taken from BMC III, Pl. 51.8.

43 Illustration taken from BMC III, Pl. 52.10.

44 Illustration taken from RIC III, Pl. III.74.

45 Illustration taken from BMC IV, Pl. 33.12.

AD, dupondii were minted with the inscription IVVENTVS in an oak wreath (RIC III: 176-177, nos. 1261, 1262).

Instead of types with military elements, which would have been more appropriate for the *princeps iuventutis* motif for Marc Aurel, one sees the image of Iuventas. The personification symbolises youth in general, especially the youth of Italy, whose natural representative was Marc Aurel himself. As previously mentioned, Iuventas was connected with the younger members of the imperial family in a specially stratified form of expression.⁴⁶ In the same way, the more strict military virtue, reflected in Virtus, was replaced by the less strict Honos holding a branch and a cornucopia on the caesarian series of Marc Aurel (RIC III: 17, 175, n. 1241).

Within the mintings of M. Aurel as a caesar, two images hold a special place, both alluding to his role as the representative of the youth. Both are depicted on medallions. On the first, most likely minted in 139 AD, the caesar M. Aurel is depicted on a galloping horse and holding the legionary eagle (Fig. 29) (Gnecchi III: 32, n. 106).⁴⁷ The second was minted in 155 AD, with the image of Castor standing in front of a horse (Fig. 30) (Gnecchi II: 31, n. 39).⁴⁸ In cases when Castor appears in princely mintings, we can almost definitely say that it represents a direct connection with the *princeps iuventutis* concept. The role of Castor among the equestrian class, as their patron, is similar to that of Iuventas, who represents the eternal youth of Rome, expressed through the victorious vitality of the generations to come (LIMC III: 632).

We can conclude that such a sophisticated way of expressing the image of a caesar in the role of *princeps iuventutis* was carefully planned and chosen by Antonius Pius or even Marc Aurel himself.

After A. Pius' death, "The Senate forced Marc to accept the rule of the state and he selected

his brother as a co-ruler" (SHA, Vita Mac. VII.5). A new era begins for the Principate, a shared reign of two people with the same title. However, there is no doubt that the first princeps kept his right to make decisions on all the more important matters. After the death of Lucius Verus, the role of the subordinate ruler was taken by Commodus.⁴⁹ By giving Commodus rights equal to his own, M. Aurel clearly showed who the chosen heir to the throne was. In such a way, after almost a century, the tradition of adoption was broken, which would soon prove to be a bad solution.⁵⁰

With regard to the concept of the scenes chosen, the coins with the *princeps iuventutis* motifs, minted during the time of Commodus, very much resemble the series of M. Aurel. By 175 AD, series were minted in all metals with the image of the young standing Commodus, holding a branch and a sceptre, behind which there is a trophy with the inscription PRINC IVVENT (Fig. 31) (RIC III: 262, nos. 600-603; 263, nos. 615-617; 334, nos. 1518-1522; 335, nos. 1527-1529).⁵¹ This depiction of Commodus closely resembles the motif of Iuventas from the caesarian series of M. Aurel. During the same year and in the following year, aurei and denarii were minted with the inscription PRINCIPI IVVENTVTIS (around) and a picture of an altar bearing the words FORT

49 In 166, M. Aurel proclaimed his sons Commodus and Verus for caesares (Kienast 2010: 140, 147). Verus lived only for seven years (162-169). Already in 175, at the age of 15, Commodus received the toga virilis and the title of princeps iuventutis, and in 177, he received the title of an augustus and tribunial rights possessed also by M. Aurel himself (SHA, Vita Marcus XXVII.5).

50 According to SHA, M. Aurel was aware that Commodus was not the best solution for inheriting, he had a bad opinion about him and he said to his friends that: »it was hard for him to leave a son (like that) behind« (SHA, Vita Marcus XXVII.11). It remains unclear why he interrupted the tradition of adoption, which already showed as a successful solution. Ignoring Commodus' character, believing in his good side, the loss of vital interest, belief that his close associates would manage to control and lead the heir, could be some of the reasons for such a decision by M. Aurel (CAH XI: 376).

51 Illustration taken from BMC IV, Pl. 66.5.

46 Cf. ref. 26.

47 Illustration taken from Gnecchi III, Tav. 150.8.

48 Illustration taken from Gnecchi II, Tav. 62.2.

REDVCI (Fig. 32) (RIC III: 263, nos. 618, 619).⁵² *Fortuna redux* appears on coins that are connected to emperors' travels and to their safe return to the capital.⁵³ In this particular case, it refers to Marc Aurel's journey to the East at the end of 175 AD in order to settle relationships following the end of Avidius Cassius' rebellion. On this journey, he was accompanied by Faustina and Commodus and therefore, *Fortuna redux* appears on M. Aurel's mintings (RIC III: 240, nos. 343-345) and on the caesarian series of Commodus.⁵⁴

The inscription EQVETER ORDO PRINCIPI IVVENT was written in four lines on a shield lying over two spears (RIC III: 336, n. 1534) or within an oak wreath (RIC III: 336, n. 1536). Both of the examples were minted as parts of a series referring to the triumph over the Germans and the Sarmathians, which Marc Aurel celebrated together with his son on the 23rd of December 176 AD. At the same time, bronze coins with the inscription PRINCIPI IVVENTVTIS and an image of clasped hands holding an aquila at the bow of a ship were minted for Commodus (RIC III: 337, n. 1548). These types of images or varieties without the bow usually appear with the inscriptions *fides militum/exercituum* or *concordia militum/exercituum* and indicate the military vow given or the concordance within the army.⁵⁵

⁵² Illustration taken from BMC IV, Pl. 66.12.

⁵³ It was common for the Romans to express their gratitude to Fortuna Redux, celebrating the emperor's safe return and inviting her to guide them again in good fortune. During the Principate, she first appeared in Augustus' minting from 19 BC. Here the altar of Fortuna Redux, which was erected in Rome during the same year, was depicted on the reverse side (RIC I: 45, nos. 53-56). From Hadrian's time through to the time of Marc Aurel, the image of Felicitas as felicitati augusti also appears on coins along with a ship, which also symbolises the safe return of the emperor or prince.

⁵⁴ At the end of the following year, in 176 AD, the emperor returned to the capital with his son and this journey was depicted with the image of a ship on both Marc Aurel's (RIC III:307, nos. 1192-1199) and Commodus' mintings (FELICITATI CAES) (RIC III: 307-308, nos. 1200-1201).

⁵⁵ The image of clasped hands with the inscription CONCORD EXERC appeared on M. Aurel's minting from 175 AD (RIC III: 302, nos. 1122-1125) on the occasion of

The Commodus example was minted after the celebration of the German and Sarmathian triumph, but before his proclamation as an augustus on the 17th of June 177 AD.⁵⁶ We can presume that it refers to a presentation of the young prince to the army as the future heir and through this, the army is asked to support him and to remain loyal, as it is to his father.

An image on a sestertius minted for Commodus in 175/6 AD testifies that Marc Aurel never had any doubts regarding his heir. Along with the inscription IOVI CONSERVATORI, Jupiter is depicted standing and holding a thunderbolt and a sceptre and under the thunderbolt there is the image of Commodus holding a trophy (Fig. 33) (RIC III: 335, nos. 1524, 1525).⁵⁷ The theme was already developed at the time of Traian and Hadrian, but it referred to the current emperor and not to the princep, as it was in the case of Commodus. The image was repeated by Commodus at the beginning of his independent rule, with the difference being that he holds a branch and a sceptre instead of the trophy (RIC III: 403, n. 304). Finally, the image of Castor, like the one on the previously mentioned mintings of Marc Aurel, should be included in the caesarian series of Commodus, indicating his function as *princeps iuventutis* (RIC III: 340, nos. 1578-1580).

During his independent reign, Commodus continued developing the theme of *providentia deorum*, a reference to higher authorities. On a medallion first minted in 183 AD, Jupiter was depicted sitting on a throne, holding a sceptre and handing over the globe to Commodus who is seen standing in front of him (Fig. 34) (Gnecchi II: 68,

Avidius Cassius' rebellion, who was the regent of Syria. However, the usurper was murdered and the rebellion subdued before it grew into a bigger usurpation (CAH XI: 360-362). The main association of the clasped hands is the vow and Fides, while the inscription indicated concordance within the army. Cf. ref. 38.

⁵⁶ The inscription on the obverse is: COMMODO CAES AVG FIL GERM SARM COS.

⁵⁷ Illustration taken from BMC IV, Pl. 85.3.

n. 146).⁵⁸ Later, in 191/192 AD, he minted denarii and sestertii with the inscription I O M SPONSOR SEC AVG and an image in which he stands, holding the globe and the sceptre, with Jupiter next to him placing his right hand on the emperor's shoulder and holding a thunderbolt (Fig. 35) (RIC III: 396, n. 255; 434, n. 596).⁵⁹ Jupiter first appears as the supreme deity upon whose decision Commodus is proclaimed a ruler and later also as a guarantor of the emperor's security.

The insignificant and scandalous rule of Commodus led to a plot from within the senate and among the praetorians which culminated in his murder. The weak solution of Marc Aurel to stop the system of adoption and to leave the empire to his incapable son led to another civil war. The winner of this war was Septimius Severus, who established a new dynasty and constructed the system of inheriting the throne from within a family. A bigger role in keeping the dynasty on the throne was actually played by the family of his wife Iulia Domna in 235 AD, since Septimius Severus' plan had already failed in the generation that followed its conception.

At the beginning of his rule, Severus minted aurei with an image of Jupiter holding a sceptre and handing over the globe to the emperor, who stands opposite, holding a spear (Fig. 36) (RIC IV.1: 95, n. 35).⁶⁰ After this initial "legitimacy" of the rule of the supreme deity, in 195 AD Septimius Severus began his active dynastic propaganda. He found a formal way to secure continuity and legitimacy of the rule – he adopted himself into the Antonine family by declaring himself *divi Marci Pii filius, divi Commodi frater*. At the same time, or maybe slightly later, he named his eldest son Bassianus after Marc Aurel, and from that time onwards, he was known as M. Aurelius Antoninus. He also gave him a caesarian title, while Iulia Domna was given the title *mater castrorum*, previously possessed only by Faustina the younger

(Birley 2002: 116-117; Kienast 2010: 156, 162). Such a proclamation of himself as a son of the deified Marc was noted on bronze coins minted in 195/196 AD, with the inscription DIVI M PII F and with images of Roma or Felicitas (RIC IV.1: 185, n. 686; 187, n. 700; 188, n. 712). Already, in the spring of 197 AD, both sons were entitled *princeps iuventutis*, and in the following year, Caracalla was entitled *augustus* whilst Geta was entitled *caesar*. By proclaiming Caracalla as his co-ruler, Severus followed the example of Marc Aurel, although he often criticised him for not deposing Commodus as an incapable ruler. Nevertheless, the love for his sons pre-empted the care of the state and Severus kept insisting on his offspring as heirs for the rest of his life (Birley 2002: 130, 183).⁶¹

From 197 to 206 AD, coins in all metals were minted for Caracalla, with the image of the young prince as the leader of the youth, along with the inscription in its full or shortened form. He was depicted in several similar motifs – standing in a military uniform, holding either a club and a spear, a branch and a sceptre or a branch and a spear, while next to him there is a trophy (Fig. 37) (RIC IV.1: 213, n. 13; 218, n. 38A; 233, n. 140; 263, n. 329; 276, n. 398).⁶² From 200 to 208 AD, coins made from all metals were also minted for Geta, with the inscription PRINCEPS IVVENTVTIS. Just like his brother, he was depicted in a military uniform with a club or with a branch and a spear next to a trophy (RIC IV.1: 316, nos. 15-18; 329, n. 106; 331, n. 113A; 332, n. 125). Apart from these, on coins and medallions, depictions of Septimius, Caracalla and Geta on galloping horses also appear (Fig. 38) (RIC IV.1: 319, n.37; 332, n. 124; 333, n. 130; Gnechci II: 78, n. 7).⁶³ In Geta's mintings, depictions with the same in-

⁵⁸ Illustration taken from Gnechci II, Tav. 88.1.

⁵⁹ Illustration taken from BMC IV, Pl. 100.3.

⁶⁰ Illustration taken from RIC IV.1, Pl. 5.12.

⁶¹ Septimius Severus was aware of the difference in his sons' characters and of their mutual intolerance. He kept trying to make peace among them and to make them cooperate (Herodian 3.13.3-6).

⁶² Illustration taken from BMC V, Pl. 10.12.

⁶³ Illustration taken from BMC V, Pl. 50.4.

scription along with five horsemen appeared, two horsemen above galloping to the left and three beneath galloping to the right (RIC IV.1: 333, n. 131). As with earlier examples, in the caesarian series of M. Aurel and Comodus, the depiction of Castor next to a horse was also minted for Geta (RIC IV.1: 315, n. 6).

The dynastic policy of Septimius Severus expressed on coinage was highly developed and represented on many examples and showed all family members. All of this clearly shows his intention first to establish, and then to gain adequate support for, a dynasty, initially from the army, which had already helped him ascend the throne as a usurper. The propaganda exercise was well-conducted, but the choice of the heir was wrong, as would be later proven. During the British campaign, Severus gave the title of augustus to his youngest son (Kienast 2010: 166). The emperor's dying wish was for the brothers to rule together (SHA, Vita Sev. XXII. 3-6). After Severus' death in February 211 AD, Caracalla, just like Comodus before him, made peace with his enemies and started to prepare for his return to Rome. His passionate wish to become an independent ruler became unacceptable after his father's death, because Geta enjoyed the same rights by recently being proclaimed an augustus.⁶⁴ In December 211 AD, Caracalla organised a meeting with Geta, during which he killed him (CAH XII: 43, Kienast 2010: 166). To justify this, he informed to the Senate and the army that Geta had plotted against him. The Senate had no choice but to accept this story and Caracalla presented huge financial rewards to the army (SHA, Vita Geta 6.1-2). Caracalla possessed a disturbed personality and his physical state was still worsening. Dissatisfaction, resulting in a plot, led to his murder in April 217 AD in Mesopotamy.

⁶⁴ According to Herodianus, the haterige and intolerance among brothers were so expressed that, after Propontis' es advice, they were supposed to divide the rule of the empire: Caracalla was supposed to rule Europe and Northern Africa and Geta was supposed to rule the Asian provinces and Egypt (CAH XII: 42-43, ref. 1).

The legions in the east called out the praefectus pretoriae Macrinus on the new emperor, who had organised the plot. He immediately faced difficulties, since the women from the Severan family had great influence over the troops in that region, especially in Syria, with their intention being to bring their own offspring to the throne.⁶⁵ Macrinus tried to save his position – he took the name of the Severi for himself, he deified Caracalla, he gave his son the title of Diadumenos *princeps iuventutis*, he proclaimed him a caesar and later also an augustus by naming him Antoninus. As well as that, he had to present his choice to higher authorities as well, like Jupiter, showing sacral modesty. On the denarii of the first series, a colossal figure of Jupiter, holding a thunderbolt above the very small figure of the emperor figure is presented, with the inscription VOTA PVBLICA (Fig. 39) (RIC IV.2: 6, n. 5).⁶⁶ During his short rule, Macrinus minted quite a large number of different reverse motifs in all metals for his son Diadumenos, with the legend PRINCEPS IVVENTVTIS.⁶⁷ The prince is depicted in a military uniform, standing and holding a stick and a sceptre whilst behind, there are two military insignia (Fig. 40),⁶⁸ or holding another military insignia instead of the stick (Fig. 41)⁶⁹ (RIC IV.2: 13-14, nos. 101-112; 22, nos. 211-217; Gneccchi III: 40, n. 1). In the second example, on top of the military insignia held by the prince, there is a hand symbolising sacramentum – the military vow that had

⁶⁵ Iulia Domna had great influence while Septimius Severus was still alive and she had numerous titles, but she also thought that she could bring peace among brothers and secure the continuity of the dynasty. After Geta's murder, she accepted the situation and tried to play a positive role during the unfortunate rule of Caracalla. She committed suicide in April 217. The leading role was now overtaken by her sister Iulia Maesa, with her daughter Iulia Soemias (Elagabal's mother) and Iulia Mammaea (Alexander Severus' mother) (CAH XII: 44, 52-53).

⁶⁶ Illustration taken from BMC V, Pl. 78.1.

⁶⁷ Macrinus ruled from April 217 AD to June 218 AD (Kienast 2010: 169).

⁶⁸ Illustration taken from BMC V, Pl. 80.16.

⁶⁹ Illustration taken from BMC V, Pl. 84.4.

been taken. Such motifs would become a popular way of depicting princes as leaders of the youth and they are encountered until the end of the Principate.

By heavily influencing the Syrian troops, Iulia Maesa managed to get her grandson Elagabalus proclaimed as the next emperor, while Macrinus was defeated and murdered. All the events which lead to the election of Elagabalus showed who was in control of the rule of the state – out of the confusing circumstances and with a shared interest, the army along with the women from the Severan family managed to secure the continuity of the dynasty (CAH XII: 52-53). Still, Elagabalus' election was a bad choice since, as a bizarre personality, he soon caused dissatisfaction. Iulia Maesa took the initiative again and, with the help of the praefectus praetoriae Comazon, began to support the son of her other daughter, Alexander, who was favoured among the soldiers. In March 222 AD, Elagabalus and his mother were murdered and Alexander Severus was brought to the throne at the age of 14. The ruling the state was taken over by Iulia Mamaea, together with a council consisting of 16 senators, among which there were two of the most respected lawyers. The respect of the senate was returned, and finances and the law were restored. However, the appearance of the new enemy in the east, as well as riots on the Rhine border, together with the inner problems reflected in the dissatisfaction of the army, led to a mutiny by the troops who subsequently murdered Alexander and his mother in 235 AD and proclaimed Maximine the Thracian as the new emperor.

At Iulia Maesa's insistence, in June 221 AD, Elagabalus adopted Alexander and entitled him *princeps iuventutis* and a caesar (Kienast 2010: 177). Bronze coins were minted for him, as they had been earlier for Diadumenos, with an image of the prince in a military uniform, holding a stick and a sceptre with two military insignia behind (RIC IV.2: 102, n. 386). Later on, during his independent reign, Alexander Severus minted

medallions with more developed images, in which he receives the globe from Jupiter. In the middle of the picture there is a military insignia in front of which Jupiter stands with a sceptre. There is the emperor in a military uniform, with a spear, shown handing over the globe. Behind each depiction of Jupiter and the emperor there is a soldier with a military insignia. The accompanying inscription is FELICITATI POPVLI ROMANI (Fig. 42) (Gnecchi II: 80, n. 5).⁷⁰ On another medallion, Jupiter sits on a throne and hands the globe over to Alexander, who stands in front of him in a military uniform and is holding a spear, behind the emperor there are two soldiers; the inscription reads PERPETVITAS IMP AVG (Gnecchi II: 80, n. 10). In this case, to the more usual scene in which the emperor receives the symbol of global rule from the deity, soldiers and insignia are added, acting as witnesses to this act. The emphasised military aspect, which is also reflected in the emperor's military uniform, separates this motif from the previous ones (Hadrian, Commodus) in which Jupiter "crowns" the toga wearing emperor. Apart from that, for the first time, Jupiter's choice (*providentia deorum*) was explicitly connected with *felicitas populi romani*, a concept which is closely connected with permanent renovation and eternity (Fears 1981: 117, ref. 571). Felicitas, as the symbol of true happiness, possessing the most precious gift of fortune telling, brings peace and welfare to the lives of the Roman people.

The plan of the women from the Severan dynasty to establish the interest of the state and the dynasty by supporting the Senate in the state in which regime was already based on military rule was predicted to fail, since they were incapable of ruling over the army. After the death of Alexander Severus, a development phase of the Principate as a system was ended and the era of soldier-emperor began, which lasted until Diocletian's time and the tetrarchy. The Principate, as a social system, developed and adjusted from the very beginning

⁷⁰ Illustration taken from Gnecchi II, Tav. 98.5.

but did not change its structure from the time of Septimius Severus' rule, who actually legalised the state within the army and its leadership. Whether changes were necessary should be discussed as a separate topic but in any case, the most important consequence was the very big influence of the army on the political life of the state. The change of system itself would not play a decisive role in the weakening of the state, since economic difficulties were also connected with this along with more complex outside dangers. The highly organised and powerful Persian state presented as a serious threat and, additionally, there were constant raids by various tribes along the Rhine and the Danube.

During the aforementioned period, many different rulers sat on the throne, mostly assisted by the army. The Senate no longer had influence on the rule and its role was reduced to accepting the emperor chosen by the army. Origin was also no longer of importance and people of low origin ascended to the throne, typically military leaders who were able to stand up to the outside enemies. They achieved high ranks after the reforms of Septimius Severus, with the equestrian class supporting him, whilst being opposed to the Senate. Each new princeps would proclaim his son or sons as a co-ruler and an augustus. Thus, the chosen model of inheritance was kept within a family. However, only in one case did the son live long enough to succeed his father (Galienus), because most of the principes of this period were murdered, not by their enemies, but by their political opponents. An exception to this was the unexpected initiative by the Senate in 238 AD, which aimed to establish the collective rule of two principes – Pupienus and Balbinus. This unique attempt was probably aimed more at resembling the previously existing duality and equality of the highest magistrates of the Republic than the wish of the Senate to establish dual principality as a general rule (CAH XII: 78).⁷¹

⁷¹ A close connection between the new augusti and the

As previously mentioned, from the time of Diadumenos there exists a motif of a prince with the military insignia which would occur, more or less, until the end of the Principate, with the obvious attempt to represent a maximum variety of the details depicted. Princes were depicted in military uniforms with all the appropriate attributes – the stick of a commanding officer, a spear, military insignia, the parazonium of Virtus or a sceptre – all of which emphasise the military aspect. In this manner, the caesarian series of Maximus, the son of Maximinus Thrax, shows the prince depicted in a military uniform, standing next to two military insignia, holding a stick and a spear (Fig. 43) (RIC IV.2: 155, nos. 3,5; 156, nos. 9-10) or a globe and a spear, with the inscription PRINCIPI IVVENTVTIS (RIC IV.2: 155, n. 4).⁷²

The large variety of details in images with the *princeps iuventutis* motives are shown on caesarian series of Philipp II.⁷³ The prince is depicted alone, in a military uniform, holding a globe and a sceptre (RIC IV.3: 95, n. 216) or followed by a soldier holding a spear (Fig. 44) (RIC IV.3: 95, n. 217).⁷⁴ Some examples also show an image in which Philipp II stands, holding a globe and a spear (RIC IV.3: 96, n. 218, 101, nos.255-257) or with an added small figure of a captive at his feet (Fig. 45) (RIC IV.3: 96, n. 219).⁷⁵ The prince is depicted holding a military insignia and a spear (Fig. 46) (RIC IV.3: 96, n. 220; 101, n. 258A),⁷⁶ or a globe and a spear (RIC IV.3: 101, nos. 255-257).

Senate is also visible on reverse images of coins with the inscription PATRES SENATVS (RIC IV.2: 174, n. 11), in keeping with the collegiums of the Twenty.

⁷² Illustration taken from HCC III, Pl. 55. M.C. 11. Maximus was entitled a caesar and a princeps iuventutis between the 7th of January and the 16th of May 236 AD (Kienast 2010: 185).

⁷³ Philipp II was proclaimed for a caesar between the 23rd of July and the 15th of August 244 AD, when he was also entitled princeps iuventutis. Three years later (July/August) 247 AD, he was proclaimed augustus (Kienast 2010: 200).

⁷⁴ Illustration taken from RIC IV.3, Pl. 8.7.

⁷⁵ Illustration taken from HCC III, Pl. 74.10.

⁷⁶ Illustration taken from HCC III, Pl. 74.19.

The more developed images, with a multitude of details, are depicted on two extraordinary medallions minted for Philipp II, with the inscription PRINCIPI IVVENTVTIS. On the first one, the prince is depicted in the middle of the composition, wearing a military uniform and holding a spear. A soldier on his right side crowns him with a wreath and, in addition, he holds an insignia and a shield. A soldier on the other side also holds an insignia whilst leaning on a shield (Fig. 47) (Gnecchi II: 97, n. 6).⁷⁷ On the second medallion, Philipp II is again depicted in the middle of the scene, wearing a military uniform, with the stick of a commanding officer, and holding a military insignia, with another one in front of him. Behind the prince there is a soldier with a shield and an insignia with a hand on top (Fig. 48) (Gnecchi II: 97, n. 7).⁷⁸

Similar to other soldier-emperor, Traian Decius also gave his sons the titles of caesares and *princeps iuventutis*, first Herenius Etruscus and later, Hostilianus.⁷⁹ On the caesarian series of Herenuis Etruscus, scenes are depicted similar to those on the mintings of Philipp II: the prince is wearing a military uniform, holding a stick and a spear (RIC IV.3: 139, n. 147; 143, n. 171) or holding a military insignia and a spear (RIC IV.3: 139, n. 148; 140, n. 153A; 143, n. 172). As a completely new motif, with the legend PRINC IVVENTVTIS, there is a depiction of a seated Apollo, holding a branch and leaning his elbow on a lyre (Fig. 49) (RIC IV.3: 139, nos. 144-146; 140, n.

153).⁸⁰ This is the image of *Apollo salutaris* who takes care of the prince's health, in whose hands the future of the state lies. For the younger Hostilianus, coins were minted with similar depictions: the prince is wearing a military uniform, holding an insignia and a spear (RIC IV.3: 144, nos. 181-182; 149, n. 216); or holding a stick and a spear, the motif which also appears on a medallion (RIC IV.3: 144, n. 183; 149, n. 217; Gnecchi II: 102, n. 1); or standing in front of two insignia, touching the closer one, while he holds a spear in the other hand (RIC IV.3: 149, n. 218). In the caesarian series of Hostilianus, the example with Apollo repeats (RIC IV.3: 144, n. 180; 149, nos. 214, 215), and it appears again, with the same inscription, in his augustan series (RIC IV.3: 145, n. 189; 150, n. 219).

For Volusianus, coins were minted with the inscription PRINCEPS IVVENTVTIS in the caesarian, as well as the augustan series. We again encounter the same motifs: the prince wearing a military uniform, holding a stick and a spear (RIC IV.3: 173, n.129; 174, nos. 130, 134; 179, n. 183; 187, n. 241; 179); holding an insignia and a spear (RIC IV.3: 177, n. 159) or holding a globe and a sceptre (RIC IV.3: 187, n. 242). Gallienus minted a great number of examples for his sons with the same, or similar, motifs.⁸¹ Valerianus II was depicted in a military uniform, holding a stick and a spear next to two insignia (RIC V.1: 116, n. 5; 121-122, nos. 44, 51); holding a military insignia and a spear (RIC V.1: 117, n. 11); holding a globe and a spear (RIC V.1: 118, n. 23; 120, n. 39); holding a military insignia and a sceptre (RIC V.1: 119, n. 29; 120, nos. 34, 37, 38, 40); or holding a spear and a shield and crowning a trophy (RIC V.1: 121-122, nos. 45, 49, 50). In the caesarian series of coins and medallions of Saloninus, there

⁷⁷ Illustration taken from Gnecchi II, Tav. 108.7.

⁷⁸ Illustration taken from Gnecchi II, Tav. 108.8.

⁷⁹ Herenius Etruscus was proclaimed a caesar at the end of May or at the beginning of June 250 AD, while he was entitled augustus in June 251 AD. Hostilianus was proclaimed as a caesar in September 250 AD. He was entitled augustus after the death of his father and his brother (June 251 AD), who were killed by the heir Trebonianus Gallus, proclaimed as the new emperor by the army. At the same time, Trebonianus Gallus entitled his son Volusianus a caesar and a princeps iuventutis. Hostilianus soon died and Volusianus was proclaimed augustus in August of the same year (Kienast 2010: 206-210).

⁸⁰ Illustration taken from HCC III, Pl. 80.12.

⁸¹ Gallienus was proclaimed a caesar in September/October 253 AD and immediately afterwards (before the 22nd of October 253 AD) as an augustus. In 258 AD, he himself entitled Valerianus II and Saloninus caesares and princeps iuventutis (Kienast 2010: 218, 221).

is probably the largest number of different motifs with the *princeps iuventutis* theme. The prince is depicted, just like the emperors before him, wearing a military uniform, with a stick, a spear, military insignia, or sceptre or standing next to a trophy (RIC V.1: 123-126, nos. 3, 5, 10-12, 18-20, 27, 30; Gneccchi III: 61-62, nos. 15, 20). As *princeps iuventutis*, Saloninus appears on coins and medallions in a scene in which he holds a globe and a sceptre and, next to his feet, there is a small figure of a captive (Fig. 50) (RIC V.1: 127, nos. 32-34; Gneccchi II: 111, n. 3).⁸² In addition, Saloninus, Maximus, Philipp II and Volusianus were also depicted with a globe, an attribute usually reserved for the emperor himself, rather than for a prince. The legend of Amaltheia and Jupiter was used again, after Domitianus, in the mintings of Valerianus II. Along with the inscriptions IOVI CRESCENTI and IOVI EXORIENTI, there is a boy-Jupiter riding a goat (RIC V.1: 116, n. 1; 119, n. 32). Coins were also minted for Saloninus, with the motive of Jupiter handing Victoria over to the prince, with the inscription DII NVTRITORES (RIC V.1: 127, n. 35). These last three examples are connected with the *renovatio temporum* and *aeternitas* themes, with growth and education aimed at representing the princes as a substitute for Jupiter on earth.

Just as earlier, in Volusianus', Carinus' and Numerianus' caesarian and augustan series, the inscription PRINCEPS IVVENTVTIS appears together with the previously mentioned motifs (RIC V.2: 156, nos. 147, 150; 158, nos. 158-160; 160, nos. 181-186; 172, n. 267; 188, nos. 360-366; 196, nos. 417-421). Similar pairings – the legend and the depiction of *princeps iuventutis* in the augustan series – are encountered with Galienus', Florianus', Probus' and Carus' mintings and with the mintings of Tetricus I. They were represented holding a globe and a spear, a globe and a sceptre, a military insignia and a spear or an insignia and a vexil-

lum.⁸³ For the people of the time, this image most likely represented only an allusion to the close connection with the equestrian class (RIC V.2: 3).

During the reign of the so-called soldier-emperor, as previously described, universal motifs usually appear, stressing the military aspect of the princes' role. During these turbulent times, filled with serious internal and external problems which were permanently destroying the internal system, it is only natural that this happened. The heirs to the throne had to be represented as military commanders who would, one day, be capable of standing up as a leader against the external enemy. Starting with the republican meaning of the *princeps iuventutis* title as the leader of the equestrian class, and then on to Octavianus, who used it for the first time as a way of representing the heir to the throne then, until the time of the soldier-emperor, it had always had a certain military aspect. However, from the initial idea of Octavianus to represent the heirs as future statesmen and military leaders (Gaius and Lucius were represented dressed in togas, with shields and spears), during the 3rd century it was reduced to only the second of these aspects. The feeling of insecurity during the 3rd century's crises was depicted through the images of *providentia deorum*. Ever since the time of Gordianus III and especially during the times of Aurelianus, Probus and Carus, images appeared in which the emperor receives a globe as a symbol of global rule, not only from Jupiter, but also from Roma, Concordia, Solus, Mars, a soldier or, as in the case of Carinus and Numerianus, from their fathers.⁸⁴ It seems that ever since the time of

83 Galienus (RIC V.1: 70, n. 26; 154, n. 265); Florianus (RIC V.1: 357, nos. 79-81); Probus (RIC V.2: 50, n. 318; 115, n. 892); Carus (RIC V.2: 142, n. 61; Gneccchi III: 73, n. 8); Tetricus I (RIC V.2: 410, nos. 114, 115).

84 On coins and medallions of Gordianus III, he is depicted wearing a toga, receiving a globe from Roma sitting on a shield; in the background there is a soldier with an insignia, while the emperor is accompanied by Virtus (RIC IV.3: 48, n. 296; Gneccchi II, 90: nos. 30,31, Tav. 105.2,3). On another medallion, the young emperor is depicted receiving a globe from Solus, whilst being crowned by Victoria as the captives sit next to his feet. Behind Solus there

82 Illustration taken from Gneccchi II, Tav. 116.5.

Gordianus III, the initial meaning of the image of *providentia deorum* is slowly lost – as the image of the legitimacy of the rule which was given by the supreme deity himself. It seems that within the scenes of the handing over of the globe, the focus is on the emperor in the function of *rector orbis*, rather than in seeking legitimacy of the rule. In such a way, motifs appear in which the emperor receives the globe from different deities, either as personifications or as real persons, combined with a multitude of inscriptions which were supposed to explain the idea of the whole composition to the users. In this sense, the globe appears only as an attribute of the ruler of the earth or as a secondary element within a composition, marking, for example a victory, or referring to problems within the army etc.⁸⁵

is a soldier and in the background there are military insignia; the inscription reads VIRTUS AVG (Gnecchi II, 93, n. 56, Tav. 106.8). The first of these examples was minted before the Persian campaign, while the second one, minted during the campaign, already shows signs of victory. In addition, Gordianus III is depicted in Traian's tradition, under the protection of Jupiter's thunderbolt with the inscription IOVI CONSERVATORI (RIC IV.3: 15, n. 2). The combination of this image and the legend appears for the last time in Emilian's mintings (RIC IV.3: 194, n. 4). The inscription IOVI CONSERVATORI also appeared later with motifs in which the emperor receives a globe from Jupiter: Galienus (RIC V.1: 103, n. 440), Aurelianus (RIC V.1: 270, n. 48), Probus (RIC V.2: 59, nos. 385-387). However, on the minting of Probus, Carus and his sons, the image in which the emperor receives the globe from Jupiter is accompanied by the inscriptions CLEMENTIA TEMP and VIRTUS AVGG (RIC V.2: 86, nos. 643-648 (Probus); RIC V.2: 149, n. 118; 150, n. 124 (Carus); RIC V.2: 163-164, nos. 202, 206 (Carinus); RIC V.2: 190-191, nos. 372, 376 (Numerianus). Aurelianus is depicted receiving a globe from Solus, with the inscriptions: ORIENS AVG, SOLI INVICTO, VIRTUS AVG or SOLI CONSERVATORI (RIC V.1: 297, n. 282; 300, nos. 312, 316; 305, n. 353). Additionally, Aurelianus also receives a globe from Concordia with the inscription CONCORDIA MILITVM (RIC V.1: 292, n. 245). Aurelianus and Probus also receive a globe from soldiers, the first with the inscription FIDES MILITVM and the second with RESTITVTOR EXERCITI (RIC V.1: 279, n. 127; RIC V.2: 117, n. 909). Probus receives a globe from Mars, whilst being crowned by Victoria, in the background there is a soldier and two insignia (RIC V.2: 33, n. 146).

⁸⁵ Fears' opinion is that military metaphors together with Jupiter's investiture of the emperor (having their begin-

The period of soldier-emperor lasted for almost fifty years, during which the general crisis deepened and reached its peak during the reigns of Valerianus I and Galienus (253-268). After that, there was a short stabilising period under Aurelianus and Probus, ending with Diocletian's ascension to the throne in 284 AD, when a new system of reign was introduced – the tetrarchy. In such a system, an emperor was elected by the army, taking another augustus as his co-ruler, after which both of them chose an additional two caesares. After twenty years, the augusti were supposed to abdicate, which is what happened with Diocletianus and Maximianus in 305 AD. The plan was that they should be inherited by the caesares (Galerius and Constantius), who would be given the title of augusti and would choose their own caesares (Maximinus Daia and Flavius Valerius Severus). The system, however, did not survive and during the following generation, the system of inheritance of the throne within a family prevailed again. Problems occurred in 306 AD, after Constantius' death, since Diocletian's plan excluded the sons Constantius and Maximianus (Constantine and Maxentius) from the reign, a plan with which they did not agree. After lengthy and exhausting conflicts, which lasted until 324 AD, Constantine became the only ruler, a title that was to be inherited by his sons.

The inheritance the throne during the Prin-

nings on medallions of Alexander Severus) were best presented in the numismatic propaganda during Aurelianus' time. At the beginning of Aurelianus' rule, mints throughout the Empire issued types on which the investiture of the emperor by Jupiter was celebrated, with the inscription IOVI CONSERVATORI, FIDES MILITVM and CONCORDIA MILITVM. Later in his paper, Fears states that, although Solus dominates in the minting from the last years of Aurelianus' reign, this should not be understood as an attempt to suppress the cult of Jupiter. He concludes that Jupiter, as the supreme deity, after making the present situation possible (by positioning Aurelianus for his representative on earth), withdraws and rules the world through his representatives – Solus and Aurelianus, i.e. Oriens Augusti (Fears 1981: 117-118). In this case, the meaning of the motifs, in which Aurelianus receives the globe from Concordia or from a soldier, remains unclear (cf. ref. 85).

princely played an important role in the political ambitions of most of the emperors and, in accordance with that, it formed a part of the imperial propaganda at all levels. During the time of Octavian, a republican, the election of functions was still common in Roman society. Although the changes which took place during the civil wars in the 1st century BC opened the way to a monarchical system of rule, there were still many opponents to the new regime. For 58 years, Octavian increasingly influenced the political life of the Roman state.⁸⁶ The system of Principate, introduced by him, did not represent a new concept, but a change to the existing one and its adjustment to a new era, an alternative to the traditional social structure.⁸⁷ He himself wrote in the *Res Gestae* that his power arose from taking care of the *res publica*, illustrated by the ending of the civil war and the handing over of rule to the Senate and the Roman people (*Res Gestae* 34). Still, he was given the status of the first citizen by the Senate and the people, which also meant that he became the first “servant” of the state. The specific historical circumstances, which lasted for almost a century, strengthened Octavian and, in such circumstances, he later reinforced his position, influencing the necessary transformation of the system as was expected of him.⁸⁸ Just as sought solutions for the

newly established system, Octavian also tried to find a right to inheritance. Finding of an appropriate heir became more and more necessary for him, while on the other side, the “republican program” transformed into the Principate and stood opposed to the principle of inheritance. This represented a serious problem which had to be solved and a way had to be found whereby the position created for the “saviour of the republic” could be handed over to an heir from the same family. A potential heir could not refer to the restoration of the republic, as Augustus did. His position of the first citizen, with all the honours and authorities, was given to him by the Senate and the Roman people, so he tried to create the same consensus for his heir. The family members, potential candidates, were, through the years, gradually introduced to public and military life. They were given authority, admissions and honours for their merits. The political elite and the public were acquainted with these persons and their merits and, in addition to this, the Senate also gave them certain powers by issuing decrees so that, after Augustus’ death, it was difficult to refuse such a person. It seems that in such a way, *Res publica* chose the princeps itself (Eder 1993: 120).

After Tiberius, this practice seemed natural, so inheritance within the Claudian family continued, with the gradual introduction of the praetorians as a factor playing a specific role during the election of a princeps. The dictatorial way in which the praetorians pushed their decisions concerning principes led to dissatisfaction among the provincial legions and, following the unfortunate reign of Nero, there was another civil war. The reasons for this lay within the ever growing role of the army as a political force, rivalries among its various parts, the political ambitions of the lead-

created a system which was deeply rooted in Roman society and, in such a way, after a century of crisis, he demonstrated a clear alternative to the traditional order (Meier 1993: 55-56). After the exhausting civil wars, there was great economic hardship among the citizens and they all wished for but one thing – peace (Rostovtzeff 1926: 30, 39).

86 Ever since 44 AD, the day after Caesar was murdered and his will was opened, according to which he adopted Octavianus and proclaimed him his heir.

87 During the 1st century BC there was a one-way destruction of all of the foundations of Roman society which led it into a serious crisis and, at the same time, there was an obvious incapability to find a way out of the difficulties. This crisis led to the rise of many powerful individuals. These included Pompeius, Caesar, M. Antonius, Octavianus. The Senate tried to stand up to them and their growing influence, which led to a series of civil wars in which the Republic was finally destroyed. It was clear that the system of rule was no longer functioning correctly, but there was no social or political force which could offer an alternative and persist with its insistence to introduce constitutional changes (Meier 1993: 54-55).

88 In contrast to his predecessors, who offered no solutions, by acting directly within the political system and openly facing the Senate, Octavianus managed to effect significant changes within the Roman social structure. He

ers as well as in the dissatisfaction with the rule of the last Iulian-Claudian emperor. The winner in the civil war was Vespasianus, who attempted to establish a dynasty. This proved to be a bad solution, since Domitianus was not a suitable candidate for a princeps, a fact that eventually led to his murder. Adoption, which had begun in Nerva's time, emerged as the best solution. The interruption of this practice by Marc Aurel and the handing over the rule to his incapable son again led to dissatisfaction followed by another civil war. Inevitably, this was also accompanied by other difficulties (of an economic nature, as well as external dangers) which together, were the first signs of the crisis of the 3rd century. Septimius Severus repeated Marc Aurel's mistake and left the throne to his sons, although, owing to the great influence of the Severan women, the dynasty managed to survive until 235 AD. The rule of Septimius Severus represents a breaking point in the re-modelling of the Principate, which would, in its final phase at the end of the 3rd century, evolve into the Dominate. Severus was an intruder but chosen as emperor by the army, who supported him during his entire rule and with whom he was more or less forced to cooperate in order to oppose the Senate and a large section of the provincial aristocracy. As a consequence of the legal and financial favour that it enjoyed, the army grew too strong, making the state dependant on its decisions. Following this, there was the era of the so-called soldier-emperor, during which several dozen emperors, mostly of low origin, ascended the throne, brought to power by the army.

In other words, there was no rule of inheritance of throne during the Principate. Usually, an emperor would recommend an heir during his lifetime, either from his family or an adopted individual. Father-to-son inheritance proved less successful and often led to civil wars and murders, since such rulers were often incapable. Adoption, which was practiced from Nerva's time through to Marc Aurel's time, was found to be a better solu-

tion. Whoever the incumbent emperor chose, he would try, by all means necessary, to present the heir to the army and the people in a favourable light. Principes were introduced into public life, they were given certain jurisdictions and titles, followed the emperor on his travels and military campaigns and had coins minted for them with appropriate images depicted. An important segment of the official propaganda was occupied by the motifs of *princeps iuventutis* and, later, also by motifs which expressed the *providentia* of the supreme deity or the emperor himself. The chosen heirs also appeared on reverse images of incumbent emperors, accompanying them on platforms during the distribution of gifts to the people (*liberalitas/congiarium*), during addresses to the army (*adlocutio*) and in triumphal scenes. They were also depicted with their patron deities etc. Regardless of the personal choice of the actual princeps, whether he chose a family member or an adopted son, these decisions should not be considered separately from the socio-economic circumstances of the first three centuries which, together, decided the destiny of the Principate.

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REZIME

NASEĐIVANJE PRESTOLA TOKOM PRINCIPATA U SVETLU REVER-SNIH PREDSTAVA NA RIMSKOM CARSKOM NOVCU

KLJUČNE REČI: PRINCIPAT, NASLEĐIVANJE, PRIKAZI NA REVERSU, PRINCEPS IUVENTUTIS.

Dinastička politika tokom Principata predstavljala je važan segment oficijelne propagande ostvarivane putem novca. Osnovni način bilo je dodeljivanje titule *princeps iuventutis* izabranom kandidatu, od strane aktualnog princepsa. Ovo je bila titula poštovana još od republikanskih vremena, davana je mladiću koji povede starije i mlađe dečake određene da odigraju ulogu u igri Troje (*ad ludum Troiae*). *Princeps iuventutis* bio je u Republici vođa konjaničkog staleža, a njegova glavna obeležja bila su koplje i srebrni štit. Od vremena Avgusta ova titula počinje da se dodeljuje mlađim, muškim članovima carske porodice, budućim naslednicima prestola. *Princeps iuventutis* dobijao je srebrni štit i koplje, a predstave na novcu pratile su, na odgovarajući način, taj važan čin u životu budućeg vladara. Prinčevi su se od mladosti pripremali i obučavali za ulogu koja ih očekuje, zauzimali su važne državne i vojne funkcije. Različite predstave na novcu pratile su legendu PRINCEPS IVVENTVTIS, a sve u cilju da se građanima i vojsci predstavi izabrani naslednik, i da se prikaže kao kvalifikovan i sposoban budući vladar.

Naseđivanje prestola tokom Principata zauzimalo je važno mesto u političkim ambicijama većine careva, a skladno sa tim činilo je

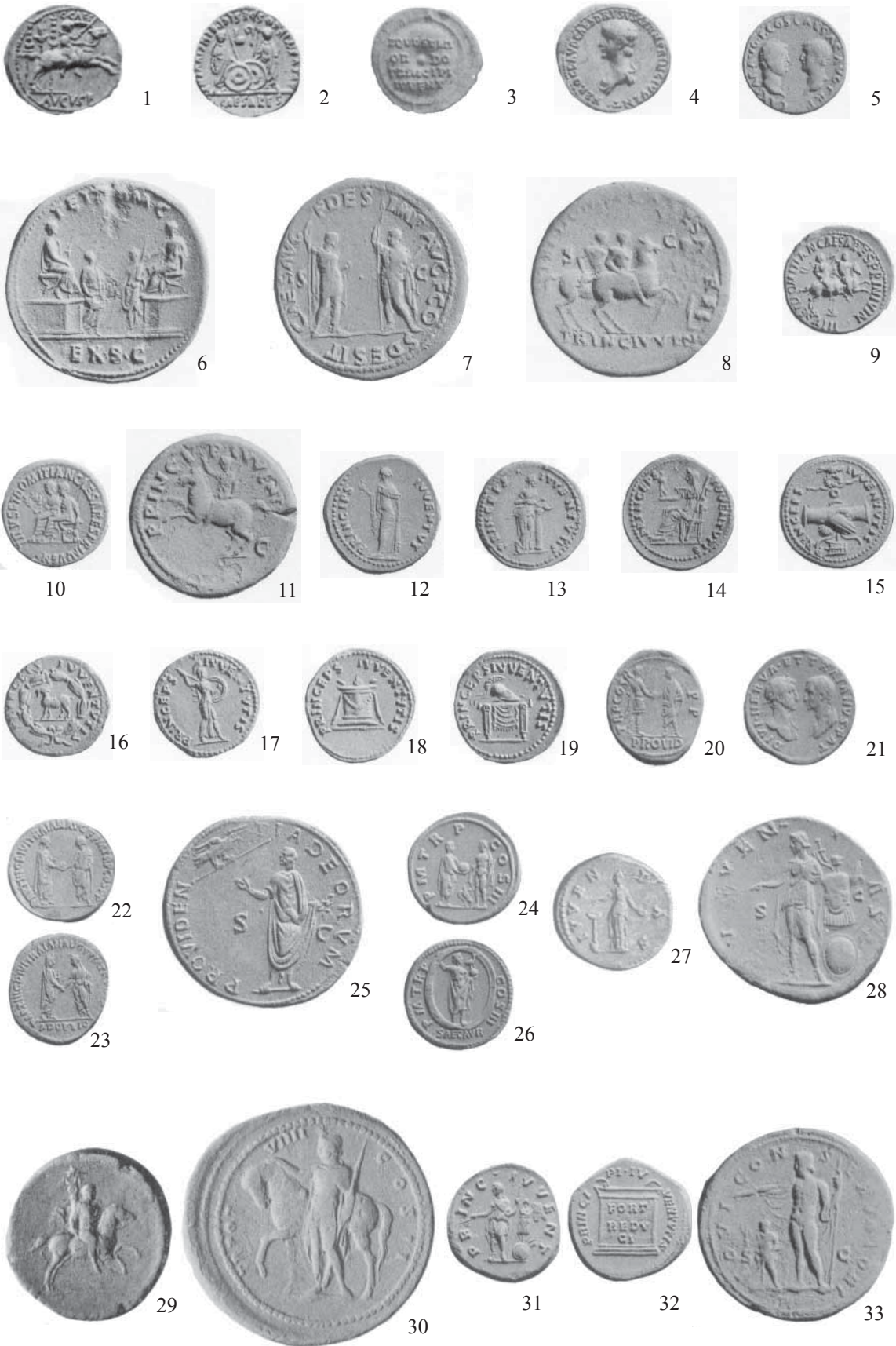
i deo carske propagande na svim nivoima. U vreme Oktavijana, rimskom društvu još uvek je bilo blisko, republikansko, izborno preuzimanje funkcija u državi. Mada su promene do kojih je došlo tokom građanskih ratova u I v.s.e. otvorile put monarhističkom jednovalašću, još uvek je bilo dosta protivnika novog režima. Tokom 58 godina Oktavijan je kontinuirano vršio stalno narastajući uticaj u političkom životu rimske države. Sistem Principata koji je uveo nije predstavljao novu koncepciju, već promenu postojećeg i njegovo prilagođavanje novom vremenu, jednu alternativu tradicionalnom poretku. Specifične istorijske okolnosti koje su trajale skoro jedan vek, koje su iznedrile Oktavijana i u kojima je on potom izgradio svoj položaj, umnogome su uticale na transformacije u sistemu koje su bile i nužne a i očekivane. Kao što je tražio rešenja za novonastali sistem, Oktavijan je pokušavao da nađe i pravo za nasleđivanje. Pronalaženje adekvatnog naslednika postajalo je za njega postepeno sve nužnije, sa druge strane u Principat preoblikovani „republikanski program“ bio je u suprotnosti sa principom nasleđivanja. Ovo je predstavljalo realnu poteškoću koju je trebalo razrešiti i pronaći način kako poziciju koja je bila izgrađena po meri za „spasioca Republike“ preneti na naslednika iz kruga porodice. Potencijalni naslednik nije mogao da se poziva na restauraciju Republike, kao što je to činio Avgust. Svoj položaj prvog građanina, sve počasti i ovlašćenja, dobio je od Senata i rimskog naroda, te je na isti način pokušao da ostvari konsenzus i za naslednika. Članovi porodice, potencijalni kandidati, godinama su postepeno uvođeni u društveni i vojni život, dobijali su ovlašćenja, priznanja i počasti za svoje zasluge. Politička elita i javnost su bile sa ovim ličnostima i njihovim zaslugama upoznate, osim toga Senat im je sam svojim dekretima dodeljivao ovlašćenja, te bi bilo teško da, nakon smrti Avgusta, odbiju takvu osobu. Čini se da je na ovaj način *Res publica* sama izabrala sledećeg princepsa.

Nakon Tiberija, ova praksa činila se prirod-

nom, te je nastavljeno sa nasleđivanjem u okviru porodice Klaudijevaca, uz postepeno uključivanje pretorijanaca kao faktora prilikom izbora princepsa. Svojevrсна diktatura pretorijanaca u nametanju odluka po pitanju princepsa dovela je do nezadovoljstva među provincijskim legijama, te je nakon nesrećne Neronove vladavine došlo do ponovnog izbijanja građanskog rata. Razlozi ovog sukoba ležali su u narastajućoj ulozi vojske kao političkog činioca, rivaliteta između njenih pojedinih delova, političkim ambicijama lidera, kao i nezadovoljstvu vladavinom poslednjeg predstavnika dinastije Julijevaca-Klaudijevaca. Kao pobednik iz građanskog rata izašao je Vespazijan koji je ponovo pokušao sa formiranjem dinastije. Ovo se pokazalo kao loše rešenje, jer Domicijan nije bio odgovarajuća ličnost za položaj princepsa, što je na kraju dovelo do njegovog ubistva. Adopcija, sa kojom je započeto od Nerve, pokazala se kao najsrećnije rešenje. Prekidanje ove prakse od strane Marka Aurelija i prenošenje vlasti na nesposobnog sina, ponovo je dovelo do nezadovoljstva i izbijanja građanskog rata. Ovome su naravno dopirinele i druge poteškoće (ekonomske prirode kao i spoljna opasnost) koje su zajedno najavljivale dolazeću krizu ispoljenu tokom III veka. Septimije Sever je ponovio grešku Marka Aurelija i vlast ostavio sinovima, mada se je dinastija Severa zahvaljujući uticaju žena iz ove porodice održala na vlasti do 235.g. Vladavina Septimija Severa predstavljala, prelaz i prelomni momenat u daljem remodelovanju Principata, koja će u konačnoj fazi dovesti do prelaska u Dominat krajem III veka. Sever je na vlast došao kao uzurpator, izabran od strane vojske, na čiju podršku se oslanjao tokom cele svoje vladavine, na šta je uglavnom bio prinuđen zaradi opozicije od strane Senata i velikog dela provincijske aristokratije. Kao posledica favorizovanja vojske u legalnom i materijalnom smislu, dolazi do njenog preteranog jačanja i stvaranja zavisnosti države od njenih odluka. Nakon toga nastupio je period tzv. „vojničkih careva“ u kojem se je na vlasti izmenjalo više de-

setina careva, uglavnom niskog porekla, koje je na vlast dovodila vojska.

Pravila u nasleđivanju prestola, dakle, tokom Principata nije bilo. Uglavnom je car za života preporučio naslednika, bilo da je bio iz kruga porodice, bilo da je adoptiran. Nasleđivanje sa oca na sina se pokazalo manje uspešnim i uglavnom je vodilo u građanske ratove i ubistva, jer se obično radilo o nesposobnim vladarima. Adopcija, koja je sprovedena od Nerve do Marka Aurelija kontinuirano, pokazala se kao bolje rešenje. Bilo koji izbor da je učinio aktuelni car, trudio se potom da svim dostupnim sredstvima predstavi naslednika vojsci i građanima. Prinčevi su uključivani u javni život, dobijali su različite titule i ovlašćenja, pratili cara na putovanjima i vojnim pohodima, za njih je kovan novac sa primerenim predstavama. Važan segment oficijelne propagande pripadao je predstavama sa motivima *princeps iuventutis*, a potom i motivima koji su izražavali *providentia* vrhovnog božanstva ili aktuelnog cara. Izabrani naslednici pojavljivali su se i na reversnim predstavama aktuelnih careva, u njihovoj pratnji na platformi prilikom podela učinjenih narodu (*liberalitas/congiarium*), prilikom obraćanja vojsci (*adlocutio*), u scenama trijumfa, prikazivani su sa božanstvima svojim zaštitnicima, itd. Nezavisno od ličnog izbora aktuelnog princepsa, bilo da se odlučio za člana porodice ili adopciju, ove odluke se ne smeju posmatrati odvojeno od društveno-istorijskih okolnosti tokom prva tri veka koje su ukuno krojile sudbinu Principata.





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ARCHAEOLOGY THROUGH THE EYES OF MUSEOLOGY - Archaeology as a science and as heritage -

ABSTRACT

By now it is clear that archaeology in the last few decades has changed enormously. The biggest change is that it is no longer limited to just research, but it has been called upon to share information and help manage non renewable sources, in other words, our heritage. These changes have, in themselves, brought new responsibilities, which are necessary for archaeology to show a balanced and trustworthy interpretation of the past, in a way that does not present the past as event, isolated from the modern world, but as a basis of modern society. What is archaeological science and what is archaeological heritage? What came first; was it archaeological science or did the concept of archaeological heritage appear earlier? And in which contexts do we use both the terms? In this paper we first present archaeology in the perspectives of science and heritage and secondly, the development of the modern museum as a medium and a source of interpretation and presentation of archaeology both inside and outside the museum. We conclude with a comparison of archaeology and museology and search for common points between the two disciplines.

KEY WORDS: ARCHAEOLOGICAL HERITAGE, INTERPRETATION, PRESENTATION, MODERN MUSEUM, MUSEOLOGY.

INTRODUCTION

Since its early beginnings, archaeology has developed into a science with its own theory and methods of work, even though some critics do not see it as a science due to its humanistic character.

However, because it is producing new knowledge about the past and contributing to knowledge regarding the function and culture of past societies, it is allowing for a better insight, lowering the level of subjectivism and raising the

level of objectivity and of much needed scientificity. In Europe it is recognised as an independent discipline or science and in America it is a part of anthropology (Olsen 2002: 45). Between the terms archaeology and archaeological heritage exists a line because archaeology as a science is still very academic and is producing knowledge mostly for professional circles, whereas archaeological heritage, on the other hand, is evolving into an industry for a wide range of consumers. Nevertheless, it is exactly this interpretation of archaeological

heritage in the museum that represents the biggest link between scientific archaeology and the public (Shanks and Tilley 1992: 68). The term heritage is used mostly by institutions that are dealing with the preservation and conservation of heritage. Academics (the processual and post processual archaeologists) talk about evidence, an artefact, context, material culture and cultural source (Carman 2002: 12 - 15). If we consider the opinions of academic archaeologists from the 90's, their attitudes towards museum presentation do not appear to be very positive. The presentations are supposed to be linear, one-sided and non democratic (Shanks and Tilley 1992, 90-91) and are mostly presentations made by museum curators.

Is this true? Further on we will present an overview of the development or changes in archaeological theory and method, for the purpose of showing the distinction between archaeological theory and discussions on heritage. We will also show the connection between the two areas, as seen in museums and suggest the common points between archaeology and museology.

ARCHAEOLOGY AS A SCIENCE

Archaeology is an empirical discipline whose primary task is to collect knowledge about the past (Olsen 2002: 21). At its foundation it has its own theory, together with systematics, subject of research and method of work. Archaeology was influenced the most by three theoretical schools, whose theory and work methods we will present: cultural historical (until 1960), processual (until 1980) and post processual.

The theory of cultural historical archaeology can be described as naive empiricism, based on an inductive work method. It means that the cognitive process is moving from the basic to the general and that it requires material proof and empirical evidence for its synthesis. For the archaeologist this requires first to conclude the excava-

tions, then to classify all the information and only then, on the basis of the classified knowledge and new information, to develop conclusions (on the chronology, technology and economy). Another way of using the inductive method is to use analogies. Cultures and objects are connected with the help of mutual similarities or analogies. Cultural historical archaeology was criticised on more than one occasion due to the lack of problem orientation when collecting the material, and because of the lack of precise definitions and the lack of methods for testing the evidence and hypotheses.

Collecting, describing and systemising are supposed to be goals in themselves (Olsen 2002: 75). The period between 1900 – 1960 was named as “a big sleep” by Renfrew. Clarke has (in 1968) described historical archaeology as an intuitive skill without a clearly defined theoretical basis. Due to the lack of objectivity and clear criteria on archaeological excavations the credibility of the cultural historical discipline was based on the authority of archaeologists. The biggest discoveries were perceived as a result of the almost mythical abilities of famous discoverers and were appreciated only based on this fact. The way out, or solution, was found in the use of processual archaeology. The characteristics of this new wave were the empirical verifiability, transparency and deductive logic that were demanded for the arguments to be true; the connection between premise and conclusion. Processual archaeology wanted to give a transcultural and universal explanation of past events, the focus being on general laws on which the society functioned and changed. Cultural historical archaeology, on the other hand, wanted to reconstruct specific cultural histories. In the beginning processual archaeology wanted to reveal the general cultural laws that would explain the processes in the past. Deductive checks and universal explanations, based on laws, remained part of processual rhetoric, and were, to a limited extent, included into the real excavations. Eventually the attention focused on the laws and principles at the lower level that

explain the archaeological structures and their connections with human behaviour (Olsen 2002: 86 - 87). A critical period for processual archaeology, between 1960 and 1980, positioned the discipline among the natural sciences and took on their methodological models, based on a hypothesis of formulations of presupposed laws and relying on the accumulative growth of scientific data, and lead to the creation of postprocessual school (Olsen 1992: 419). Its main orientation became conceptual archaeology, based on the interpretation of archaeological contexts. According to Carman (Carman 2002: 7) a state of accommodation or comfort between processualism and postprocessualism has developed. Cognitive processualism appeared, that introduced symbolics into (postprocessual) work, while interpretive archaeology tried to put emphasis on the common points between postprocessualists and processualists in the field of archaeological practice. Postprocessual archaeology draws its theory and methods from social theory, the study of symbols, semiotics and gender studies.

At the end of the 80's and at the beginning of the 90's the gap between theoretical archaeologists and the performers/practitioners of archaeology was becoming wider and wider. Questions appeared such as; who is the interpretation for and from which point of view are we interpreting etc. This movement was the means by which the commercialisation of heritage was able to get bigger and bigger. Archaeology and museums became part of the postmodern era. It became important to make the past active and to apply it to the interpretation, making it accessible to as many people as possible. The result of this was that archaeologists became aware that they had to report on their work to various sections of the public. Moving further up the ladder of protection, preservation, conservation, reconstruction and reshaping, represents a step away from the official towards the marginal and a move towards the popular, active, interpreted, living history (Hodder 1993: 16-18).

ARCHAEOLOGY AS HERITAGE

The term archaeological heritage becomes very subjective if we look at examples of the different definitions of archaeological heritage used or developed by different interest groups around the world. On the basis of research on the terminology of archaeologists, conservators and heritage managers, Carman has explained the difference between archaeological record, the object of research, and archaeological source which we call heritage and is the object of archaeological investigation meant for a narrower, scientific archaeological public. Heritage, on the other hand, is meant for future research and is presented and interpreted for a wider public. The examinations of the usage of different terms since the mid 80's shows there is no consensus on what "the archaeological record" really means. Furthermore, Patrik noticed two directions within the explanation of the term; the first direction, or model, is a physical model showing the processual approaches, the record is understood as a fossilised record. Some processual archaeologists (among them: Binford, Clarke, Schiffer) use the following words to name the object of research: record (material deposit, material remains, archaeological patterns, archaeological report), artefact, context, object of cultural deposits (Carman 2002: 13). The second model is textual or postprocessual, the record is supposed to contain the meanings. The representatives of postprocessual or interpretive archaeology (among them: Tilley, Barrett, Hodder) are dealing with material culture, cultural sources.

Archaeological heritage in a wider sense is the material link between cultures, identity, and power and presents a symbolical and cultural landscape. It is an integral part of broader cultural heritage. According to Skeates (Skeates 2000) we can define it in two ways. First as the material culture of former societies, which persisted until today, and second as a process, through which the material culture of former societies was re-evaluated

and reused in the present time. Shanks (Shanks 1990: 302-307) describes heritage as emblematic, as an agglomeration of locations and objects with certain meanings and associations. It also presents a sensory experience of sights, smells and sounds. Walsh understands heritage as a part of postmodern culture, Shanks, on the other hand, claims heritage effects people as it gives the feeling of identity and gives meaning to the world around us. Every day life is too rational; a visit to the archaeological site gives us the feeling of uniqueness and a connection with history. Even after confronting these feelings with theory, they persist.

On the other hand, different terms are used by conservators and by those who are managing and conserving heritage, resources, and cultural resources. Heritage is often described using legal terms: cultural goods, cultural objects, cultural heritage, cultural relic, cultural treasures, and cultural goods. Interestingly, those trading with heritage talk about antiquities (Carman 2002: 12-14). In other words, heritage described in legal terms does not embrace only material heritage (monuments, sites, artefacts), but also the research tradition and the knowledge of how to survive (Trotzig 1993) i.e. convivial knowledge and skills. Defining heritage within a legal frame causes difficulties because this means that heritage which is not the subject of law, or which is not protected by law, is not heritage. In this way, global, local, ethnical and national heritages and certain types of knowledge can be excluded from the frame of heritage (Carman 2002: 16).

National governments are describing archaeological heritage in a variety of ways, with the emphasis placed on various antiquities, which have sites, monuments and resources of national meaning older than 100 years. English Heritage, for example, has its own criteria for describing monuments of national importance. These criteria exclude the early prehistoric locations, visible only on the surface. Consequently only the most spectacular remains, such as tombs, roman villas

and medieval castles etc, are presented to tourists and the public. The associations of archaeologists on the other hand are also describing archaeological heritage in their own way. The Institute of Field Archaeology describes archaeological heritage as material remains of human activities and as a resource that is vulnerable and finite. The Institute for the Protection of Heritage¹ (ZVKDS) additionally describes as archaeological heritage, archaeological sites, objects and all remains and objects and all human traces from a previous era whose conservation and research contribute towards the revealing of the historical development of humankind and its relation with the natural environment.

Changes are happening slowly. English Heritage, for example, is also now documenting the non representative remains of human activities. Skeates suggests stopping using the adjective 'archaeological' when speaking about heritage, as the meanings of monuments and remains of past cultures are not only archaeological. This meaning has been attributed to heritage by archaeologists who are claiming the right to study and control this type of heritage. For local inhabitants and tourists these remains have a cultural and symbolic value (Perko 2010: 158-159).

MODERN MUSEUM

The museum, as a public service, only appeared between the end of the 17th century and the start of the 18th century (Walsh 1992: 20; Maroević 1993: 28), although we can trace the origins of the museum further into the past, for example in the Ptolemy museum in Alexandria, which contained an enormous collection with a library and was the domain of wise men, philosophers and historians (Vergo 1989: 1; Maroević 1993: 18).

According to Šola (Šola 1985) the traditional museum is disciplinarily specialised and

¹ Resource: <http://www.zvkds.si/sl/kulturna-dediscina-slovenije/kategorije/2-arheoloske-dediscina/>

faithful to its roots in the 18th and 19th centuries, when the natural sciences dictated the specialisation. These museums were in fact the declining mechanisms of the society. Modern museums, created in 20th century, are meant for all the public. With increased quality of life comes an increase in the number of people with more free time who need to be attracted into museums. Museum first had to become available, and secondly, more comprehensive (Šola 2003: 189). The information era brought big changes to museum professionalism. That is why we can say that museums attained a double, socially active and in a certain sense even socially constitutive, role, or task, in the information society. The first task is of content nature and relates to the communication of cultural content; the second task is related to the reestablishment of broken social equivalence. The tasks became implicit functions of the modern museum as a centre of certain districts.

The museum today is a place of collective identity, which contributes to the interconnectivity, affirmation and realisation of cultural, national and European identity. The modern museum links the philosophy of ecomuseums (that serve and satisfy the needs of the community), the philosophy of inclusive museums (that are intended for and answer to the needs of different target groups and visitors with special needs, including minorities, and that are therapeutic) and philosophy of interactive museums (where the visitor can vary and interact using communication tools).

THE PRESENTATION OF ARCHAEOLOGICAL HERITAGE INSIDE AND OUTSIDE THE MU- SEUM

Due to the topic of research, we are more interested in the interpretation apparatus which helps to present archaeological heritage in the museum. As a result of this we will only men-

tion the forms of presentation of archaeological heritage outside the museum, mostly because museums often manage immovable archaeological heritage, for example archaeological parks, and also because the interpretation infrastructure outside the museum is similar to that found inside the museum.

Interpretation infrastructure, as explained in the Ename Charter (Pirkovič 2012: 46), covers the devices, equipment or places intended for interpretation and presentation, with the help of new and classical technologies. The interpretation infrastructure are the tools such as the boards, panels, kiosks, showcases, routes (outside of museum) and various signs (indicating the direction of the visit and the notifications on safety). Interpretation infrastructure does not mean only exhibitions, but also web presentations, brochures, posters, guides and other printed/paper material, souvenirs, devices for audio-video guidance, multimedia equipment and programs or games that can be accessed via mobile phones and other ICT devices etc. **Virtual reconstruction** as a type of multimedia tool makes possible many economical versions and performances of different and parallel solutions. It enables many parallel solutions, while the version in real life has only one. This most often leads to the destruction of the archaeological monument, if it is performed in situ. The advantage of virtual reconstruction is the fact that it enables the visitor to take an active role and offers an interpretation which fits the visitor's wishes. Besides being an economically smarter solution, it is also preferable in cases where it is not possible to preserve either the monument itself or the access to it (Breeze D. and A. Thiel 2005 (in: Perko 2010:206)). It also provides for the inclusion of findings in their primary context, which contributes immensely to the understanding of the way of life of the first inhabitants of the reconstructed space. As a negative consequence we can consider a fact that this type of reconstruction can deter the visitor from visiting the original

structure in situ. When planning and choosing the museum's interpretation infrastructure we have to consider that individual equipment or devices cannot override the heritage itself or the values of the community which identifies itself with the heritage. It is of great importance which textual, visual, graphical or audiovisual tools we use as part of the infrastructure or as a means of interpretation. Also, the design has to be of good quality and appropriate. One needs to know that for efficient interpretation, it must consider the needs of the visitors and the expectations of the visitor target groups; it should be interactive or offer to the visitors a rich experience, it should effect not only the mind but all the senses as well and it must arouse the imagination (Pirkovič 2012: 45-46). Interpretation tools also comprise individual or guided tours and museum presentations. It is also advised that they include more imaginative forms which leave a stronger impression on the visitors. What we have in mind are demonstrations, workshops, live history (or re-enacting the past) and the organisation of events and activities in which the visitors can take part (for example culinary experiences, taking part in various tasks). The interpretation of cultural heritage, made especially for children and young adults, is sometimes called heritage pedagogics, a pedagogical program or an educational program. These are usually included in school or preschool curricula or in extracurricular school programs. Also very popular are open discussions, meetings and festivals, which are, according to American and English experiences much more successful than teaching in the form of lectures (Jones 1996 (in: Perko 2010: 211)). Re-enacting the past is also a very popular way of presenting monuments and their contents in the West. Many warn, however, that this method carries the risk that the participants may believe what they see is a real image of the past (Perko 2010: 211).

The aforementioned forms of interpretation can take place in the museum or elsewhere,

for example in schools, touristic places or in other areas of heritage.

When speaking about presenting immovable archaeological heritage it is obvious that it is important to already have in mind the desired method of presentation while excavating. When such decisions are taken, very often the opinion of archaeology as a science and the demands of the conservation discipline do not match. At the same time the solutions that science suggests do not match those the local inhabitants want and expect. That is why, when searching for a good solution, the principle was established of considering certain archaeological sites from the integrated perspective of the protection of archaeological heritage, this is to say from a wider social perspective which considers its meaning for the local population. Often the heritage presentation measures or procedures of the structure or area are accomplished first, with the possibility for the later development of a programme of interpretation with the use of interpretive tools. The purpose of the presentation is, of course, presenting heritage to the public and the preservation, consolidation and revival of heritage. Let us consider some forms of the presentation of (immovable) archaeological heritage: anastylosis, archaeological reconstruction, and archaeological presentation. Anastylosis is a type of reconstruction and is mostly used in presenting archaeological remains as well as in some other cases. It comprises the actual assembly of parts of the monuments that were distributed in various locations and rediscovered while excavating. Archaeological reconstruction is used only to present archaeological remains. This method cannot be performed at the original location and cannot be accomplished using the original structures and materials. According to the recommendations of the Venice Convention of 1966, archaeological monuments are not to be built on or presented as a whole, unless the evidence for such actions is supported with archaeological documentation. The goal is a trustworthy interpretation with a

high degree of authenticity and not a hypothetical interpretation with a low degree of authenticity. At the same time the remains need to be protected before further deterioration, the safety of the visitor has to be provided for, care needs to be taken with the management of the remains and the monument needs to reclaim its original function from any changes or reconstruction (Perko 2010: 204). Archaeological reconstruction can also be based on the method of experimental archaeology. This is a method of archaeological interpretation which uses or recreates partial or total views of past societies, with the use of new materials and historical techniques. Archaeological presentation is used, for example, in presenting the built or (very rarely) painted heritage. It is typical for this method to show, on the walls of the building, all phases of the building's history. Today it is used only to a limited extent, as a presentation of this type is not easily comprehensible for the public. When the method of presentation is related to the management of the heritage, we talk about the following forms of presentation and interpretation of heritage: open museum, archaeological park, eco-museum, interpretation centre, cultural route and presentation on special occasions (Pirkovič 2012: 43-44).

The most successful turned out to be those interpretations of archaeological monuments that managed to embrace them as whole, even if in a simple or even low cost way. From the museological point of view, a successful musealisation of an archaeological site is one where the archaeological findings or the site itself are turned into the supporters of complex ideas originating in the cultural contexts of the primary environment (Maroević 1986 (In: Perko 2010: 206)).

MUSEOLOGY VERSUS ARCHAEOLOGY

The subjects of research in museology are the goals and politics of museum operation and its educational, political and social role. It also studies the documentation and communication views of museum operation and various groups of visitors and non visitors. Museology carries interdisciplinarity in its nature, as it draws from sociological sciences (identity, needs of society), educational sciences (knowledge of development, learning and education) and from heritage sciences (preservation). Museology is, thus, interested in the social context of heritage, what heritage means in the society and where its place is in society. It argues for the inclusive and unifying power of heritage. It also deals with problematic heritage, for example in areas of conflict or where heritage has a background of conflict (heritage of world war, heritage in war zones, heritage of colonised people etc). Museology in itself is a relatively new discipline. At the time of the opening of the first museums nobody thought they were a phenomenon worth investigating. In fact, the recognition of museums and/or museology as an independent discipline with its own area of research only happened recently (Vergo 1989: 1-3).

Observing both disciplines from a distance, we can notice that they share heritage as the same object of research even though, at first glance, this appears to divide them. Archaeology (according to Carman) does not produce heritage, only archaeological resources. So, heritage is something that is for the public. If we expand this thought, heritage is, therefore, produced by museums, by the changing status of archaeological artefacts in the process of musealisation. When the object becomes musealia, it becomes a monument, and thus, heritage. Museums in this sense are recognising the heritage and they manage it, as well as interpret it, for the public. On the other hand, archaeology as a science explores the heritage,

documents it, partially conserves it and scientifically interprets it.

As a branch or sub discipline of archaeological science, with the task of enabling communication between science and the public, and with special concern for ethics and public finances, the so called public archaeology was born. Its theoretical and practical knowledge derives from conservation, restoration and museological sciences. Archaeology for public is a way of studying, interpreting and managing archaeological sites (and findings) in cooperation with the local community. It enables the communication of the cultural content of monuments in a wider contemporary historical-political and cultural discourse of everyday life, in the frame of an existing, social historical environment and according to the psychophysical needs of the visitors (Merriman 2004).

The start, or birth, of public archaeology can be seen in the recent years in Slovenia, mostly with rare presentations of the findings of established excavations (by organised visits and temporary exhibitions) and by its inclusion into university curricula.

We can expect that the enforcement of museology and public archaeology in academic circles will make archaeology more accessible, open and "people friendly".

Archaeology as a science and heritage are, at best in, crisis and definitely in a very uncertain situation, reflecting the crisis of the system and society. In a time when the state budget for culture (and with this for heritage too) is diminishing, its focus seems too narrow and too much on the side of the natural sciences, and not enough on society.

CONCLUSIONS

In the first two parts of this essay we wanted to point out the two different ways to look at and to understand archaeology. When looking at the wide range of literature on archaeology, the

reader most often understands from the context when the writing is about archaeology as a science and when it is about heritage. By dividing and defining both terms, we wanted to show that precise terminology is necessary and appreciated. The theoretical archaeologists (Shanks, Welsh) have, in the last two decades, also started to write about heritage. However, their attitude towards it is mostly negative ("product of postmodernist past", "supermarket"), although sometimes they contribute to it a positive meaning ("carrier of identity"). Furthermore, we were interested in the presentation and the forms of presentation of archaeological heritage in the museum. For this reason we started from the perspective of how the modern museum should look in comparison with the traditional museum. In this way we can truly understand the changed philosophy of museum operation and also the importance of a "custom made" and appealing interpretation that is made with, and for the people. The final, and most important, conclusion concerns the question of openness. It is very important for archaeology (in Slovenia) to become more open. This can be accomplished through the adoption and adaptation of the museological principles of interdisciplinarity and social inclusion, accessibility, participation and representation. These are the principles of sustainable development and the way towards empowering the meaning of archaeology in society. Museology represents the possibility of connecting heritage institutions (museums...) with other initiatives in the field of heritage. Hence, museology offers the model for integrating archaeology, both as science and as heritage, into the community.

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REZIME

ARHEOLOGIJA U OČIMA MUZELOGIJE - ARHEOLOGIJA KAO NAUKA I KAO NASLEĐE -

KLJUČNE REČI: ARHEOLOŠKO NASLEĐE, INTERPRETACIJA, PREZENTACIJA, MODERNI MUZEJ, MUZELOGIJA.

Izvesno je da se arheologija tokom poslednjih decenija znatno izmenila i više nije ograničena samo na istraživanja, već daje podatke i predstavlja ispomoć za neobnovljive izvore, tj. naše nasleđe. Promene su, kao takve, donele sa sobom novu vrstu odgovornosti, kroz koju se od arheologije očekuje ne samo da pokaže izbalansiranu i pouzdanu interpretaciju prošlosti, u smislu da ne prikazuje prošlost kao događaj izolovan od savremenog sveta, već kao potku za savremeni svet. Zapitali smo se koja je razlika između arheologije kao nauke i arheologije kao nasleđa, kako su se ovi koncepti razvijali, u kojim su kontekstima korišćeni, a naročito šta arheologija kao nauka može da dobije od heritologije i muzeoloških ideja. U potrazi za odgovorima, koristili smo iscrpnu literaturu iz oblasti teorije arheologije, heritologije i muzeologije. Zaključci proizilaze iz poređenja tri napred navedena koncepta.

FINDS OF CAUSA MORTIS ON THE SKELETONS AT VIMINACIUM IN CONTEXT OF AMPHITHEATRE DISCOVERY

ABSTRACT

At ancient Viminacium, bone trauma as direct cause of death (causa mortis) are very rare. Even though some 10.000 skeletons were discovered in graves, only on eight of them, traumatic injuries were observed, which can be understood as direct causes of death. Regardless of the amphitheatre discovery at Viminacium we consider that most of these specific finds should not be brought in connection with happenings in the amphitheatre itself.

KEY WORDS: CAUSA MORTIS, BONE TRAUMA, SKELETON, SEX, AGE, CASE RECONSTRUCTION.

INTRODUCTION

From the seventies of the 20th century to the first decade of the 21st century, at Viminacium, Roman city and military fort with cemeteries, some 10.000 inhumated graves were discovered and archaeologically excavated. Out of this huge number of skeletons, only eight showed reliable traumatic traces visible on skulls or post-cranial bones, which caused death. These are skeletons number 1987, 2158/B, 3155, 3260/A and 3260/B from the "Pećine" necropolis, further on graves number 1163 and 1772 from the "Više grobalja" necropolis and skeleton number 152 from the "Pirivoj" site.

It is interesting that all of the eight skel-

etons are male ones, while at the moment of death, their biological age was between 20 and 40 years.

Considering on one hand characteristics of the traumas and on the other hand the context connected to the discovery of the amphitheatre in 2003, we consider that the skeletons should be separated, observed and explained.

MATERIAL AND METHOD

Our observation shall most of all concern features of *causa mortis*, meaning that not all of the data standing at our disposal shall be given, only the primary anthropological elements.

* The article results from the project: *IRS - Viminacium, Roman city and military legion camp – research of material and non material culture of inhabitants by using the modern technologies of remote detection, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

The mentioned eight skeletons shall be presented within Viminacium cemeteries, according to their archaeological contexts. Our study begins with the "Pećine" skeletons, continues with the "Više grobalja" skeletons and ends with the find from "Pirivoj".

Since all the skeletons belonged to adults only, the methods for determining sex and age shall concern only them (Ferembach, Schwidetzky and Stloukal 1980, Buikstra and Ubelaker 1994, Brothwell 1981, Lovejoy 1985). Still, when it comes to paleopathological traces, actually bone traumas as direct causes of death, the situation is much more complicated. Apart from the fact that these were deliberate traumas made man to man, we made a global rather than a detailed division, since they differ from case to case. In paleopathological literature, descriptions of individual cases on small number of samples prevail. In accordance to this, data in literature can be found on decapitation (Wells 1982, Benike 1985, Smith 1993), facial injuries, like upper and lower jaws or nose (Hussain et al. 1994) or about injuries with arrow-heads (Lewis and Lewis 1961). Still, in connection to our cases, we were forced to give lots of authors' observations and interpretations.

In some cases, when we considered it necessary, we used radiography. Radiographic pictures are added to photographs in the same projections and on the same scale.

VIMINACIUM - NECROPOLIS "PEĆINE" – GRAVE G-1987

Archaeological context

Grave number G 1987 was discovered in sondage 290. It was technically documented on sketch 756. Its detailed description is in field diary on page 1692. We notice that it was found in the extension of profile AB (sondage 290), at

the depth of 0,67 m. It was a simple pit in which the deceased was lying on his back in a stretched position. Arms were bent in the elbows, hands placed upon the pelvis. The preserved length measures 1,65 m. It was orientated south - north, with a deviation of 10° of the northern part towards the west. Right part of this skeleton was placed over the right half of skeleton from grave G 1988. Right lower leg lies over the right upper leg of skeleton G 1988. Right arm of G 1987 lies over the right lower leg of G 1988. This indicates that these graves were dug simultaneously.

Neighboring graves G 1988 and G 1989 were in direct connection to the previous grave and skeleton. Grave G 1988 was discovered at the depth of 0,70. It was also a simple pit in which the deceased was lying on his back in a stretched position. It was orientated north - south, with a deviation of 14° of the southern part towards the east. The preserved length was 1,64 m. Right half of this skeleton was placed under the right half of the skeleton G 1987, orientated opposite to each other. Still, skull of skeleton G 1999 was placed over the lower skull part and the left shoulder, indicating an inner connection. The skeleton from grave G 1989 was discovered at the depth of 0,60 m. It was also a simple pit with a deceased lying on his back in a stretched position. The preserved length is 1,65 m. It was orientated west - east, with a deviation of 20° of the eastern part towards the north.

During archaeological excavation, in neither of the three graves connected to each other, grave goods were discovered. Only fragmented bricks of the grave covering were discovered.

Anthropological elements

Anthropological analysis showed that all of the three skeletons were robust males. Their individual age was about 40 years. Not all of the skeletons were fully preserved, but still in a rather good condition.



Figure 1. Mandible from grave G-1987

All of the skeletons showed *intra vitam* loss of some teeth from both of the jaws. Only skeleton from grave G 1987 showed a specific mandibula trauma.

Description and analysis of the trauma

A trauma was observed at the mandibula of skeleton G 1987. From the left angulus edge, approximately parallel to the corpus, in the length of some 6 cm and 3 mm thick, a part of the mandibula was cut off. The cut did not cause any further bone cracking, also showed on the X-ray (taken from: Lovrinčević i Mikić 1989). Direction of the weapon which caused this injury went from the left angle of the mandibula towards the chin. Since the weapon was cut deep into the bone, due to the pressure, aprt of the cut-off bone fell off some 6 cm apart from the angulus (see fig. 1). Still, the cut-off part of the mandibula was not found during the excavation, most likely separated from the body at the moment when the injury was made.

There are no traces of regeneration of bone tissue, i.e. osteoplastic reaction at the surface of the cut. If we consider that at that moment, also several vital structures of the neck anatomy (arteria carotis communis and vena iugularis interna, both on the

left side) were injured, it can be concluded that this man died instantly, by deliberately caused death.

VIMINACIUM - NECROPOLIS “PEĆINE” - GRAVE G-2158/B

Archaeological context

According to the field diary from 1982, page 1692, garve G 2158 was discovered in the extension of the profile AB of sondage 290 (sketch nr.756). It is actually a mass grave of nine skeletons, buried at two levels (more details in this edition, by Golubović and Mikić). At the first (upper) level, there were three skeletons, marked A, B and C. The lower level contained the remaining six skeletons, marked from D to I. We shall study only the skeleton 2158/B from the upper level, because only it showed skull trauma. It was discovered to the south from skeleton 2158/A and to the north from 2158/C. It was lying on its back

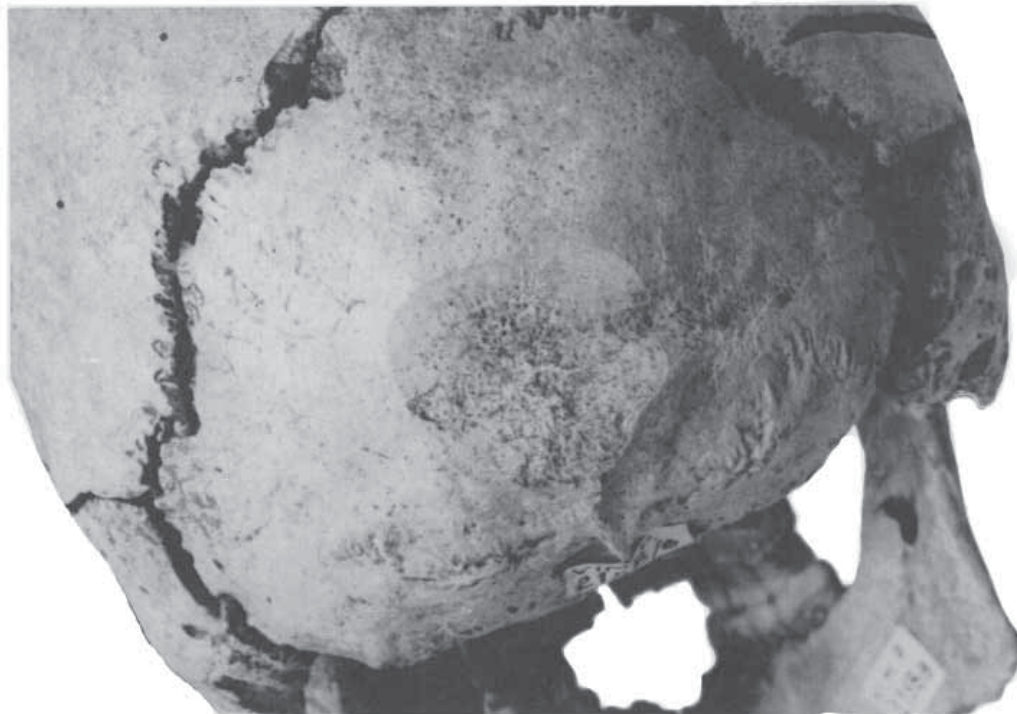


Figure 2. Viminacium, Pećine 2158B

in a stretched position, arms bent in the elbows. Right hand was placed on the left pelvis half, left hand was placed upon the right upper arm and the left lower leg of skeleton 2158/G. A fragmented brick was laced at the lower leg, also placed on the lower legs of skeleton 2158/C.

Length of skeleton 2158/B measured *in situ* was 1,54 m. It was orientated west - east, with a deviation of 6° of the eastern part towards the south.

In this mass grave, two bronze coins were discovered from the second half of the 3rd century AD, indicating time of burials of these skeletons.

Anthropological elements

On skeleton B from the mass grave 2158 of the "Pećine" necropolis, robusticity was noticed on skull and on the postcranial part. Skull was fragmented, but after the reconstruction, it was put in its anatomic context. Facial part was not fully reconstructed, although primary anthropological measures were obtained.

Robust male is confirmed also through morphology. Modelation of the skull indicated a shorter, wide and tall morphostructure, with relief-shaped face.

Apart from the trauma which shall be described, on both alveolar ridges of this skull parodontosis was noticed. Still, the missing teeth were lost *post mortem*.

Time of death of this man was certainly before the age of 40.

Description and analysis of the trauma

On the occipital bone, in the *protuberantia occipitalis externa* region which was cut off, a cut of irregular semi-circular shape, some 4 cm in diameter was noticed (see fig. 2). At the whole surface, showing parts of the inner bone (*substantia spongiosa*), no traces of regenerating bone tissue were noticed. Apart from the bone, also vital soft tissues of the neck were injured, we consider that

this man died instantly. Still, it is not quite clear whether a strong hit with a blade also caused separation of the occipital bone from the rest of the cerebral skull part, since traces of mineralization are visible exactly on severely separated sutures of the occipital zone (see fig. 2). Powerful hit was also transposed to the nearest skull region, causing separation and cracking of the neighbouring sutures (which did not grow together at the age younger than 40 years).

Cervical spine vertebra showed no pathological changes, therefore we consider that death was not caused by decapitation of this man.

VIMINACIUM - NECROPOLIS PEĆINE - GRAVE G-3155

Archaeological context

Grave G 3155 was described in field diary on page 2382 and drawn in sketch 1151. It was lying at the depth of 1,70 m and at the distance of 30 cm from point D of sondage 342. It was orientated south-north, with a deviation of 23° of the northern part towards the east. The deceased was buried in a wooden coffin, out of which iron nails remained preserved. According to the position of the nails, coffin width was about 55 cm. Skeleton length measured *in situ* was 166 cm.

The skeleton from this grave was missing its left lower leg, while the right foot showed traces of burning. It was partly damaged with cremation grave G₁-792. The deceased was lying on its back in a stretched position. Arms were bent in the elbows and placed over the stomach, right hand over the left one. Over the left lower arm, there was a pelvis half of another deceased. Above skull 3155, a fragmented iron needle was found (possibly disturbed from its original position due to devastation).

Anthropological elements

Skeleton from grave G 3155 was poorly and incompletely preserved. Still, there were elements enough to determine it as a male skeleton. Individual age at the moment of death was about 21 to 23 years.

On the preserved parts of this skeleton, only a trauma on its left pelvis half was noticed. There were no other pathological traces on bones or teeth.

Description and analysis of the trauma

A. Lovrinčević and Ž. Mikić (1989; pages 178 and 179) stated for this case that it was most likely a case of inflammatory process or a post-traumatic fracture of a wing of *os ilium*. Still, after our analysis, we were able to conclude that there were actually both processes, which do not ex-

clude each other. First there was a trauma caused by a stab into the left pelvis part. When the stab was performed, certainly with some kind of metal weapon, the *os ilium* was pierced twice. After 4 or 5 cm of the first stab, the weapon went out of the pelvis, so that was actually a double stab (see figure 3), because there was also an exiting wound. Sharp flat blade did not remain in the pelvis and it was certainly drawn out immediately (by its user).

The situation caused after the injury can be reconstructed. There was no instant death, shown by a degree of osteoplastic reaction of the injured bone. But, since the injury was deep, an infection developed. Since this person died soon after the age of twenty, there was no complete healing. High degree of inflammatory process, regardless of initial degree of bone regeneration, resulted in death after a short period of time.

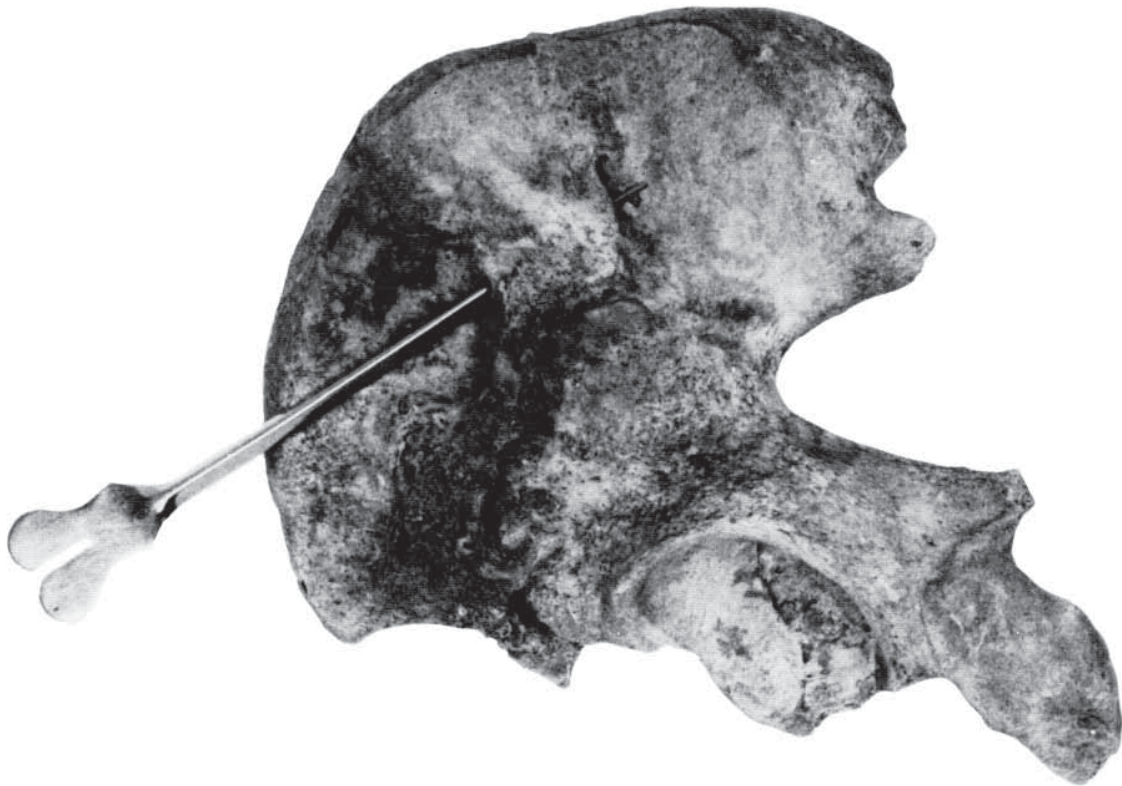


Figure 3. Pećine G-3155

VIMINACIUM - NECROPOLIS PEĆINE - GRAVE G-3260 (SKELETONS A AND B)

Archaeological context

In field diary of the Pećine necropolis for 1983, on page 244-7 there are data about this grave. It was in sondage 3[^]5 and it was technically documented on sketch nr. 1172. It was at the depth of 1.30 and in the profile B-F, but the biggest part of it was in sondage 332. It was evident that it was a double burial in the same pit. They were marked as A and B. They were buried in the so-called sacrificial area.

Skeleton A was buried in a simple pit, lying on its back in a stretched position. Left arm was stretched next to the body. Right arm was bent in the elbow, hand upon the pelvis and over the left arm of skeleton B. Skull fell on the right shoulder. It was orientated northwest-southeast with a deviation of 13° of the southeastern part towards the east. The preserved length was 160 cm.

Skeleton B was also buried in a simple pit, lying on its back in a stretched position. Right arm was bent in the elbow, hand placed upon the pelvis, while the left one was next to the body. It was orientated west-east with a deviation of 14° of the eastern part towards the south. The length measured *in situ* was 165 cm.

There were no grave goods discovered in this grave.

As it was buried, skeleton 3260/B damaged grave G 3261.

Anthropological elements

As already mentioned in the archaeological context, this is a double burial, in which skeletons marked as 3260/A and 3260/B were discovered. Both of them were incompletely preserved, still with enough elements for determining their sex and age.

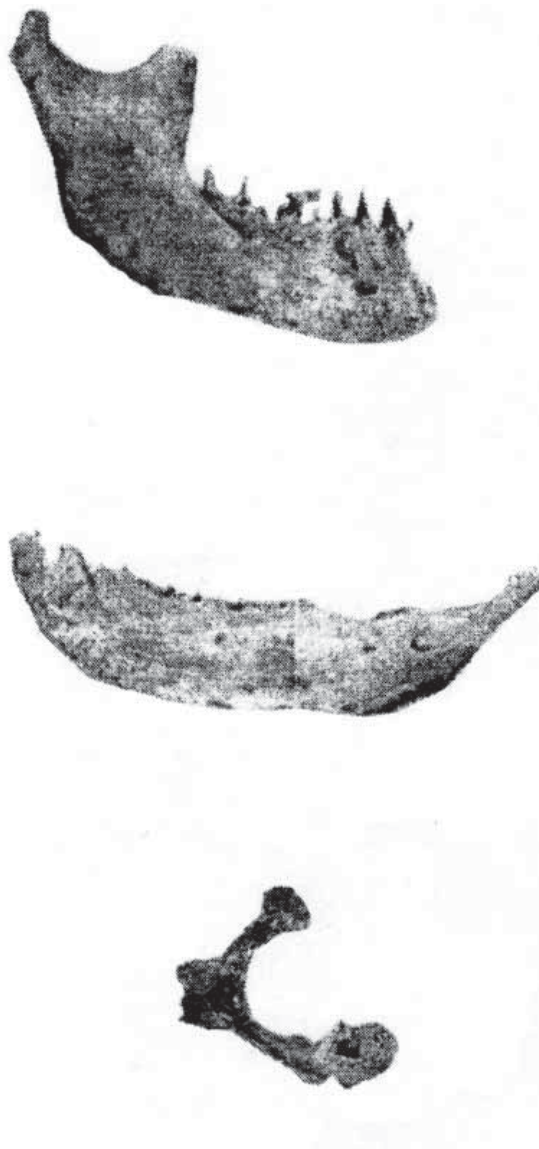


Figure 4. Pećine G-3260A (Hošovski, 1995)

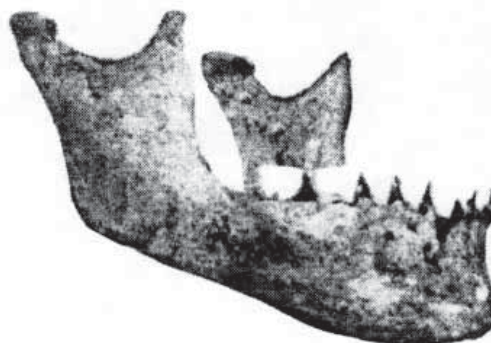


Figure 5. Pećine G-3260B (Hošovski, 1995)

Both of the skeletons are male. The age of skeleton A was over 30 years, while skeleton B was younger than 30 years of age.

Description and trauma analysis

On skeleton 3260/A two changes were noticed causing violent death. One of them is a cut of the right mandibula angle (*angulus mandibulae*), some 30 mm long, during which a part of the angulus was separated from the mandibula. The other one is also a cut of the third neck vertebra, with which the body was separated from *arcus vertebrae* (Hošovski 1995). As seen on figures 4a and 4b (outer and inner mandibula sides), co-related to figure 3 (third neck vertebra), this trauma was most likely caused with a sharp metal blade. By cutting the right *aorta carotis communis* and *vena iugularis interna*, spinal cord was damaged or cut off. Since the third neck vertebra is completely cut in halves (see figure 4c), this person died of instant death. Regeneration traces of the bones should not even be mentioned, since it is completely clear why they did not appear in this case.

Skeleton 3260/B also has a trauma on its mandibula. It was cut at the right frontal edge of *ramus* in the length of 12 mm (see figure 5). This trauma was also caused with a sharp blade, with which the mouth-hole was cut opened. There were no traces of bone regeneration and this person also did not survive these face injuries. Unfortunately, the skeleton was poorly preserved and the right cheekbone was not found (*os zygomaticus*). This is why only the deepest part of the cut was noticed. It was also evident that this person was standing upright as it was injured, while the trauma itself had a vertical direction downwards. In other words, it was not a piercing cut.

VIMINACIUM - NECROPOLIS VIŠE GROBALJA - GRAVE G-1163

Archaeological context

Grave nr. 1163 was described in detail on page 1339 of the field diary of the necropolis "Više grobalja". It was discovered in 1984, in sondage 64. It was drawn on sketch 408.

It was a simple burial with the deceased lying on its back in a stretched position. The skull was lying on the right side of the back of the head, facing southeast. Right arm was bent in the elbow, hand under the pelvis. Left arm was also bent in the elbow, hand placed on the right half of the abdomen. Left leg was stretched, while the right one was bent in the knee.

The length measured *in situ* was 1,62 m. It was orientated north-south, with a deviation of 11° of the northern part towards the west.

There were no grave goods in this grave. As it was buried, this grave damaged the cremation grave G₁-972. It was at the depth of 1,29 m.

Anthropological elements

Regardless of the unusual position of arms and legs, there were still enough elements to determine sex and age of this person. It was of robust structure, especially at the post-cranial skeleton, indicating a male.

Individual biological age was not higher than 40 years.

It should be mentioned that all of the teeth from the maxilla were lost *post mortem*. Mandibula is incomplete, so nothing can be said about dentition. Still, there were evident traces of parodontosis.

Description and trauma analysis

As seen on photograph and X-ray (Fig. 6), there are three cuts of different shapes and sizes



Figure 6. Viminacium, Više grobalja 1163

on the frontal bone of this skull. The middle one is some 4 cm long and goes almost vertically across the middle of the forehead bone. The left cut is some 1 cm away from the middle one. It is about 2 cm long, but it is very difficult to determine its shape, since it is irregular. The right cut is the longest one, some 10 cm and it goes from the middle part of the forehead bone to the middle of the right maxillar sinus. In other words, all of the three cuts have their upper edges at the middle part of *os frontale*, slightly curved but then separated and with different lengths.

After the analysis and interpretation, we consider that these cuts were not made separately but simulatenously, only with a very specific weapon. It surely had a tridental or ray-shaped blade at its top. When it touched the face of this deceased, the weapon itself was slightly diagonally placed. Its lowest part made the deepest and the lowest cut, all the way to the cheek bone. The weapon then slightly rotated it the hands of its user, leaving a ray-shaped trace on the face of the skull nr. 1163.

Since there are no traces of osteoplastic reaction of the bone and since a cut of this kind over

the right eye and the right maxillar sinus was a deathly one, it certainly resulted in death.

VIMINACIUM - NECROPOLIS VIŠE GROBALJA - GRAVE G-1772

Archaeological context

Grave G 1772 was excavted in 1985. It was described in field diary on page 1915, where it is written that it was discovered at the depth of 1 m. It was drawn on sketch 537.

According to the field diary, it was a simple pit, placed in a stretched position on its back. Arms were bent in the elbows, placed upon the stomach, left hand over the right one. The skeleton is incomplete. It is missing its left pelvis half and both legs. It was damaged by mechanisation of the strip-mine.

Its length *in situ* was not measured. It was orinetated east-west, with a deviation of about 20° of the eastern part towards the north.

There were grave goods discovered in this

grave, including a bronze coin, a bracelet made of iron tin, three glas pearls, a small pot (without rim) and a fragmented pot. Still, these grave goods did not indicate the sex of the deceased.

Anthropological elements

Regardless of the poor state of preservation, there were enough elements to determine its sex. According to the typical morphostructure on the preserved postcranial part of the skull, it was easily ascribed to a male of robust structure.

On the other hand, his individual age was between 30 and 35 years. The teeth missing from the maxilla were lost *post mortem*. Mandibula was not fully preserved. Traces of initial parodontosis were evident.

Description and analysis of the trauma

The middle of the left part of *os frontale* of the skull nr. 1772 is a region of a huge trauma. There is a cut which goes slightly diagonally, its lower part towards the middle of the eye-bow, its upper part towards the *bregma*. Its length is about 5 cm (see figure 7). The cut went all the way through the frontal bone, so most likely the *dura matris* was hurt as well. The hit was so strong that it caused cracking of the cerebral skull part in two directions, connected to the cut. The lower direction goes approximately from the middle of the right eye-bow and it is irregular in shape. The upper direction goes over the left half of the *suturæ coronalis* and branches afterwards in the length of about 5 cm.

This heavy trauma, certainly causing instant death, must have been made with a very sharp and massive blade. At the moment of being injured, the deceased nr. 1772 was either in a vertical or in a horizontal position, facing the person who made this lethal hit.

VIMINACIUM - NECROPOLIS PIRIVOJ – GRAVE G-152

Archeological context

In comparison to other cases named above, only this one was published in detail. Grave nr. 152 was excavated in 2003 at the site Pirivoj, belonging to the area of the eastern Viminacium cemeteries. More precisely, it is located 400 m to the east from the military camp of the VII legion, very close to the mausoleum. It was found at the depth of 1,25 m. It had a construction measuring 195 X 70 X 27 cm, made of bricks (each measuring 38 X 26 X 5 cm). The skeleton itself was orientated west-east.

According to the grave goods, this grave was dated into the middle of the 4th century (more details in: S. Golubović, N. Mrdjić and C. Scott Speal 2009).

Anthropological elements

In the mentioned paper (Golubović, Mrdjić and Speal 2010), in the “Anthropological summary” (pages 56 - 60), sex, age, markers of muscular stress and pathological factors were analyzed. It was concluded that it was a man who was certainly younger than 30 years at the moment of death.

Description and analysis of the trauma

There were two regions of violent traumas on this skeleton. These are the pelvis –femoraine region and the brain region of the skull. In the first region, there are two traumas. One is piercing the middle part of the right pelvis half, above the *acetabulum* (see figure 8). The other one is the upper edge of the right femur (figure 9), with the remained iron blade of the weapon with which the injury was made.

These two traumas of the pelvis area did not cause instant death, so that this person also

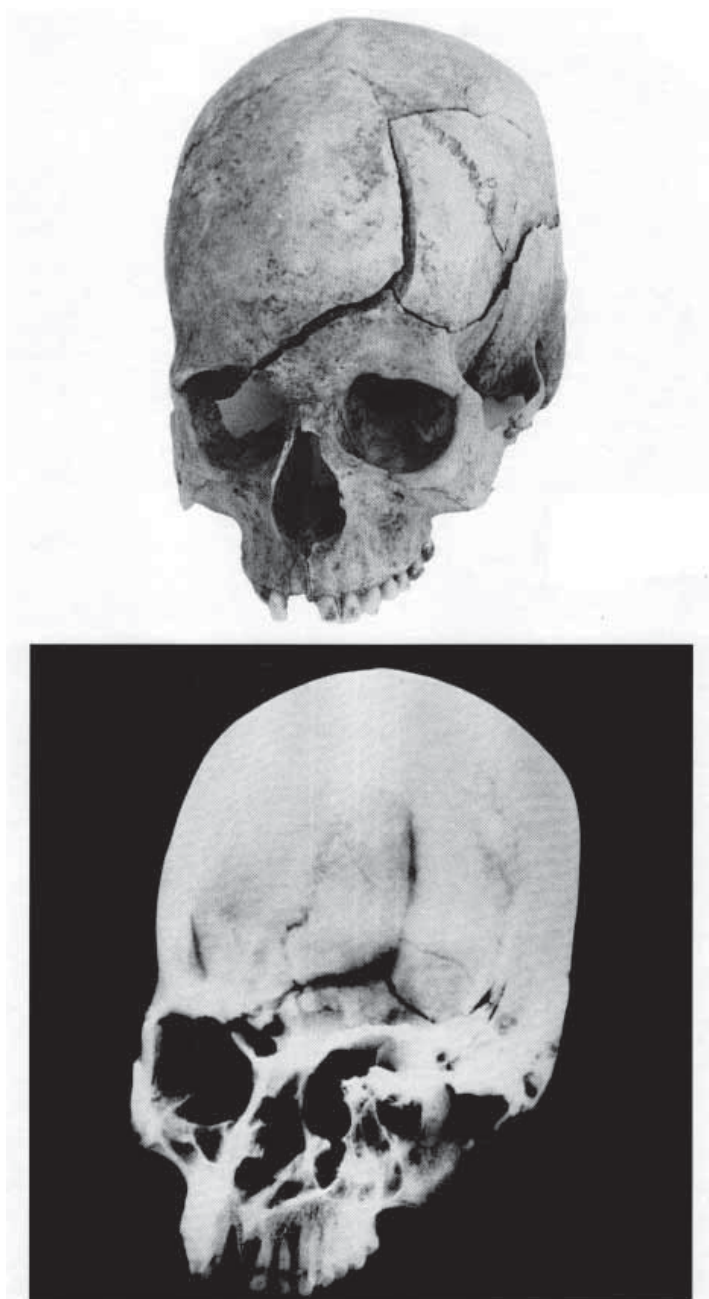


Figure 7. Viminacium, Više grobalja 1772

suffered a third trauma over the right half of the cerebral skull part, resulting in death. The authors who published this grave (Golubović et al. 2009) consider that the first two traumas were made with arrows with triangular arrow-heads. The lethal trauma was caused with a massive metal blade, resulting in instant death (see figure 10).

DISCUSSION AND CONCLUSION

Compared to some ten thousand graves discovered at Viminacium, only in eight cases of traumas resulting in death were discovered and examined, which is a result which can be expressed in promiles. Still, since only bones stood at one's disposal, the number was certainly much

higher. Out of the eight cases, five of them can be understood as traumas resulting in instant death (Pećine G - 1987, Pećine G - 2158/B, Pećine G - 3260/A, Više grobalja G - 1163 and Više grobalja G - 1772). It was evident that these were cuts which left clear traces on bones, without traces of regeneration of the bone tissue. The traumas were heavy and complex, resulting in fatal ending.

Skeleton from grave nr. 3155 of the "Pećine" necropolis had a pierced pelvis with both entering and exiting wound. As radiography showed, there were traces of regeneration. It turns out that this piercing wound also injured soft tissues, but did not cause instant death. The intensity of osteoplastic reaction of the surrounding bone part, it can be concluded that this person died several weeks after being injured, but certainly because of this injury.

Skeleton from grave nr. 3260/B of the "Pećine" necropolis shows clear traces of cutting the frontal part of mandibular *ramus*. During this injury, the mouth hole was certainly cut open and the whole zygomatic region was damaged. Since the trace on the bone is rather small, it is possible that this person also did not die immediately, but after the trauma, under the condition that there were no other injuries of soft tissues.

The case of the skeleton G-152 from Pirivoj is a specific one. First of all, a weapon which caused the injury was found. Further on, traumas were present on two parts of the body. One is the pelvis, wounded with arrows (E arrow-heads) and the other one is the cerebral head part, hit with a heavy blade. In this case, death was caused with a hit on the head, since brain mass was injured. Still, the question remains open if both traumas were caused by the same person, or there were several persons involved in this "case".

Finally, after all the descriptions and interpretations, we should say something about weapons and occasions in which they were used. It was evident that in all of the cases, weapons for direct contact were used, except one case, when arrows

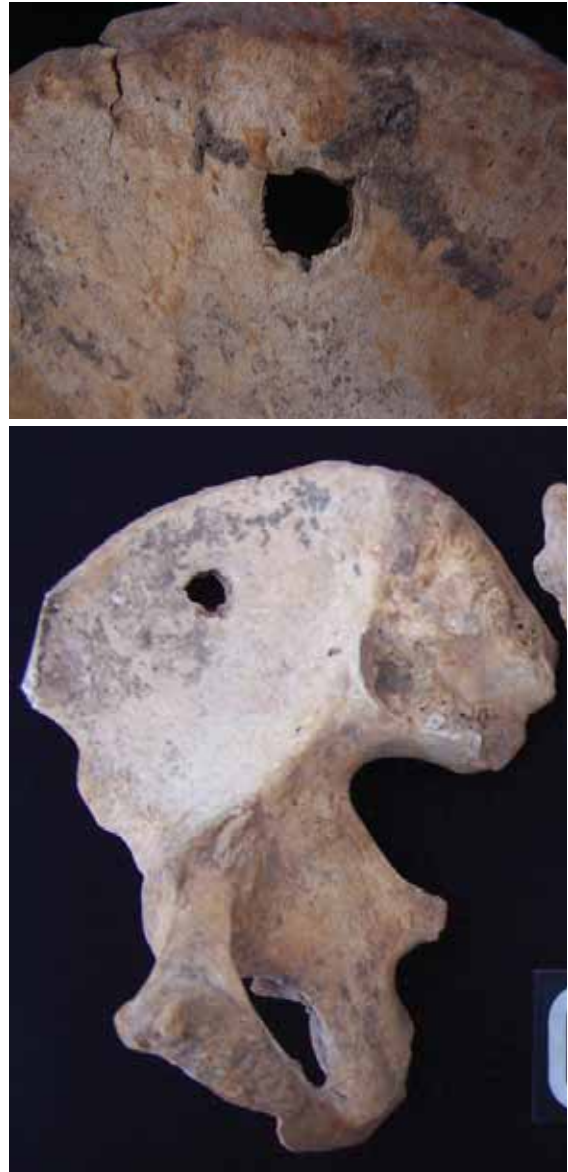


Figure 8. Right pelvis from grave G-152 (Golubović, Mrđić and Speal 2010.)

were used. But, when it comes to occasions in which such weapons were used, we consider that these were duel-fights. Since Viminacium was a city and a military camp with an amphitheatre, we think that most of the cases here presented and explained should be brought in connection to the fights performed at the amphitheatre. The amphitheatre was discovered in 2003 and its excavation began in 2007. Question remains whether killed in public duels were buried in a separate area of



Figure 10. Skull from grave G-152 (Golubović, Mrđić and Speal 2010.)

cemetery or in a common way. This can be determined only by discovery of separate cemetery or parts of already known cemeteries with group burials of combat victims.

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Figure 9. Right femur from grave G-152 (Golubović, Mrđić and Speal 2010.)

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REZIME**NALAZI CAUSA MORTIS NA SKELETIMA VIMINACIJUMA U KONTEKSTU OTKRIĆA AMFITEATRA**

Nina Korać, Ilija Mikić

U prilogu su obrađene traume koje se pouzdano mogu tumačiti kao direktan uzrok smrti (*Causa mortis*). Na Viminacijumu skeleti sa ovakvim tragovima su izuzetno retki. Ukupno do sada ih je pronađeno osam. Sa nekropole Pećine to je pet skeleta (br. 1987, 2158/B, 3155, 3260/A i 3260/B). Nekropola Više Grobalja sadrži dva ovakva skeleta (br.1163 i br. 1772), a Pirivoj samo jedan (br.152).

Za nanošenje smrtnih povreda najčešće je korišćeno oružje za direktne duele. Povrede oružjem sa distance konstatovali smo samo u jednom slučaju (Pirivoj G 152). Svih osam nađenih i analiziranih slučajeva je i ilustrovano na odgovarajući način (videti slike od 1 do 10). Najveći broj ovih smrtnih slučajeva ne može se dovesti u direktnu vezu sa otkrićem amfiteatra na Viminacijumu, koji je bio rimski grad i vojni logor.

FIND OF A RARE TYPE OF ROMAN BELT SETS ON THE TERRITORY OF SERBIA

ABSTRACT

Belt-set consisting of a square brlt-buckle and a button with a spherical head and a flat foot, that has no parallels within modern-day Serbia, was unearthed on Viminacium "Više Grobalja" necropolis. Similar finds are known from the different parts of the Roman Empire, mostly concentrating along the Raetian Limes. Common opinion is that these belt-sets were used by Roman soldiers, so one could suppose that this particular specimen reached Viminacium when troupes were transferred from the Raetian Limes.

KEY WORDS: VIMINACIUM, BELT SET, BELT-BUCKLE, BUTTON.

During archaeological research of the Viminacium necropolis "Više grobalja", a belt set characterized by a square belt-buckle was discovered. It has no parallels on the territory of our country, according to authors' knowledge.¹ Apart from the already mentioned belt-buckle, made of a copper alloy, the set also consists of a button made of the same material. The length of the edge of the belt-buckle is 4,7 cm, while the button measures 2,3 cm in its diameter and 1,8 cm in its height. The belt-buckle was made in the opus interrasilis

style. In this way a square frame was formed, later decorated by faceting from the flat middle area decorated with vaults. This middle part, made narrow in the middle resembling a sand-clock, additionally strengthens the belt-buckle. The set also contains a button with a spherical head and a flat, which was used for fitting of the belt.

In German literature, this type of buckles called *Rehmenschnallencingulum*, is usually found together with two buttons similar to ours. The belt-set we are dealing here with was fitted by putting the perforated ends of the strap through the belt-buckle and then onto the buttons like shown on figure 2. Second button is missing, and it might

¹ The set was noted in the field documentation under the number C- 6870/1, discovered in a cremation grave G₁-956.

* The article results from the project: *IRS - Viminacium, Roman city and legionary camp – research of material and non material culture of inhabitants by using modern technologies of remote sensing, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.



Figure 1. Square belt-buckle with button

have been lost while the cremated remains were transferred from the stake into the grave. In the case that the belt-set originally possessed only one button, one could assume that one part of the strap was permanently connected to the buckle by sewing the strap instead of using the button.

Our specimen was made of a copper alloy, just like the similar example from the Romanian site Bruuiu, discovered together with belt-buckles of the VTERE FELIX type and dated into the middle of the 3rd century.² Another belt-buckle of similar shape originates from Risnov, also in Romania.³ J. Oldenstein describes belt-buckles of this type from the sites Osterburken, Pfünz, Faimingen, Karpova, Karlisla, Richborough, Linz and Intercisa, out of which the first two examples are identical to our belt-buckle. This author dates the buckles into the first half of the 3rd century.⁴ During the research of the Regensburg necropolis, several belt-buckles of this type were discovered. Three examples, from graves nr. 284, 703 and 817, are identical to ours. The buckle from grave nr. 284 was discovered together with Galienus' coin, because of which the author S. Schnurbein dated this type from the end on the 2nd until the second third of the 3rd century.⁵ A buckle parallel to ours was discovered in Morocco, at the site Banasa.⁶ T. Fischer mentions

similar but probably slightly younger, luxuriously decorated silver buckles, which were parts of belt-sets discovered in graves in Budapest and Silistra. Such examples were fitted with long buttons, very different from ours. The example from Budapest was found with several coins out of which, the youngest one was minted in 287, during Diocletian's reign.⁷ The Silistra find was dated with the coin of Probus.⁸ According to the facts listed above, we can see that this type of belt-buckles was probably used from the end of the 2nd century until the end of the 3rd century. Since our set was discovered in a cremated grave, we can say that it is probably not younger than the middle of the 3rd century. A more precise date would probably be gained from a coin which was lost.

Belt-buckles of this shape indicate that their owners were related with the army. Since we are dealing with a unique find on our territory, we presume that its owner, buried in the grave nr. G1-956 of the "Više grobalja" necropolis, brought it from the territory of the Raetian limes. According to the number of finds from the Raetian limes, it is considered the place of its origin, which is also confirmed by a find of a mould for casting buttons with spherical head from Regensburg. Without exceptions, such buttons were parts of sets along with this type of belt-buckles.⁹

² Petculescu 1995, 119-120, pl. 3, 1.

³ Petculescu 1995, 119.

⁴ Oldenstein 1976, 222-223, Tafel 82, 1083-1086.

⁵ Schnurbein 1977, 87-88

⁶ Boube-Piccot 1994, Pl. 9/84.

⁷ Fischer 1988, 176-179, Abb 4, 5; Abb 6, 5.

⁸ Genčeva 2012 A, 107.

⁹ Fischer 1988, 188.

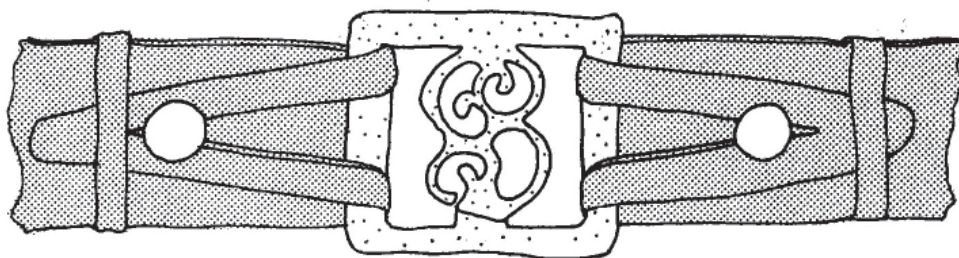


Figure 2. Way of fitting the belt-set.

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REZIME

NALAZ JEDNOG REDEG TIPA RIMSKIH POJASNIH GARNITURA NA PROSTORU SRBIJE

U grobu kremiranog pokojnika broj G1-956 viminacijumske nekropole „Više grobalja“ pronađena je pojasna garnitura sa kopčom kvadratnog oblika koja nema analogije na teritoriji Srbije. Garnituru upotpunjuje jedno dugme sa kalotastom glavom i pločastom stopom. Slične garniture su nalažene najčešće duž limesa širom rimskog carstva, što ukazuje da su njihovi najčešći konzumenti bili vojnici. Na osnovu većeg broja nalaza iz Regensburga treba pretpostaviti da je matično područje garnitura ovog tipa bilo upravo područje recijskog limesa što potvrđuje i nalaz kalupa za livenje dugmadi sa kalotastom glavom iz ovog grada. Shodno tome treba zaključiti da je garnitura u naše krajeve dospela prilikom veksilacija vojnih jedinica sa prostora recijskog limesa. Garniture ovog tipa treba vremenski opredeliti pre svega u period od kraja II pa do kraja druge trećine III veka, mada treba pomenuti i donekle slične luksuzne garniture iz Budimpešte i Silistre koje su datovane u kraj III veka.

A UNIQUE FIND OF A BELT SET FROM VIMINACIUM

ABSTRACT

During the archaeological research of the Viminacium necropolis "Pećine", a twofold massive belt set was discovered, made of a silver-plated copper alloy. When closed, the belt set partly resembles Hercules' knot. Since we are dealing with a unique find with no known parallels, the question arises if it is generally just to describe this object as belt set.

KEY WORDS: VIMINACIUM, BELT SET, UNIQUE FIND.

During the archaeological research of the Viminacium necropolis "Pećine", nearly 6.800 graves, and more than 13.500 different artefacts, some of which represent unique specimens regarding even the whole territory of the Roman empire. One of them is a two folded massive belt-buckle, made of a copper alloy, later silver-plated.¹ Both parts of the belt-buckle are almost identical: the only difference is that one of them possesses an ornament inlaid on its loop. The length of each piece measures 10,3 cm and their width is 10,2 cm. On ends of both of the parts there are dam-

aged hinges of unknown purpose. The hinges lean upon grids which run from the middle towards the endings, resembling propellers. The grids' endings, with button-shaped bumps in the middle, end semi-spherically. Each side of these semi-spherically endings is decorated with one short vault. On the back-sides of the grids three flat-hammered nails are located each of them 2-4 mm high, clearly indicating that they were used for fixing onto the leather. The other side of the grids was used for leaning of the loops used for fastening the belt-buckle. Already mentioned ornament consists of two pelta-shaped parts turned upside-down, with a rhomboidal plate between them. On both sides of the pelts there is an "S"-shaped orna-

¹ The belt-set was noted in the field documentation under number C- 10000, discovered in the skeletal grave G-3388.

* The article results from the project: *IRS - Viminacium, Roman city and legionary camp – research of material and non material culture of inhabitants by using modern technologies of remote sensing, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

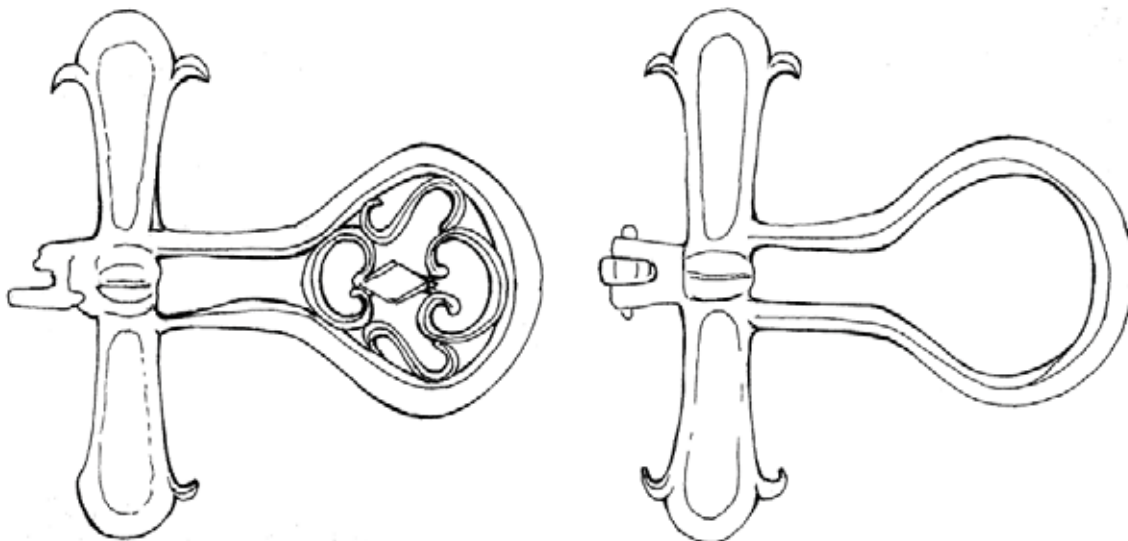


Figure 1. Single parts of the here presented twofolded belt-buckle

ment. If we accept the hypothesis that the buttons were used for fastening onto the leather, hinges should then be considered as carriers of a metal ornament fastened on the front side of the strap.

When closed, as shown on figure 2, the belt-buckle resembles Hercules' knot. This is just a conditional comparison, since only one loop goes around the endings of the other, which is understandable, because if the loops were intertwined, permanent connection would be formed, and belt set couldn't be untied without damaging it. If the resemblance with Hercules' knot would be trustworthy, maybe its owner could be brought in connection with his cult.

Since we were not able to find any analogies for the forementioned artefact in the literature that stood at our disposal, we cannot tell for sure that we are dealing with a belt-buckle at all. Here, the opinion of our colleague D. Spasić-Đurić should be mentioned, because she described this find as a belt-buckle.² The fact supporting the opinion that this actually is a belt-buckle is that it was a grave-good, placed between the legs of a deceased male. A coin of Phillip I, also found in this grave, dates it in the middle of the 3rd century.

REZIME UNIKATNI NALAZ POJASNE GARNITURE IZ VIMINACIJUMA

KLJUČNE REČI: VIMINACIUM, POJASNA GARNITURA.

Među više od 13500 nalaza sa viminacijske nekropole „Pećine“ jedan predmet se svojom originalnošću i luksuznom izradom naročito ističe. Radi se o dvodelnoj masivnoj pojasnoj garnituri izrađenoj od posrebrene legure bakra. Na osnovu izgleda kopče kada je sklopljena možemo primetiti njenu delimičnu sličnost sa Herkulovim čvorom. Kako se radi o jedinstvenom nalazu za koji nismo uspjeli da pronađemo analogije, postoji sumnja u vezi svrstavanja ovog predmeta u pojasne garniture. Na zaključak da se ipak radi pojasnoj garnituri navodi nas činjenica da je nađena u grobu između nogu inhumiranog pokojnika muškog pola. Grobni prilog koji vremenski determiniše ovaj nalaz u sredinu III veka predstavlja novčić Filipa I.

² Spasić-Đurić 2002, 74, Slika 53.

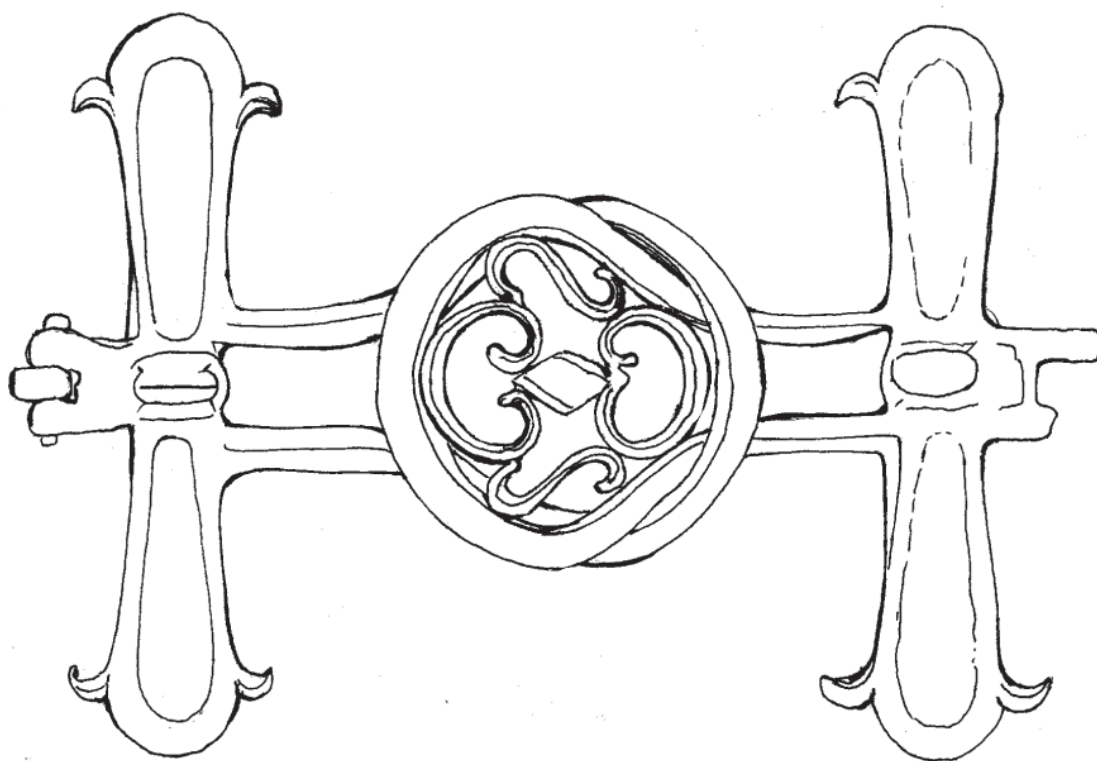


Figure 2. The way of closing the presented twofolded belt-buckle

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KNEE FIBULAE WITH SPRING AND SEMI-CIRCULAR HEAD PLATE FROM THE TERRITORY OF VIMINACIUM

ABSTRACT

Concentration of knee fibulas with spring and round head plate can be noted especially along the Rhine and the Danube limes, indicating to some authors that they were primarily worn by soldiers. Although the majority of over 80 examples found in Serbia were also discovered within fortresses along the border; one should also mention a number of finds from the inland, denying the previous statement. Most of the presented fibulae were already published, but owing to new publications regarding this topic and some unpublished examples, we considered it worthy to readdress this topic in order to get a more precise dating for this group of finds.

KEY WORDS: VIMINACIUM, KNEE FIBULA, SOLDIERS.

Generally speaking, knee fibulae got this name because of the shape of their bow which is sharply bent, resembling a human knee. The main feature of this type is a smaller or a bigger round head plate, which was often decorated. Below the grid there is a spring, often consisting of eight windings. All of the examples discovered at Viminacium possess an outer string, which is typical for Pannonia, Noricum, Dacia, Dalmatia, Upper and Lower Moesia. Contrary to this, inner strings are typical for Raetia, Germania and Britannia.¹ Bows can be of semi-spherical, triangular or trap-

ezoidal cross-section. Top of the foot is often decorated with button- or thorn-like shapes. Narrow, sometimes very high needle holder is rectangular in shape and always placed longitudinally to the bow.

Apart from the opinion that this type of fibulas originates from the Noric-Pannonian region,² there is also a hypothesis that they originate from the German-Raetian area.³ Frequent finds of these fibulas along the Rhine and the Danube limes led A. Böhme to conclusion that their users mostly

¹ Böhme 1972, 19-20.

² Kovrig 1937, 120-121.

³ Böhme 1972, 19.

* The article results from the project: *IRS - Viminacium, Roman city and legionary camp – research of material and non material culture of inhabitants by using modern technologies of remote sensing, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

were soldiers.⁴ Marking this type of fibulas as type 18/A in her typology, S. Petković indicates that this fibula-type is not encountered very often in the inland of the western parts of the Empire.⁵ Apart from the Danube provinces Pannonia, Dacia, Upper and Lower Moesia, this type of finds is often encountered at Sarmatians along the left Danube bank,⁶ as well as in Thrace and Pontic cities.⁷ In the cities of the mentioned provinces, like *Brigetio*, *Flavia Solva*, *Siscia* and *Napoca*, semi-fabricates were discovered, as well as models and moulds for casting this type of fibulas.⁸ According to the great number of finds from Novi Banovci, S. Petković assumed that the local workshop for their production existed there. This author, who studied the area of modern Serbia, presented 76 finds of this type,⁹ out of which 19 come from Viminacium and were already published.¹⁰ Ten examples from Viminacium should be added, making a total number of 29 pieces. In this paper, apart from six severely damaged specimens, all of them shall be presented. Apart from the already mentioned sites in our country, similar finds were discovered at the following sites: Hrtkovci, Beška, Kovin, Mačvanska Mitrovica, Ušće, Kosmaj, Ritopek, Sapaja, Čezava, Ravna, *Diana*, Gamzigrad, *Horreum Margi*, Gornje Štiplje, Paraćin, Kolivrat and Ulpijana.

Regarding chronology of this fibula type, we should mention the Deutsch-Altenburg site, on which, in grave nr. 26 a similar piece was found along with Hadrian's coin and a belt-set which dates from the time of this emperor until the end of the 2nd century,¹¹ as well as the well-known grave of a soldier from Lion in which, apart from this fibula, a belt-set VTERE FELIX was discov-

ered, along with a sword with a scabbard and 13 coins, out of which the youngest one was minted in 194. P. Wuilleumier brought this grave in connection with the battle of Lion in 197, fought between Septimius Severus and Claudius Albinus.¹²

Out of the fibulas presented here, six contributes to a more precise dating of this type. According to this, we should mention fibula nr. 6, which was discovered in a grave with three coins, out of which two were minted during the reign of Trajan and Hadrian, while the third dates into the first half of the 1st century. Piece nr. 8 was discovered in a grave with a coin of Faustina the Younger, dated into 145-146, while the example nr. 16 was discovered in a grave with a coin of Faustina the Elder. Fibula nr. 3 was discovered in a grave with an oil-lamp stamped FAOR, as well as with two pottery vessels dated into the 2nd century, while the example from the grave was discovered with two pottery vessels dated into the second half of the 2nd and the beginning of the 3rd century. Probably the youngest, but also chronologically the least reliable example is nr. 9, discovered in a layer with a knee fibula with a hinge, as well as with several coins from the first half of the 3rd century, the youngest being two examples of Alexander Severus.

If we take a look at the dates indicated above, they show that knee fibulas with spring and round head plate were used from the second quarter of the 2nd century and most intensively used from the middle of the 2nd to the beginning of the 3rd century, also supported by A. Böhme.¹³ A single find nr. 9 indicates that this fibula type was probably used even up to the middle of the 3rd century.

Three variants of this type were distinguished according to the presence or absence of ornaments on the round head plate.

4 Böhme 1972, 52-53.

5 Petković 2010, 129.

6 Petković 2010, 129.

7 Ambroz 1966, 28 T. 6, 16,18; Genčeva 2004, 48, T. XIV, 5

8 Petković 2010, 130.

9 Petković 2010, 133-138.

10 Redžić 2007, 33-35, T. XIV-XV, 138-156.

11 Ertel et al. 1999, 137, Taf. 25, 8.

12 Wuilleumier 1950, 146-148.

13 Böhme 1972, 19.

VARIANT 1. T. I/1-12, T. II/13-18

The main feature of this variant is its grid without any ornaments. W. Jonst defines these fibulas as his variant C, stating that they were discovered in Britannia, along the Rhine and the Danube limes and in the Alps.¹⁴ In the Varna museum, several examples of this fibula type are kept, indicating that they were also worn along the coast of the Black Sea.¹⁵

Silver fibula with fragmented needle.

Discovered at the "Više grobalja" site, 1984, C-5162.

Length: 2,8 cm.

Published: Redžić 2007, 33, T.XIV, 138; Petković 2010, 136, kat. br. 666.

The fibula was discovered in grave G-780.

Completely preserved bronze fibula.

Discovered at the "Više grobalja" site, 1984, C-2373.

Length: 3,5 cm.

Published: Zotović, Jordović 1990, 105, T. CLXXXIV/5; Redžić 2007, 33, T.XIV, 139; Petković 2010, 136, cat. nr. 665.

The fibula was discovered in grave G₁-245 with a pottery vessel dated into the 2nd and 3rd century.

Bronze fibula with a missing needle.

Discovered at the "Više grobalja" site, 1984, C-7278.

Length: 2,6 cm.

Dating: 2nd century.

Published: Redžić 2007, 33, T.XIV, 140; Petković 2010, 136, cat. nr. 667.

The fibula was discovered in grave G₁-1038, along with a FAOR oil-lamp and two pottery vessels dated into the 2nd century.

Bronze fibula with fragmented needle.

Discovered at the "Pećine" site, 1983, C-10465.

Length: 3,3 cm.

Dating: 2nd century, according to accompanying finds.

Published: Redžić 2007, 33, T.XIV, 141; Petković 2010, 136, cat. nr. 674.

The fibula was discovered in grave G-3477 along with a coin dated into the 1st and 2nd century.

Bronze fibula with fragmented needle.

Discovered at the "Više grobalja" site, 1985, C-11826.

Length: 3,4 cm.

Published: Redžić 2007, 33, T.XIV, 142; Petković 2010, 136, cat. nr. 668.

The fibula was discovered in grave G-2103.

Completely preserved fibula.

Discovered at the "Više grobalja" site, 1984, C-6013.

Length: 3,7 cm.

Dating: second quarter of the 2nd century.

Published: Redžić 2007, 33, T.XIV, 143; Petković 2010, 136, cat. nr. 669.

The fibula was discovered in grave G₁-798 along with three coins, out of which two were minted during the reign of Trajan and Hadrian, while the third one dates into the first half of the 1st century.

7. Completely preserved bronze fibula.

Discovered at the "Više grobalja" site, 1985, C-9470.

Length: 3,3 cm.

Published: Redžić 2007, 33, T.XIV, 144; Petković 2010, 136, cat. nr. 670.

The fibula was found in grave G-1396, along with a knee fibula with a square head plate, as well as a coin from the 1st century, not relevant for the dating.

¹⁴ Jobst 1975, 65.

¹⁵ Хараланбиева, Андреева 2000, 5-17.

Bronze fibula with fragmented needle.

Discovered at the "Pećine" site, 1983, C-7329.

Length: 3,5 cm.

Dating: middle of the 2nd century, according to accompanying finds.

Published: Redžić 2007, 34, T.XIV, 145; Petković 2010, 137, cat. nr. 675.

The fibula was discovered in grave G₁-661 along with a coin of Faustina the Younger, dated into 145-146 (RIC 1398).

Bronze fibula with fragmented needle.

Discovered at the "Velika kapija" site, 1979, C-267.

Length: 3,5 cm.

Dating: first half of the 3rd century, according to accompanying finds.

Published: Redžić 2007, 34, T.XIV, 146; Petković 2010, 137, cat. nr. 680.

It was discovered in the same layer with a knee fibula with a hinge as well as some coins from the first half of the 3rd century, the youngest ones being the two examples of Alexandar Severus.

Bronze fibula with fragmented needle.

Discovered at "Kod bresa" site, 1987, C-421.

Length: 3,5 cm.

Published: Redžić 2007, 34, T.XIV, 147; Petković 2010, 137, cat. nr. 681.

Bronze fibula with fragmented needle.

Discovered at the "Pećine" site, 1983, C-8535.

Length: 4,2 cm.

Published: Redžić 2007, 34, T.XIV, 148; Petković 2010, 137, cat. nr. 676.

Bronze fibula with fragmented needle.

Discovered at the "Pećine" site, 1983, C-9828.

Length: 3,3 cm.

Published: Redžić 2007, 34, T.XIV, 149; Petković 2010, 137, cat. nr. 677.

Bronze fibula with fragmented needle.

Discovered at the "Više grobalja" site, 1984, C-2899.

Length: 3,8 cm.

Published: Redžić 2007, 34, T.XIV, 150; Petković 2010, 136, cat. nr. 671.

Completely preserved bronze fibula.

Discovered at the "Više grobalja" site, 1985, C-9401.

Length: 3,6 cm.

Published: Redžić 2007, 34, T.XIV, 151; Petković 2010, 136, cat. nr. 672.

15. Completely preserved bronze fibula.

Discovered at the "Više grobalja" site, 1985, C-9261.

Length: 3,8 cm.

Dating: second half of the 2nd and the beginning of the 3rd century, according to the accompanying finds.

Published: Redžić 2007, 34, T.XIV, 152.

The fibula was discovered in grave G₁-1362 along with two pottery vessels dated into the second half of the 2nd and the beginning of the 3rd century.

16. Completely preserved bronze fibula.

Discovered at the "Kod koraba" site, 2005, C-208.

Length: 3,8 cm.

Dating: 2nd and the first half of the 3rd century.

Published: Redžić, Jovičić 2011, T. II, 15;

Found in a cremated grave G₁-66 along with a coin of Faustina the Elder.

17. Completely preserved bronze fibula.

Discovered at the "Lugovi" site, 1983, C-31.

Length: 3,3 cm.

Unpublished.

18. Bronze fibula with a missing needle.

Discovered at the "Selište", 1991, C-75.

Length: 3,3 cm.

Unpublished.

VARIANT 2: T. II/19-22

This variant differs from the first one only owing to the decorated grid. It includes three examples from our collection. The decoration in the shape of simple incisions or zig-zag lines is often encountered on the edge of the grid, sometimes in its middle. W. Jobst defined these fibulas as his variant D.¹⁶

19. Completely preserved bronze fibula.

Discovered at the "Više grobalja" site, 1984, C-3805.

Length: 4,4 cm.

Published: Redžić 2007, 34, T.XV, 153; Petković 2010, 136, cat. nr. 673.

The fibula was discovered in grave G-543.

20. Bronze fibula with fragmented needle.

Discovered at the "Pećine" site, 1986, C-11855.

Length: 2,5 cm.

Publikovano: Redžić 2007, 34, T.XV, 154; Petković 2010, 137, cat. nr. 678.

The fibula was discovered in grave G-4851.

21. Bronze fibula with fragmented needle.

Discovered at the "Pirivoj" site, 2004, C-578.

Length: 3.8 cm.

Published: Redžić 2007, 34, T.XV, 155; Petković 2010, 137, cat. nr. 682.

22. Completely preserved bronze fibula. The edge of the grid is decorated with a carved zig-zag line.

Discovered at the "Na kamenju" site, 2007, C-79.

Length: 3,7 cm.

Published: Redžić, Jovičić 2011, T. II, 14;

VARIANT 3: T. II/23

Only one example made of silver belongs to this variant, possessing semi-circular cuttings at the lower part of the grid. Similar examples were discovered in Zugmantel.¹⁷

23. Silver fibula with fragmented needle.

Discovered at the "Pećine" site, 1979, C-1622.

Length: 3,6 cm.

Published: Redžić 2007, 35, T.XV, 156; Petković 2010, 137, cat. nr. 679.

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¹⁷ Böhme 1972, 19, T. 7, 390-391.

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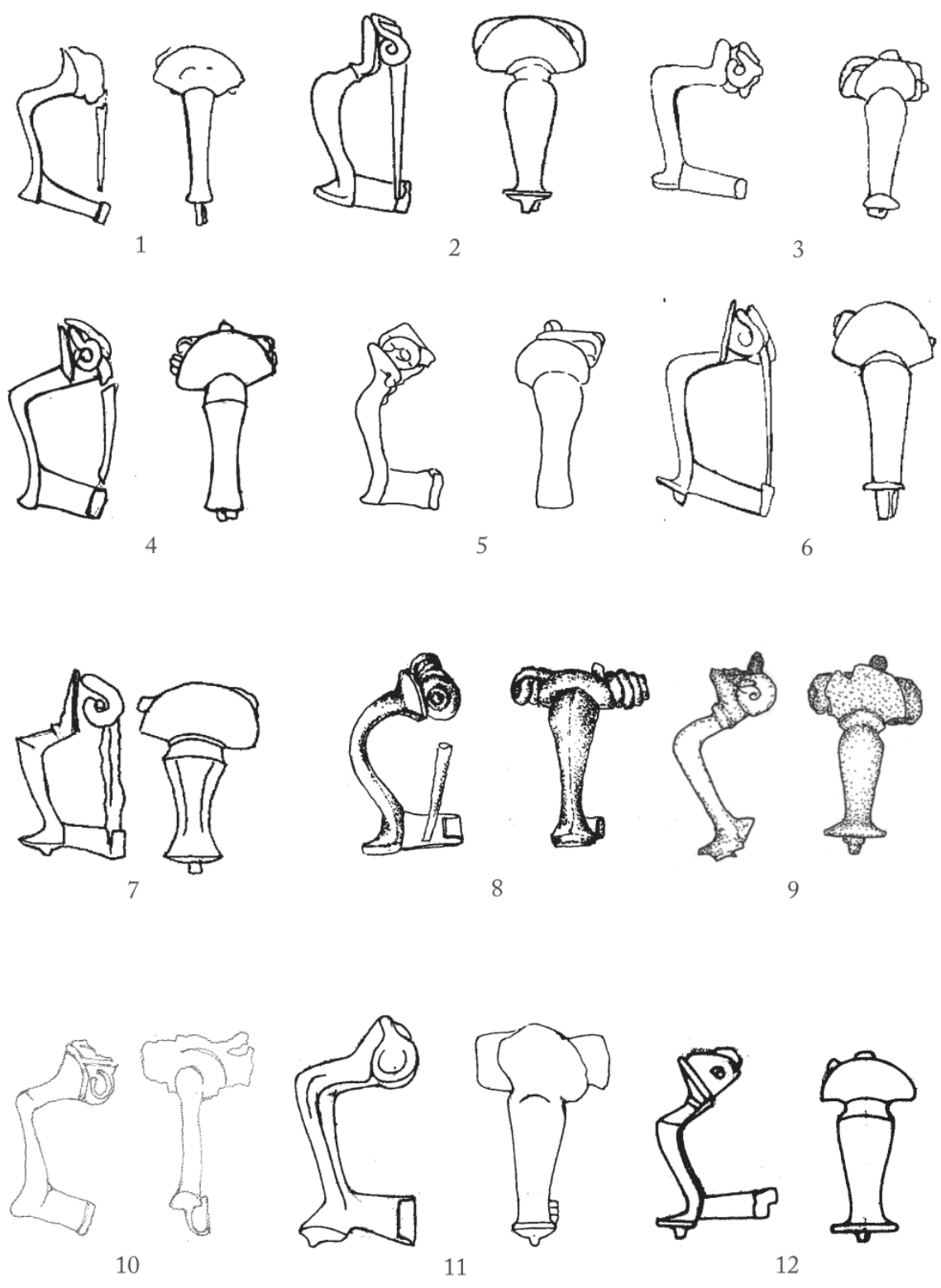
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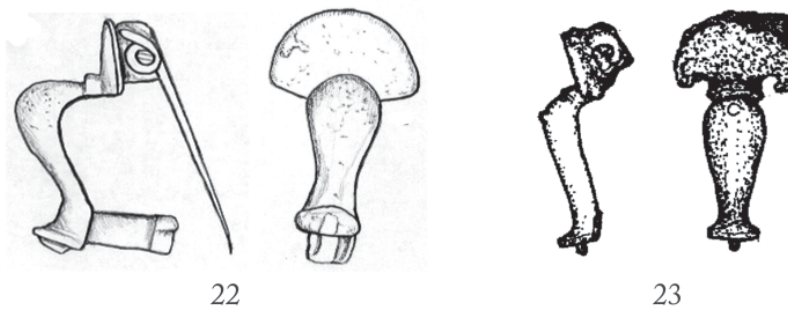
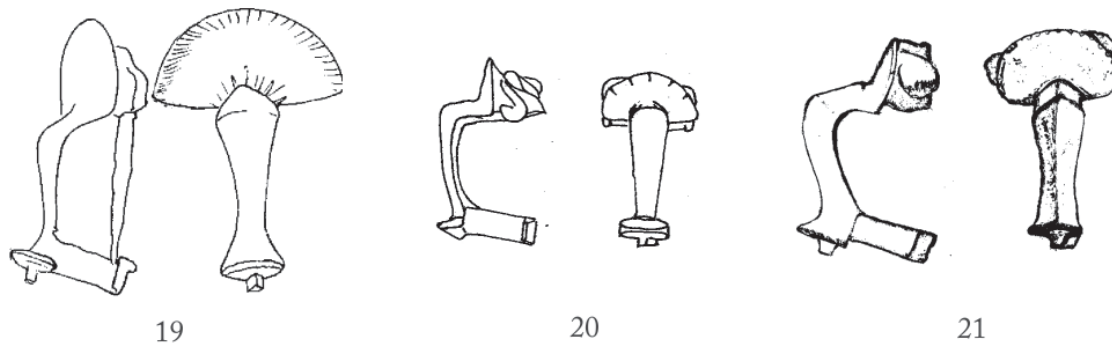
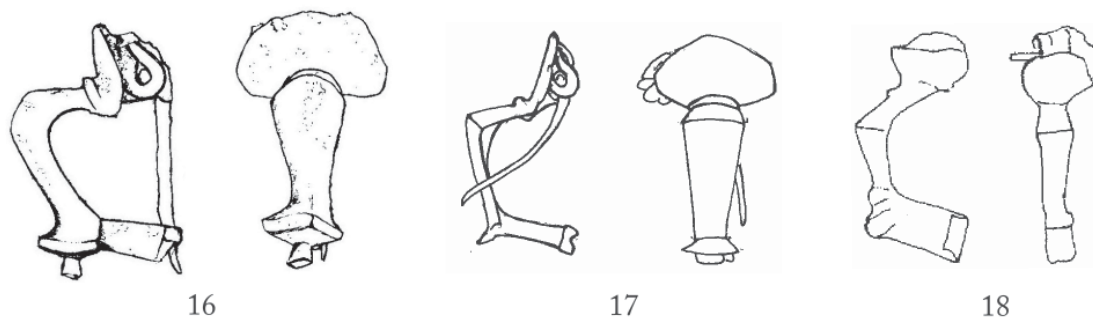
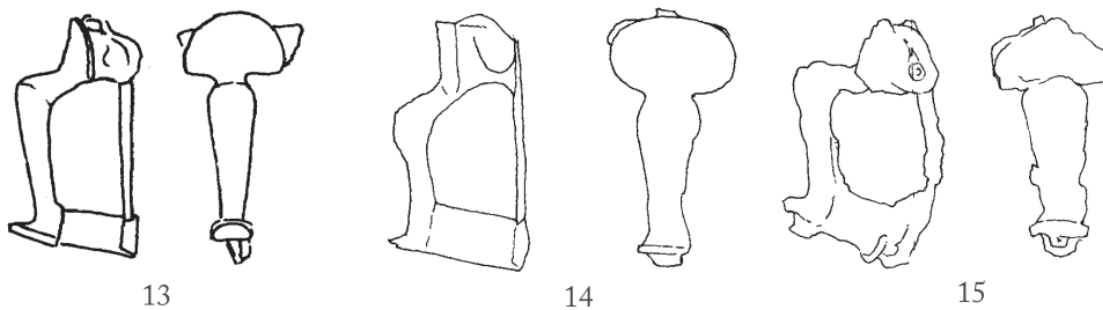
KOLENASTE FIBULE SA OPRUGOM I POLUKRUŽNOM POTPORNOM GREDOM SA TERITORIJE VIMINACIJUMA

KLJUČNE REČI: VIMINACIUM, KOLENASTA FIBULA, VOJNICI.

Konstantan rad na istraživanju viminacijumskih nekropola, ali i stambenih celina, znatno doprinosi preciznijem datovanju arheoloških nalaza i kulturnih spomenika Rimskog carstva. Imajući to u vidu, na osnovu nalaza iz grobnih celina sa Viminacijuma, ali i drugih lokaliteta smatram da kolenaste fibule sa oprugom i polukružnom potpornom gredom počinju da se koriste najranije tokom druge četvrtine II veka, a da se period njihove pune primene kreće u intervalu od sredine II, pa do početka III veka. Ipak nalaz primerka broj 9 u sloju sa novcem prve polovine III veka ukazuje na mogućnost korišćenja fibula ove vrste do sredine III veka.



T.I 1-12, Varijanta 1



T.II 13-18 Varijanta 1, 19-22 Varijanta 2, 23 Varijanta 3

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LATE ROMAN VILLA ON THE SITE LIVADE KOD ĆUPRIJE - A CONTRIBUTION TO THE STUDY OF VILLAE RUSTICAE IN THE VICINITY OF VIMINACIUM

ABSTRACT

The Late Roman villa rustica at site Livade kod ćuprije, located 650 m south of Viminacium was explored in 1983. Although this site had been explored nearly 30 years ago, the remains of the villa have not been known in the scientific community until today. The remains of a rectangular object with an open vestibule in the middle section were found on this site. This object was made of stone, brick and mortar, while the only decoration found in traces was marble wall paneling. Several artifacts characteristic for the daily life of residents in villas, besides a few tools that indicate economic activities, were found together inside the object. The villa is dated to the middle and second half of the 4th century, like as the villas discovered at sites Burdelj, Na Kamenju, Rudine and Stig, all in the vicinity of Viminacium.

KEY WORDS: MOESIA PRIMA, VIMINACIUM, VILLA RUSTICA, 4TH CENTURY, SOUTH NECROPOLISES.

INTRODUCTION

Although very important to the study of the economy of a city, little attention was paid to *villae rusticae*, despite the long history of research of Viminacium. The *villa rustica* represents a dominant model of landownership and agricultural production typical for the period of Late Republic, as well as during the whole period of Empire. Namely, those villas represent agricultural households with rooms intended for the owner (*pars urbana*), which are separated from the manufacturing part

of the villa (*pars rustica*). This manufacturing part contains chambers for production, storage, barns, mills, workshops, as well as housing objects for slaves and staff. Slaves and freedmen were the main manufacturing force on these estates and were supervised by a special worker named *vilicus*.

Researches of villas last over 200 years, during which numerous examples were examined across the territory of the Empire, from the Black Sea to Portugal, and from Yorkshire to the Sahara.¹ Numerous remains of villas were also found

¹ Percival 1981, 51.

* The article results from the project: *IRS - Viminacium, Roman city and legionary camp – research of material and non material culture of inhabitants by using modern technologies of remote sensing, geophysics, GIS, digitalisation and 3D visualisation (no 47018)*, funded by Ministry of Education, Science and Technological Development of the Republic of Serbia.

in our neighborhood, on the territory of Hungary² and Croatia.³ An extensive typology was given by J.T. Smith with a depiction of approximately 1,100 plans of villas throughout the Empire.⁴

When it comes to villas on the territory of present-day Serbia, the first significant study concerning the subject and also the first synthesis was given by Miloje Vasić in 1970. He described previously explored villas in the former Yugoslavia.⁵ From that period until today, a great number of villas have been explored on our territory. Previous studies concerning these villas were mostly focused on the remains of architecture and finds. Recently, this issue has been elaborated and a good review of villas investigated up to this date has been given, with topographic and typological analysis.⁶

Little is known about villas on the territory of Viminacium, especially if the significance of this town during the Antique period is taken into account. A specific problem is the fact that the remains of the so far explored villas are not entirely available to the general scientific community. The remains of villa at the site Livade kod ćuprije are just one example more. The objective of this study is to present the results of research, to determine the possible purpose of the object based on the finds and architecture, as well as to discuss the problem of the distribution of villas in the vicinity of Viminacium and across the territory of Moesia Prima during the 4th century.

VILLAE RUSTICAE IN THE VICINITY OF VIMINACIUM

Viminacium, the biggest urban settlement in the province of Upper Moesia was founded in the 1st century A.D. It is located on the right bank of the river Mlava, near the confluence with the Danube, and the contemporary town of Kostolac. After Domitian's division of Moesia to Upper and Lower in the year 86 A.D., Viminacium became the capital of the province of Upper Moesia (*Moesia Superior*) with a constant military crew of the Seventh Claudian Legion (*Legio VII Claudia*) commanded by a legate.⁷ During the reign of Hadrian and his visit to Upper Moesia in the year 117 A.D., Viminacium received the status of *municipium*. In the year 239 A.D., the town gains the status of *colonia*, during the reign of emperor Gordian III. In this period Viminacium rises politically and economically. After Diocletian's reforms during the 4th and 5th century, Viminacium was the capital of the province of Moesia Prima.⁸

A roman town was not limited only to the settlement, but included a larger area – *ager* or *territorium*. In the period when Viminacium was a *municipium*, its territory included larger part of the plain in the lower course of the Mlava, nowadays called Stig. When it gained the status of *colonia*, Viminacium spread its land to the whole area of Stig and Veliko Gradište (*Pincum*) along with the mine.⁹ Stig is the second largest plain in Serbia. Its boundaries are the Danube River on the north, the mount Sopotska greda and the river Mlava on the west and Homolje Mountains on the east and southeast.¹⁰ Many archeological remains throughout the territory of Stig indicate the existence of properties of independent landowners.¹¹ The fertile plain of Stig was favorable to the development of all branches of agriculture, especially grain cultivation.

2 Tomas 1964; Biró 1974.

3 Begović, Schrunk 2003; Leleković, Rendić-Miočević 2012.

4 Smith 1997.

5 Vasić 1970.

6 Ilić 2012, 74-82, 91-113.

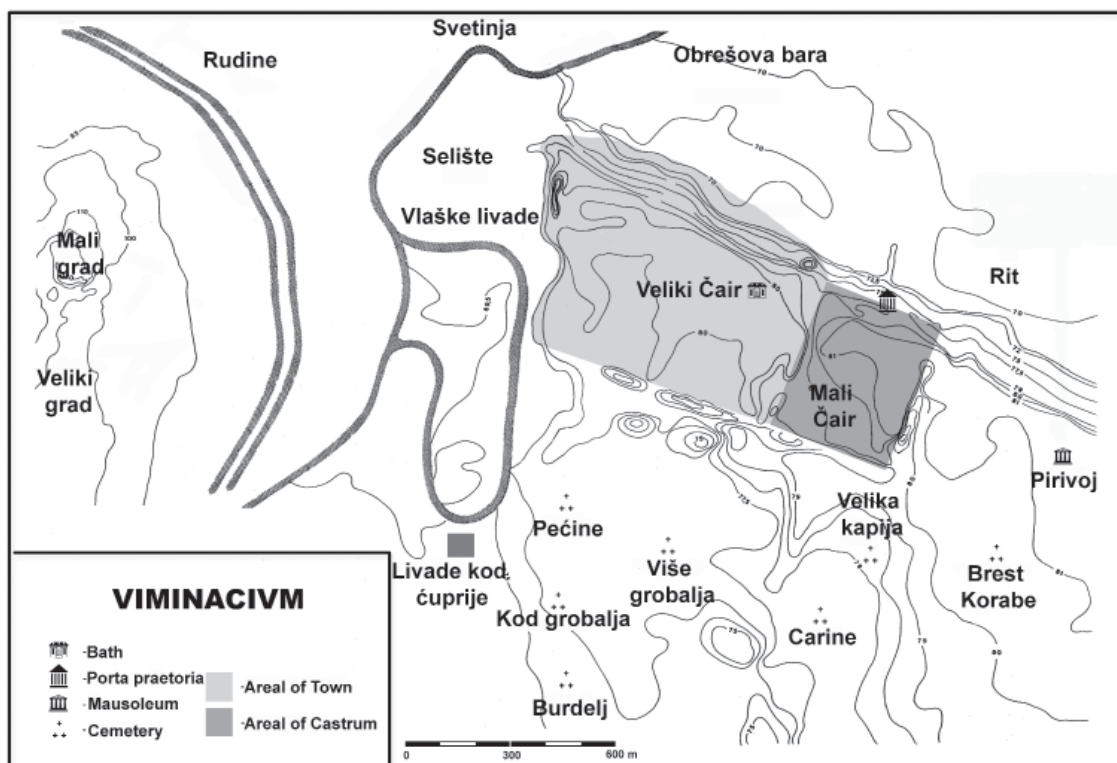
7 Спасић-Ђурић 2002, 21.

8 Mirković 1986, 21-59.

9 Поповић 1968, 30.

10 Ђокић, Јацановић 1992, 63.

11 Спасић – Ђурић 2002, 44.



Map 1. Viminacium sites

During the many years of research in Viminacium, the remains of several villas were found. Villas were discovered at sites: Burdelj,¹² Livade kod ćuprije,¹³ Na Kamenju,¹⁴ Nad Klepečkom,¹⁵ Rit,¹⁶ Rudine¹⁷ and Stig.¹⁸ The remains of villas from the sites Stig, Rit and Rudine have been described in detail, while villas on the sites Burdelj, Livade kod ćuprije and Na Kamenju have been just casually mentioned, without a clear description and a proper analysis of found remains. Recently, the first detailed analysis of above mentioned villas has been conducted with topographic and typological determination.¹⁹

12 Зотовић 1980, 97.

13 Raičković, Redžić 2006, 81-105.

14 Golubović, Korać 2008, 35.

15 The remains of villas on the site Nad Klepečkom were explored in 2010. and 2011., the processing of materials is in progress.

16 Mikić, Stojanović, Mrđić 2006, 21-26.

17 Поповић, Иванишевић 1988, 168-170.

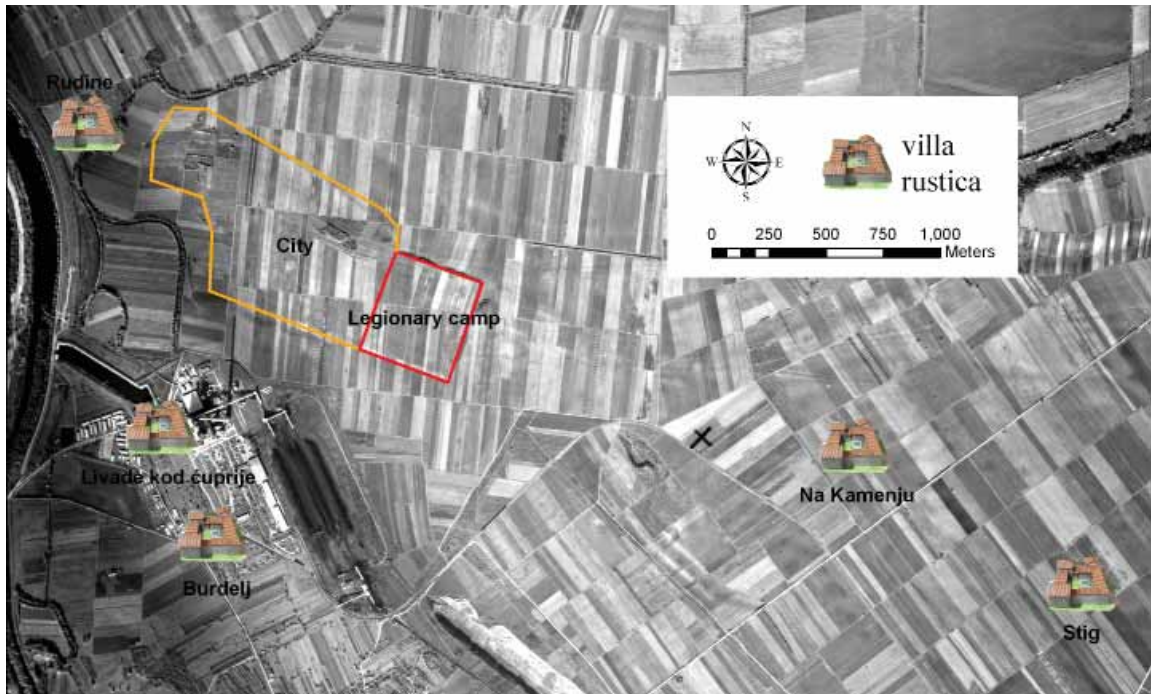
18 Redžić, Raičković, Miletić 2006, 47-56.

19 Jovičić 2011.

LIVADE KOD ĆUPRIJE – VILLA'S POSITION AND RESEARCH HISTORY

The site Livade kod ćuprije is located in the proximity of the site Pećine, 650 m southwest of Viminacium, near the river Mlava (Map 1). The site was explored during the construction of thermal power plant Kostolac B, when the ground was being leveled to construct future plants. Rescue excavations were carried out by experts of the Archeological Institute in Belgrade, and the Republic Institute for Cultural Heritage Preservation, under the direction of Ljubica Zotović (Fig. 1). During the research of the sites Pećine and Livade kod ćuprije, excavators found three kilns for burning brick, four kilns for burning pottery, two Early Christian churches, a small number of inhumated graves and the remains of a villa. The remains of the kilns were published in detail,²⁰ while the remains of the building which was in-

20 Raičković, Redžić 2006.



Map 2. Villas from 4th century in the vicinity of Viminacium

terpreted as *villa rustica* by researchers, were only partially described and until now, were never a part of a separate study. During the rescue excavation in 1983, the Roman villa was discovered. The remains of the object were located on the site of present-day Distribution facility, which is located opposite from the management building of thermal power plant Drmno. The remains of villa were damaged during the field leveling in 1982. Excavations of the villa were carried out in April and May of 1983. The object, as well as the late Antique layer at the area around the object, was built on a layer from an older period. Remains of a pottery kiln were found beneath the object and dated in the 2nd or 3rd century. This kiln belonged to a complex with pottery and brickwork in Viminacium. Until now, 13 pottery and brick kilns that belonged to the complex were found, and they are dated from the late 2nd century to the end of the 3rd century A.D.²¹ Artifacts discovered in the objects that were built above the kilns or that were found in the area between the kilns, as well as in the inhumated graves on this area, are dated to the

21 Raičković 2007, 11.

period of the first half of the 4th century A.D.²² According to the researchers who carried out the excavation of southern necropolises of Viminacium, a rural settlement was formed on the abandoned necropolis Pećine (formed during the second half of the 1st century) in the 4th century.²³ The remains of the explored villa certainly affirm this hypothesis.

The exact position of the villa is ascertained circumstantially based on the data from the documentation, because the situation plan is not complete. The remains of villa are not presented on a previously published situation plan of the site Pećine on the area which has been explored southeast from the site Livade kod ćuprije (Fig. 2).²⁴ On that plan, as we can see, the remains of two Early Christian churches A and B are presented and date back to the 4th century A.D., as well as villa.

22 Raičković, Redžić 2006, 88.

23 Зотовић, Јордовић 1990, 2.

24 Raičković, Redžić 2006, 91, P.I.



Figure 1. Archaeological excavation during construction of thermal power plant Kostolac B

Villa's architecture

Villa is rectangular in shape and consists of 8 rooms and a large vestibule in the central part (Fig. 3). Room 1, located in the southwestern part of the villa, has an extension in the form of a semicircular apse. The dimensions of the explored villa are 21 x 16,30 m. The object with its longer side is faced in the north-south direction, with a deviation of 26 degrees towards west on its northern part.

Foundation footing of the object was built in dry stone wall from crushed bricks and broken schist. Fragments of brick were stacked aslant. The width of the mentioned dry stone wall is 10-12 cm, and the height is 20 cm. The exceptions are wall 2, the eastern wall in rooms 1, 5 and 6, and wall 3, which is the southern wall in rooms 1, 3 and 4. The foundation parts of the walls are built in technique *opus spicatum* (two rows of

bricks stacked aslant in herringbone pattern). Surface parts of the walls were built in technique *opus mixtum* with uniformly stacked fragments of schist stone and brick, which were bound by lime mortar (Fig. 4).²⁵ Bigger and more evenly broken fragments of brick and schist were stacked on the front of the wall, while smaller fragments filled the wall. The width of the walls is 0,60 m. Wall 4, that closes the rooms 2 and 4 on the northern side, is the best preserved wall of the object, and the height of the wall is preserved in the range from 40 to 60 cm.

Room 1 is located in the southwestern part of the villa. With its dimensions 6,40 x 5,75 m, this room represents the biggest room in the object. Southern side is closed with semicircular apse. The apse, with its radius of 2,80 m, was partially destroyed during the digging of a concrete

²⁵ For a description of these techniques see: Adam 2005, 188, 277.

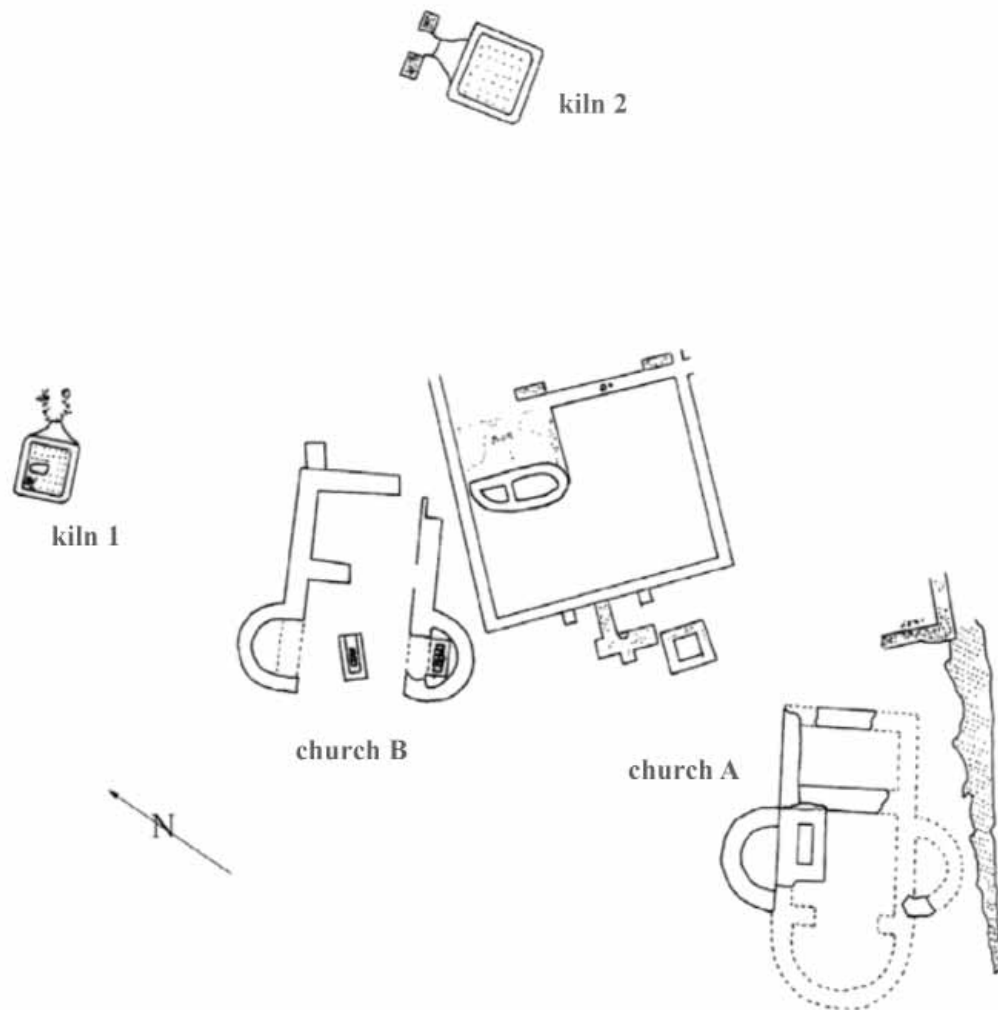


Figure 2. Situation plan of the site Pećine, southeast from the site Livade kod ćuprije

pedestal. One third of the semicircular wall is preserved, which is the eastern part of the wall. Pilasters were built at the place where apse joined the walls 1 and 2. The dimensions of pilasters were 70 x 60 cm. The highest preserved part of the wall is 55 cm. Traces of charcoal, burned soil and debris were found on the surface in the northeastern corner of the Room 1. The dimensions of the surface were 2,80 x 1,65 m.

Rooms 2, 3 and 4 are located in the southeastern corner of the object. Rooms 2 and 3 which have the same lengths were located east of Room 1. The dimensions of Room 2 are 4,35 x 2,0 m. The dimensions of Room 3 are 4,35 x 2,45 m. Bones of cattle were found in northeastern cor-

ner of the room. Room 4 was located east of these rooms, and its dimensions were 5,10 x 3,80 m. A surface with traces of charcoal, with dimensions of 60 x 50 cm, and thickness of 15 cm was found in the northwestern corner of Room 4.

In the central part of the villa there was a room that can be interpreted as a vestibule, or a lobby. Villa's vestibule is located between the southeastern wing of the object (Rooms 2, 3 and 4) and the northeastern part (Rooms 7 and 8). The room was closed from south, west and north with the walls of other rooms, while the eastern side was open. A ceramic kiln from an older period was found in the villa's vestibule, beneath wall 4. The kiln was located 70 cm below the lower



Figure 3. Plan of the villa rustica at the site Livade kod ćuprije

grade level of the wall. The height of the kiln is preserved at 0,97 m, with a cylindrical burner (diameter of 1,40 m) and it's dated to the period of the 2nd and 3rd century A.D. (Fig. 5).

Room 5 is located north of Room 1, and west of the vestibule. The north, west and south walls of the room were partially destroyed during mechanization. According to reconstruction, the dimensions of Room 5 are 5,75 x 3,70 m.

Rooms 6, 7 and 8 were in the northern wing of the object. Room 6 is located in the north-western corner of the construction. Walls 1 and 7 which closed the room from western and northern side, were completely destroyed by mechanization works. The dimensions of Room 6 are 5,75 x 5,05 m. Room 7 is located east of Room 6. Like as previously mentioned rooms, the walls of this one were also partially destroyed by mechanization works. One row of brick fragments in foundation zone is the only preserved part of western and northern walls. The dimensions of Room 7 are

5,05 x 4,35 m. Room 8 in the northeastern corner of the villa was located east of the Room 7. The dimensions of Room 8 are 5,05 x 3,85 m.

The Finds

Many finds made of iron, bronze, lead, stone and bone were found in the villa's layer. Most notable iron artifact is an iron arrow shaped tool with a spoon-shaped handle (T.I/1). It was found in the vestibule's layer, near wall 8. This artifact can be interpreted as a drill, a tool used for drilling wood by carpenters and cart wrights.²⁶

A small fragmented and corroded iron axe with a breech was found in Room 4 (T.I/2). This axe belongs to a certain type of axe hammers, and the blade is evenly wide from the breech to the point.²⁷ These types of axes represent combined

²⁶ Поповић 1988, 118, 119, Т.ХХ. 3-6.

²⁷ Поповић 1988, 69.

Figure 4. Walls of the villa rustica



weapons. They could also been used as hammers, because they have a prism-like end, but they were primarily used by woodcutters. Axes of this type were widespread throughout the Antique period. An iron ring was also found in the southern part of this room (T.I/3).

The most common are bronze artifacts, and count the findings of coins, a fibula, needles, a rings and an application. Nine bronze coins were found in the rooms and vestibule. According to available documentation, 6 coins were dated in the middle and the second half of the 4th century A.D.²⁸ They are the coins of Julian, Valens, Valentinian I, Valentinian II and Theodosius I. Only one fibula has been discovered in the object, in the Room 8. It is a bronze crossbow fibula, which doesn't have a part of the bow, the head and the pin (T.I/4). The bow has trapezoidal cross-section, longitudinally decorated with carvings. It has a long body with a circular decoration. Crossbow fibulae were testified with 79 samples on the territory of Viminacium, and all are from the 4th century.²⁹ This type of crossbow fibula has no direct analogy, but it is the most similar to the fibulae from Timacum Minus and Romuliana, type 34d, subvariant 2 – according to the typology made by S. Petković, and which she dated from 364 to 380 A.D.³⁰ A bronze sewing needle with a rectangular perforation was found in the same room (T.I/5). The needle was broken and slightly deformed. Such needles are commonly found (Belgrade, Ritopek, Ušće near Obrenovac, Zemun) and dated, based on the context, to the 2nd and 3rd century A.D.³¹ A deformed bronze needle was found in the villa's vestibule. A larger bronze ring of a semicircular cross-section was found in Room 3, while a bronze application with a safety pin was found in Room 4 (T.I/6).

A miniature lead mirror with a handle was found in the northwestern corner of Room 2

28 According to the data from excavation field diary.

29 Redžić 2007, 65-66.

30 Petković 2010, 264-265, Sl. 93, Sl 94.

31 Крунић 1997, 215-216, бр. 330-335.

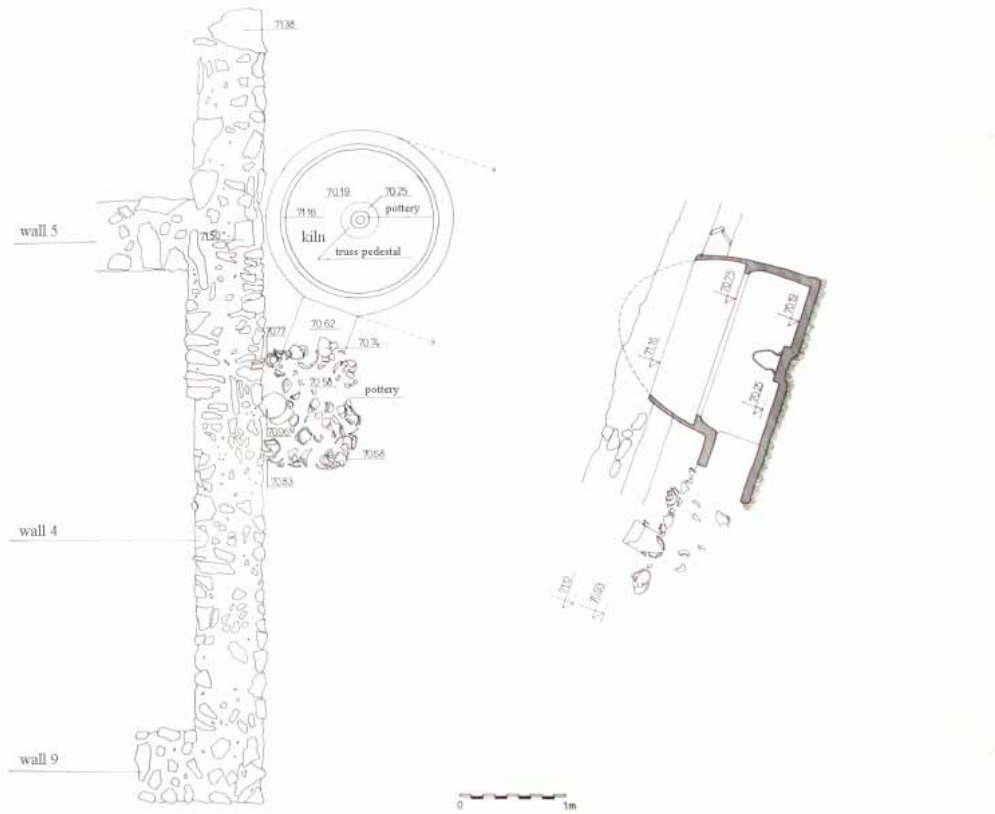


Figure 5. Wall 5 and a pottery kiln from the older period

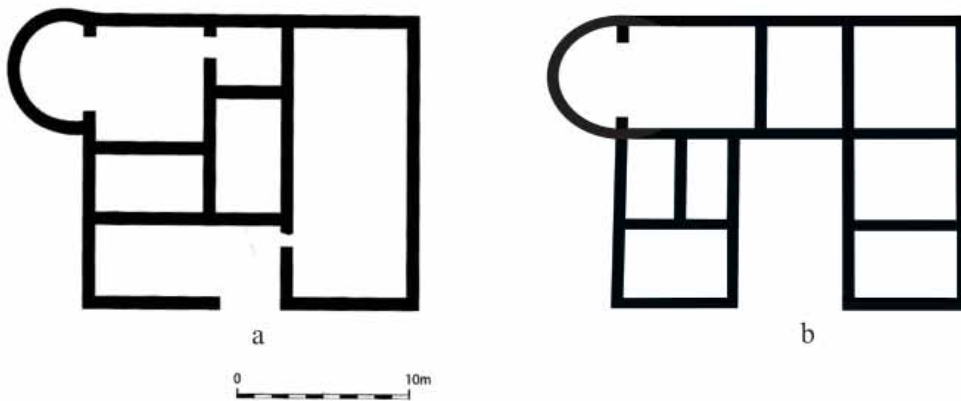


Figure 6. a) Krivelj near Bor; b) Livade kod ćuprije - plans of the villas

(T.I/7). It is ornamented on the back side, and the front side is damaged. Anterior part of the circular frame of the mirror is divided in two fields. In one of the fields, appears a motive of connected ellipse ornaments, which form a chain around the

mirror frame or on the outer line. The inner field is divided in four sections by vertical lines, which form a herringbone motif (V motive). These lines form a schematic wreath. The mirror is type IV/2 according to B. Milovanović. Three mirrors of

this type were found in Danube region, two in Viminacium – one at the site Čair, and one at the site Pirivoj. B. Milovanović dated this type in the first half of the 4th century A.D.³²

Concerning the artifacts made of stone, we should mention one whetstone, found in Room 8 (T.II/1). A piece of marble wall paneling was found in Room 3. One of its edges was polished, and it represents the remains of the wall's marble decoration (T.II/2). Another piece of marble board was found bricked into wall 2. That is a reused marble tombstone (T.II/3). The data refer to the age of the deceased are readable. According to the letters and hederas which were properly carved, the tombstone was dated to the period of the 2nd century, or the beginning of the 3rd century.

Processing is noticed on deer antler fragment which was cut. The antler was unfinished piece (T.II/4). These antler tines can often be found on Antique sites in Upper Moesia.³³ These tines were further used in bone carving workshops for making plates, cuts, spikes, pipes, that were later carved into other desired items.

Fragments of pottery found in villa's rooms belong to the repertoire of the 4th century. A green enameled lamp, characteristic for the 4th century was found in trench 1 near the villa.

DISCUSSION

Based on the finds discovered in villa's rooms, the object can be dated to the second half of the 4th century. Most of the investigated villas in Viminacium were also dated to the 4th century (Map 2). Villas at the sites Na Kamenju,³⁴ Stig³⁵ and Burdelj³⁶ are dated to the middle of the 4th century. Second phase of Structure 1 at the site Rudine is dated to the end of the 3rd and begin-

ning of the 4th century, while Structures 2 and 3 are dated to the end of the 4th and beginning of 5th century.³⁷

Similar situation is noticed with explored villas on the territory of Serbia. Most of them are dated to the 4th century, a period when they are numerous on the territory of *Moesia Prima*,³⁸ *Dacia Mediterranea*³⁹ and *Pannonia Secunda*.⁴⁰

Villa phenomenon is related to the end of the 1st and the beginning of the 2nd century A.D. in the most provinces of the Empire. However, the increased number of villas in all area is typical for the 4th century, when colonatus was the dominant system.⁴¹ During this period, old villas are renovated and new ones are built, and there is a development of large land ownership.⁴² Villas are often fortified, because there was a risk of barbaric invasions. The 4th century is a period of economical stability, and a more basic, staid way of manufacturing.

Roman villa at the site Livade kod ćuprije is a type of villa with a rectangular basis and a central corridor.⁴³ Villas with a central corridor are typical for the territory of Pannonia.⁴⁴ Villas with similar basis and dimensions were also

37 Поповић, Иванишевић 1988, 170.

38 Vasić 1995, 335, Map 1; Ilić 2012, 101-113.

39 On the site Mediana south of the representative peristyle villa, the remains of smaller *villa rustica* were found, that are dated to the 4th century, see: Дрча 2006, 24-28; In the area of Remesiana, a larger peristyle villa was found in Bela Palanka, while the remains of another villa are in the village Dol, see: Milošević 2004, 128; Late Antique period villas were found during the construction of highway E-75 in 2003. For the villa in Mala Kopašnica, see: Фидановски, Цвјетићанин 2005, 67-83, T.VI-T.XIV. For the villa in Kržince near Vladičin Han see: Ружић, Брмболић, Манојловић-Николић 2005, 203-225.

40 Late Antique period villas were found on the sites Livade near Sremska Mitrovica, Šašinci, Dumbovo near Veočin and Hrtkovci. For villas on the territory of Srem see: Брукнер 1995, 137-174; Даутова Рушевљан 2008, 287-312.

41 Percival 1981, 46.

42 Percival 1981, 46-49, 166-182; For Pannonia see: Biró 1974, 52.

43 For villa types see: Smith 1997; Biró 1974, 40; Vasić 1970, 54-62.

44 Tomas 1964, 162, Abb.177.

32 Milovanović 2009, 127-128.

33 Petković 1995, 55-56.

34 Golubović, Korać 2008, 35.

35 Redžić, Raičković, Miletić 2006, 49.

36 Зотовић 1986, 56, нар. 28.

found in Serbia. Such villas are Poskurice near Kragujevac,⁴⁵ Višesava near Bajina Bašta⁴⁶ and Krivelj near Bor,⁴⁷ and the last one is the most similar to the villa at the site Livade kod ćuprije (Fig. 6).

Finds inside the villa, besides the items for daily use and clothing, indicate craftsmanship and agricultural labor. Axes, drill and the semi fabricate of an antler suggest an intense woodwork and bone tools processing, while the whetstone is evidence of agricultural activity. The marble decoration in Room 3 indicates that the villa was also used for the accommodation of the owner, not just for economical purpose. However, since remains of heating, floors or mural decorations were not found, it can be assumed that it was not a luxurious object. Room 1 with an apse could have been a receiving room, or dining-room (*triclinium*). Villas dated to 4th century often have an apse, served as so called Late Antique representative aula which was modeled after the central aula of imperial palaces.

It is difficult to make any reliable conclusion when it comes to the size of the estate and the role of this villa mostly because of its level of investigation. Did this villa have auxiliary objects on the property, or it was itself an auxiliary object of a larger household? The villa's owners could have been of different social status. During the Roman period there were imperial and senatorial properties, properties of roman or local aristocracy, and the owners of the villa could have been veterans, or small landowners.⁴⁸ Veterans were given property after their service, and they were owners of smaller and simpler villas. M. Vasić linked the frequent appearance of villas on the territory of Moesia Prima with the period of Valentinian I and his border army, i.e. *limitanei*. After the act of Emperor from the year 364 there

was a greater appearance of properties. During that period emperors were granting to the veterans considerable estates. Private soldiers were allotted pair of oxen and 50 modes of wheat, what was sufficient to plant about 10 to 12 yokes of land.⁴⁹ Those of higher rank were allotted two pairs of oxen and twice the amount of wheat. Vasić believes that the colonate was established in the Iliricum rather late, not before the prefecture of Anatolius in 371, so most lands were cultivated by independent farmers, who existed until the end of the 4th century. These properties had a significant role in the province's economy, because the owners supplied the urban settlements with agricultural products and paid taxes regularly. The villa at the site Livade kod ćuprije, according to the size and character of object was just a small property of a veteran or an independent farmer. The life period of villa confirms this hypothesis.

CONCLUSION

Considering the territory of Viminacium, the discovery of *villa rustica* on the site Livade kod ćuprije increases the knowledge of this area of interest in many ways, and contributes to the research of villas on the territory of Moesia. As it can be seen the duration of the villa is dated in the middle and second half of the 4th century, which coincides with the period of greatest prevalence of villas on our territory, but also with the situation in other provinces of the Empire. The villa is made of stone, brick and mortar, techniques commonly applied in building of others objects of the same period. Typologically, the villa has a rectangular basis with a central corridor or a vestibule. This type of villa was common on the territory of Pannonia in the 4th century, but similar villas can also be found on the territory of Moesia.

The villa at the site Livade kod ćuprije is not a residential villa of a big estate but rather of

45 Петровић 1966, 254, сл. 5.

46 Бујић, Петровић 1986, 33, сл. 11.

47 Јевтић 1996. сл.1.

48 Begović, Schrunck 2003, 99.

49 Vasić 1995, 329.

medium or small farm. In addition to the residential character of the villa, its rooms were places of economic activities which were characteristic for daily life in a rural household. The remains of villa on the territory south of the town, which was used from the 1st to the 3rd century as a necropolis, indicate that rural households were formed after the initial function of southern necropolis was finished. The previously mentioned remains of a rural object at the site Burdelj⁵⁰ located about 500 m southeast of the site Livade kod ćuprije, confirm this hypothesis. The owner of the property could have been a veteran or independent farmer who sold his services and products in the town.

translated by the author

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⁵⁰ Зотовић 1980, 97; Зотовић 1986, 51.

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KASNOANTIČKA VILA NA LOKALITETU „LIVADE KOD ČUPRIJE” – PRILOG PROUČAVANJU VILA RUSTIKA NA TERITORIJI VIMINACIJUMA

Tokom dugogodišnjeg istraživanja Viminacijuma, iako veoma značajne za istraživanje privrede jednog grada, vile rustike nisu dobile dovoljno naučne pažnje. Vile rustike predstavljaju model zemljoposeda i poljoprivredne proizvodnje karakterističan za period kasne Republike i za ceo period Carstva, odnosno agrikulturno gazdinstvo sa prostorijama za smeštaj vlasnika (*pars urbana*) koje su odvojene od proizvodnog dela vile (*pars rustice*) i u kome su odaje za proizvodnju, skladištenje, štale, mlinovi, radionice, kao i objekti za smeštaj robova i osoblja.

Viminacijum je najveće gradsko naselje u provinciji Gornjoj Meziji, nastalo u I veku na desnoj obali Mlave u blizini njenog ušća u Dunav. Nakon 86. godine Viminacijum je postao glavni grad provincije Gornje Mezije (*Moesia Superior*), a nakon Dioklecijanove reforme provincije Prve Mezije (*Moesia Prima*) sa stalnom vojnom posadom legije *VII Claudia*. Antički grad nije bio ograničen samo na naselje već je obuhvatao i širi prostor – *ager* ili *territorium*, koji se prostirao na teritoriju Stiga. Tokom dugogodišnjeg istraživanja Viminacijuma na toj teritoriji istraženi su ostaci više vila rustika, i to na lokalitetima Burdelj, Livade kod Čuprije, Na Kamenju, Nad Klepečkom, Rit, Rudine i Stig.

U radu je predstavljena kasnoantička *villa rustica* pronađena na lokalitetu Livade kod Čuprije koji se nalazi 650 m južno od Viminacijuma, u neposrednoj blizini lokaliteta Pećine. Vila je istražena 1983. godine prilikom zaštitnih istraživanja u krugu termoelektrane Kostolac B, međutim rezultati tih istraživanja do danas su ostali nepoznati naučnoj zajednici. Objekat kao i kasnoantički sloj na prostoru oko njega naslojavaju se na sloj iz starijeg perioda, tačnije ispod objekta istraženi su ostaci lončarske peći iz II-III veka.

Istraženi objekat je pravougaone osnove, sastoji od 8 prostorija i jednog većeg predvorja u centralnom delu. Prostorija I u jugozapadnom delu vile imala je proširenje u vidu polukružne apside i ova prostorija bi mogla biti prostorija za prijem ili za obroke (*triclinium*). Dimenzije istražene vile iznose 21 x 16,30 m. Temeljna stopa objekta zidana je u suhozidu od lomljenih komada opeke i lomljenog škrljca, visine do 20 cm. Nadzemni deo zida zidan je od pravilno ređanih većih komada kamena škrljca i opeke koji su vezani krečnim malterom, a ostaci zidova očuvani su maksimalno do 60 cm.

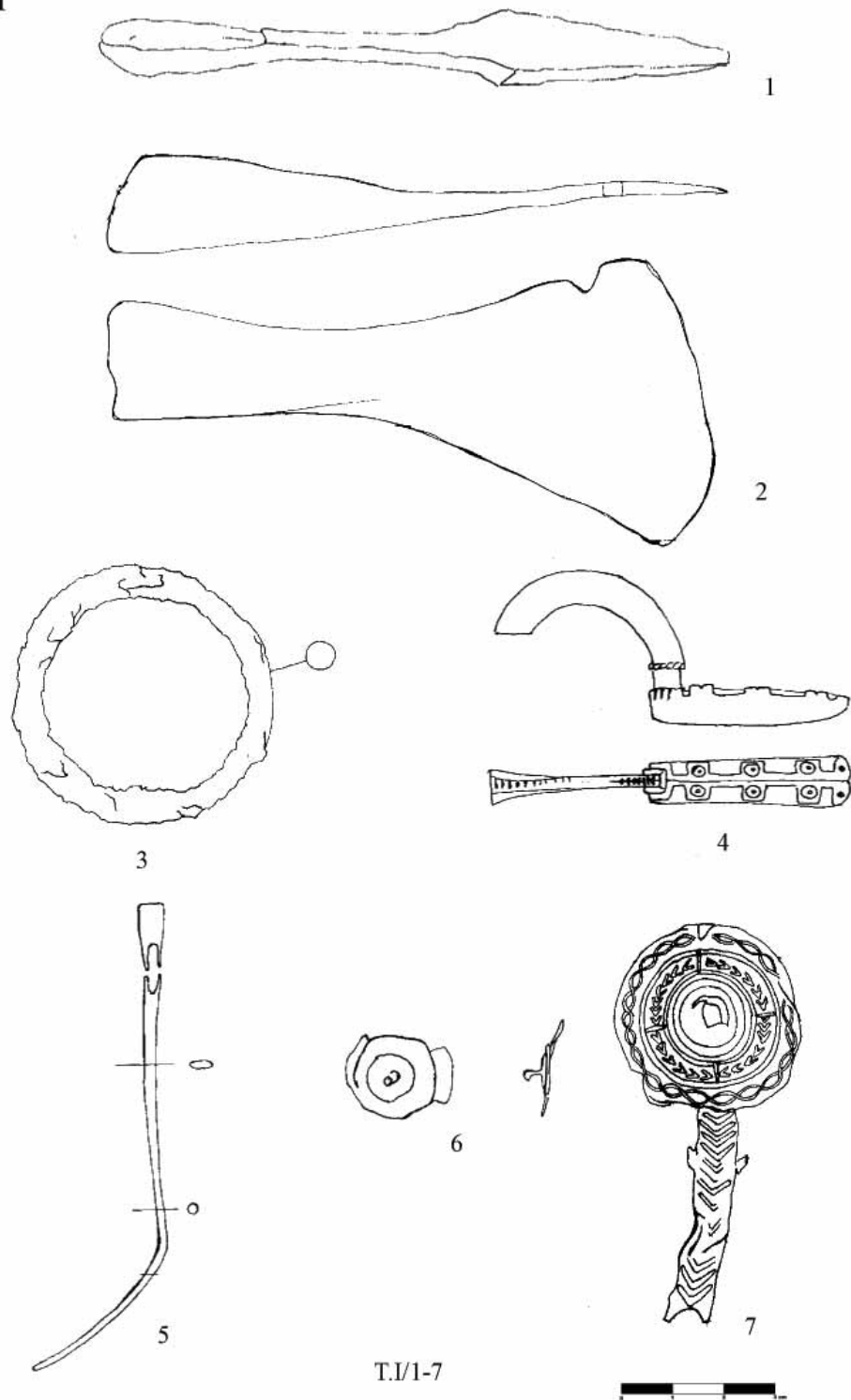
U kulturnom sloju koji odgovara periodu života vile otkriveno je više pokretnih nalaza: svrdlo, gvozdена sekira, gvozdена i bronzana alka, devet bronzanih novčića, bronzana krstasta fibula, bronzana šivaća igla, olovno ogledalo, kameni brus, fragment mermerne oplata zida, sekundarno upotrebljeni deo nadgrobnog spomenika uzidan u zid objekta, i polufabrikat od roga. Fragmenti keramike pronađeni u prostorijama vile pripadaju repertoaru IV veka. Pokretni nalazi pored predmeta svakodnevne upotrebe i delova odeće predstavljaju i predmete korišćene za zanatske delatnosti i poljoprivredne radove.

Na osnovu pomenutih nalaza pronađenih u prostorijama vile, objekat se može datovati u period sredine i druge polovine IV veka. Upravo periodu IV veka pripada i najveći broj istraženih vila na Viminacijumu, na lokalitetima Burdelj, Na Kamenju, Stig i Rudine. Vila na lokalitetu Livade kod ćuprije tipološki gledano pripada tipu vila pravougaone osnove sa centralnim koridorom karakterističnim za prostor Panonije, koji se sreće i na našoj teritoriji. Direktnе analogije nalazimo na lokalitetu Krivelj kod Bora.

Vila Livade kod ćuprije, prema veličini i karakteru objekta, može predstavljati manji posed nekog veterana ili slobodnog seljaka. Za period vladavine Valentinijana karakteristično je da je Imperator veteranima dodeljivao zemlju, a upravo se i vila sa lokaliteta Livade kod ćuprije vezuje za ovaj period.

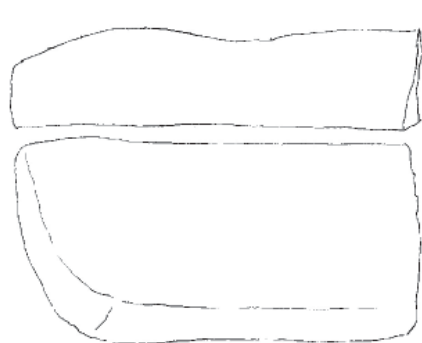
Ostaci vile rustike na teritoriji južno od grada, koja je tokom perioda od I do kraja III veka korišćena kao nekropola, govore da su nakon prestanka prvobitne funkcije, na teritoriji južnih nekropola formirana gazdinstva ruralnog karaktera. Ostaci ruralnog objekta na lokalitetu Burdelj nalaze se na udaljenosti od oko 500 m jugoistočno od lokaliteta Livade kod ćuprije što takođe ide u prilog ovoj tvrdnji.

T.I



T.I/1-7

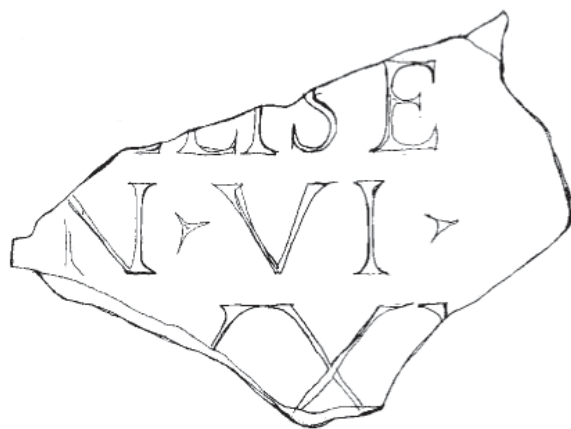
T.II



1



2



3



4

T.II/1-4

DOCUMENTA ARCHAEOBIOLOGIAE, DAOB 5, STAATSSAMLUNG FÜR ANTHROPOLOGIE UND PALÄOANATOMIE MÜNCHEN, GEGRÜNDET 2000, GISELA GRUPE UND JORIS PETERS (EDS.), SKELETAL SERIES AND THEIR SOCIO-ECONOMIC CONTEXT, VERLAG MARIE LIEDORF GMBH, ROHDEN/WESTF. 2007.

Živko Mikić

Skeletal series and their socio-economic context je naslov broja 5. Documenta Bioarchaeologiae (DOAB). U dva poglavlja svrstano je ukupno 10 priloga. Prvi, Anthropological skeletal series sadrži šest priloga, a drugi, Archaeozoological skeletal series, ima četiri priloga. Ukupan broj stranica je 294, ilustracija 142 i tabli 141.

Stichel Richard, The evolution of health in Europe from the Late Paleolithic era to the Present, je prilog u kom je ukratko predstavljen jedan značajan projekat. On je posvećen izučavanju zdravstvenog statusa ljudskih populacija navedenog perioda. U njemu su antropološki podaci upoređeni sa odgovarajućim iz arheologije, klimatologije, geografije i istorije. U tom smislu su date dve hipoteze: prva ističe zavisnost od prirodne sredine, klime i prirodnih resursa, a druga ulogu ljudske kreativnosti koji se manifestuje kroz institucije, kulturu i politiku. ponuđen je i email za saradnju (<http://global.sds.ohiostate.edu>), pri čemu je ukazano na razne mogućnosti.

Cunha Eugenia da i Westerlain Sifia, The Coimbra identified osteological collections, su prikazale zbirku Antropološkog muzeja Univerziteta u Kiombri/Kjombri. Upućuju na razne mogućnosti uporednog istraživanja na osnovu dokumentacija, koja prati, ili koja bi trebalo da prati ljudske skelete.

Staskiewitz Anja, The early medieval cemetery at Aschheim / Bajuwarenring - A merovingian population under the influence of pestilence, referiše o nekropoli iz perioda između 500. i 670. godine. Interesantno je, između ostalog pomenuti, u jednom dvojnog grobu laboratorijski konstatovan Yarsenia pestis.

McGlyn George i Zanesco Alexander, The skeletal series from Innsbruck city cemetery at Adolf Pichler Platz, govore o gradskom i bolničkom groblju od preko 400 skeleta i neko-

liko osarijuma, a koji se datuju u prvu polovinu 19. veka. To je vreme koje u tom delu odlikuje rat, socio-ekonomski problemi i politički konflikti. Našli su, između ostalog, tragove amputacija i trepanacija, koji svakako potiču od medicinskih tretmana (operacije i autopsije). Zaključuju da će dalja istraživanja upotpuniti dobijene rezultate.

Strott Nadja, Czermak Andrea i Grupe Gisela, Are biological correlations to social stratification depicted in skeletal finds? Investigation of early medieval separated burial grounds in Bavaria, postavljaju pitanje koliko se ishrana i medicinska nega socijalno privilegovanih razlikuje od običnog stanovništva. Za ispitivanje je uzet materijal ranog srednjeg veka Bavarske. Treba naglasiti da je ovom istraživanju bila osnova arheološka hipoteza.

Lipitch Anne i Grupe Gisela, Variability of the apposition of the acellular, extrinsic fibre cementum and its influence on the tooth cementum annulation technique in humans: The influence of physical demands and functional morphology, za šta je poslužilo 17 premolara donje vilice 13 srednjovekovnih skeleta (Unterirgling / Oberbayern). U kvantitativnom smislu identifikovani fenomen je imenovan kao „transition elevation“ odn. kao „Transitionserhebung“.

Treba dodati da su ova dva rada karakteristična zbog svojih laboratorijskih specifičnosti, tako da ih je praktično nemoguće detaljnije predstaviti na malom prostoru. Naime, zainteresovane kolege ih mogu pronaći u izvornom obliku, a ovaj prikaz bo trebao da bude samo jedan putokaz.

Drugi deo ovog broja Documenta Archaeobiologiae, kako je već istaknuto, posvećen je arheozoološkom materijalu. Prvi prilog, čiji je autor Benecke Norbert, The horse skeletons from Scythian royal grave mound at Aržan 2 (Tuva, W.

Siberia), govori o spektakularnom nalazu koji je potekao istraživanjem rusko-nemačke saradnje u periodu 2000-2002. godine. Hronološki, nalazi potiču iz 7. veka stare ere.

Dalje, Angela von der Driesch i Henriette Obermaier govore o kamiljim kostima prais-torijskog perioda sa obale Ujedinjenih Arapskih Emirata. Louis Chaix je dao prilog o domestifikaciji goveda u praistoriji Sudana, a Patrice Me-niel o ostacima životinja iz galo-romanske nekro-pole kod Vertaula u Francuskoj.

Sasvim kratko ali uputno prokomentari-sano, shodno karakteru osteološkog materijala, vidimo da su humani i arheozoološki prilozi raz-dvojeni u odvojena poglavlja, što je svakako i metodološki i sadržajno ispravno. S druge strane, posmatrano prema lokacijama sa kojih potiču osteološke serije, vidimo jednu široku saradnju Državne antropološke zbirke Bavarske iz Minhena, a što svakako treba i načim kolegama da posluži kao model i rada i saradnje.

DOCUMENTA ARCHAEOBIOLOGIAE (DOAB 6), Staatsammlung für Anthropologie und Paläoantonomie München, Gegründet 2000, Gisela Grupe und Joris Peters (Eds.), LIMPING TO-GETHER THE AGES, JOINT APLICATIONS AND BONE INFECTIONS; Verlag Marie Lie-dorf GmbH, Rohden/Westf.2008.

Kako nam pokazuje sam naslov, ovaj broj DOAB je posvećen zglobovima i koštanim infek-cijama. Ukupno 11 priloga je svrstano u dva dela: Patološka istraživanja ljudskih skeleta (str. 15-150) i Osteopatije na arheozoološkim skeletima (str. 151-207).

Ulrich-Bochsler Suzi, Cooper Christine i Stauh Lucas, Stress markers in three populations from medieval and postmedieval Bern/A compa-ri-son of pre-alpine and midland regions in Swit-zerland, pratili su tri stresna markera (Harisonove linije, hipoplaziju zuba i orbitalnu kribru), na ske-letnom materijalu iz kantona Bern. Tako su npr. utvrdili da su deca u svim obuhvaćenim grupama bili više izloženi ovim stresnim markerima nego odrasli.

Haebler Kristen, McGlyn George i Cordeau-Windenau Silvia, Living at the outer margin of society: Preliminary results of the morphological and archeometric investigations of a late medieval poorhouse cemetery from Regensburg/Germany,

prikazali su rezultate svojih analiza oko 400 skel-eta iz perioda 12. do 16. veka. Zaključili su da su povređeni i bolesni iz ove grupe verovatno bili medicinski zbrinjavani.

Grigat Andrea, The St. Pankratius cur-ryard in Altdorf/Dären (North-Rhine-Westpha-lia, Germany), Skeletal patogenesis from a 19th-20th century population, dala je rezultate svojih istraživanja oko 100 skeleta. Posebna pažnja je obraćena na degeneraciju zglobova, metaboličke smetnje, infekcije, stanje zuba i traume.

Jungklaus Betina, Paleodemographic and Paleopathological aspects of the comprehensively documented ndenburg, late medieval village population at Diepensee/Brandenburg, daje rezul-tate u celini iskopanoj skeletnoj seriji (najman-je 485 individua) iz perioda 13-14. veka. Važan zaključak je svakako niska smrtnost dece i visok prosečni životni vek, što svakako ukazuje na dobre životne uslove.

Rühli Frank i alt Kurt, Non-invasive exami-nation methoda of ancient bone and mummies, su istakli veliku tačnost novih metoda i elektronskih instrumenata, uz opasku da će se njihov značaj u daljim istraživanjima samo povećavati.

Grothe Anja i Jungklaus Betina, Archaeolo-gical and anthropological examinations at a mass grave from the 1636 battle at Wittstock-a preli-minary raport, su analizirale raspoložive skeletne ostatke, prvenstveno sa aspekta traumatologije.

Carlischi Nadine, Graw Matthiar i Grupe Gisela, Note on Masserer fractures in the forensic and pathological context, su iz Instituta za suds-ku medicinu Univerziteta u Minhenu izučavali 47 ljudskih femura i šest humerusa. Zatim su ti rezultati upoređeni sa srednjovekovnim skeletima Državne antropološke zbirke takođe iz Minhena. Preporučuju da se i kod fragmentovanih ljudskih kostiju vrši inspekcija preloma.

Drugi deo u ovom broju Documenta Ar-chaebio-logiae počinje prilogom Bone structure and function in draft cattle, čiji je autor Bartosie-witcz Laszlo. On je obradio ostatke skeleta gove-da sa srednjovekovnih lokaliteta u Mađarskoj, pri čemu su analizirani tragovi upotrebe u transportu i zemljoradnji.

O' Conor Terry, On the differential diagno-sis of arthropathy in bovids, iznosi patologiju zglo-bova goveda i koza. Uz osvrt na odgovarajuću

literaturu, data je šema za klasifikaciju i diferencijalne dijagnoze kod bolesti bovida.

Thomas Richard, *Diachronic trends in lower limb pathologies in later medieval and post-medieval cattle from Britain*, je prikazao rezultate analize 780 kostiju goveda. Trend promena frekvencije patoloških nalaza između 14. i 18. veka je diskutovan kroz praksu održavanja životinja, vreme klanja, veličinu tela i upotrebu u vuči (transportu).

Teegen Wolf-Rüdiger, *A crusted fowl from late antique Augusta Treverorum/Trier*, govori o nalazu kokošije lobanje sa defektom u jednoj kasnoantičkoj jami. Postavlja pitanje dali su ovakvi nalazi u kasnoj antici česti, odn. dali se radi o planskom uzgoju.

Ono što posle prikaza ovih članaka pada u oči, jeste da su svi oni na određen način podređeni naslovu ovog broja *Documanta Archaeobiologiae*. Međutim, vidimo da kolege iz Švajcarske, koji su obrađivali srednjovekovne i postsrednjovekovne skelete iz okoline Berna, kao marker stresa ubrajaju i *Cribru orbitaliju*. S druge strane, ranijih godina pojedini autori (npr. O.P. Hangen 1971; G. Grupe 1995) su ovu pojavu na lobanji čoveka tumačili na drugi način i nisu je vezivali za mišićni stres. Koristeći priliku, autor ovih radova želi da doda da bi posmatranje faktora stresa kod čoveka svakako trebalo pratiti na dva polja, i to kao mišićni stres i kao metabolički stres. Ne treba komentarisati da postoje i drugi faktori stresa, ali oni nisu u domenu istraživanja biofizičke antropologije.

GUIDELINES FOR SUBMITTING MANUSCRIPTS FOR THE PERIODICAL ARHEOLOGIJA I PRIRODNE NAUKE (ARCHAEOLOGY AND SCIENCE)

Editorial staff of the periodical *ARHEOLOGIJA I PRIRODNE NAUKE* decided to apply *Akta o uređivanju naučnih časopisa*¹ (Acta about editing scientific periodicals) proposed by the Ministry of Science and technological development of the Republic of Serbia. By applying these acts, complete editing of scientific periodicals is determined, quality of periodicals is promoted and their integration into the international system of exchanging academic information shall become more complete.

Papers submitted to the editorial staff of the periodical *ARHEOLOGIJA I PRIRODNE NAUKE* must be formed in a standard way. Each paper submitted has to contain: title; author's name; name of the institution (affiliation); abstract; key words; main text; resume; illustrations with captions; bibliography; contact address.

1. Titles need to be short and clear, describing content in the best possible way. Words used in titles should be appropriate for indexing and web-searching. If there are no such words withing titles, it is advised to add a subtitle. Titles are to be written in the fifth or sixth line, under the top margin, bold and with font size 14 (pts).

2. Author(s) should give their full name(s), including first name, surname and middle initial.

3. Autor(s) need to state official names and addresses of their employees, including names and addresses of employees which conducted

research that lead to the results published. With complex institutions, complete title is to be named (ex.: Belgrade University, Faculty of Philisophy, Archaeological Department, Belgrade).

4. Abstract, consisting of 100-250 words, describes shortly content of the paper. Within abstracts, it is advised to use terms convenient for indexing and web-searching. Abstracts should offer data about aims, methods, results and conclusions of the research. Abstracts should be bilingual (in Serbian, English or some other foreign language). Abstracts in foreign languages need to be adequatly lectured, i.e. posses correct grammar and spelling.

5. Key words need to be terms which describe paper's content in a best way, suitable for indexing and web-searching. They should be named according to a widely accepted international source (lists, indexes, dictionary, thesaurus), like list of key-words Web of Science. The number of key-words should not exceed ten words.

6. The lenght of papers should not exceed 32 pages, DIN A4, including footnotes and illustrations. The main text should be written in Times New Roman or Arial (12 pts), MS Office Word 97 or later, line-spacing 1,5 and with margins 2,54 cm. Main text should not contain illustrations. They are to be submitted as separate files.

7. Apart from Serbian, manuscripts can be submitted in one of worldwide languages (English, German, French). Names of translators, if any, should be stated. Papers submitted should have an abstract and a resume written in some

¹ Acta about editing scientific periodicals, proposed by the Ministry of Science and technological development of the Republic of Serbia, can be found at the following web-site: http://www.nauka.gov.rs/cir/images/stories/ves-ti/09-07-17/akt_o_uredjivanju-casopisa.pdf

other language. If a paper is submitted in a language other than Serbian, there should be an abstract and a resume written in Serbian language. Words, quotations and titles written in some other language should be written in their original form.

Footnotes can be incorporated within the main text. They should contain less important data or appropriate explanations. They are not to be replaced with quoted literature. (An appendix to these Instructions explains the way of quoting to be applied).

8. Abstracts should have the same content as resumes, only in an extended form, whose length is not exceeding 10% of the main text. It is very much desired to submit a resume in a structural form.

9. Illustrations (photographs, tables, drawings, graphs etc.) should be submitted in a proposed manner. Scanned illustrations should be submitted in a 600 dpi resolution, while photographs are to be submitted in a resolution of at least 300 dpi, in formats TIFF, PSD or JPG. Illustrations are to be submitted as separate files and should not be incorporated into the main text. Captions should be submitted bilingually (using the language in which the manuscript was written and in English or some other of the proposed languages).

10. Quoted literature should include bibliographic sources (articles, books etc.) and it should be submitted as a separate part of the manuscript, as a list of references. It is a part of every scientific article, with precisely named bibliographic references which were quoted. Bibliography should be written in a proposed manner, depending on standards precisely described in this instruction. Bibliography should be written using the language and alphabet in which it was originally published.

11. Bibliography's structural elements (author's name, title of work, source etc.) should be written according to standard forms of quoting. Editorial staff of the periodical *ARHEOLOGIJA I PRIRODNE NAUKE* accepted the recommendation of the Ministry of science and technological development and decided that authors should precisely follow quotation rules named below.

The following examples describe the most frequently quoted kinds of references:

I BOOKS (MONOGRAPHS)

1. Author's books

a. single author

within main text: (Popović 2006)

in bibliography:

Surname, name's initial. Year of publishing

Title of book (italic), Place: Editor.

Popović, I. 2006

Roma aeterna inter Savum et Danubium,

Works of Roman Art from the Petrović-Vasić Collection, Belgrade: Archaeological Institute.

- Series' name and number is also needed:

Mirković, M. 1968

Rimski gradovi na Dunavu u Gornjoj Mezi-ji, Dissertationes 6, Beograd: Arheološko društvo Jugoslavije.

Papazoglu, F. 1969

Srednjobalkanska plemena u predrimsko doba (Tribali, Autarijati, Dardanci, Skordisci i Mezi), Djela 30, Centar za balkanološka ispitivanja 1, Sarajevo: Akademija nauka i umjetnosti Bosne i Hercegovine.

b. two or three authors

Between the names of the first and the second author, or the second and the third author,

“and” should be written, no matter what the main language of the publication.

within main text: (Popović i Borić-Brešković 1994)

in bibliography:

Popović, I. i Borić-Brešković B. 1994

Ostava iz Bele Reke, Arheološke monografije 7, Beograd: Narodni muzej.

Ivanišević, V., Kazanski, M. and Mastyskova, A. 2006

Les necropoles de Viminacium a l'Époque des Grandes Migrations, Monographies 22, Paris: Association des Amis du Centre d'Histoire et Civilisation de Byzance.

c. four or more authors

Books written by four or more authors, within the main text and in Serbian cyrillic, only the first name is written and **i dr.** is added. Books printed in Latin alphabet, the abbreviation *et al.* is applied. The abbreviation *etc.* is used in cases when there are more than three editors or places of editing.

2. Author's books with added name of the editor

within main text: (Jeremić 2009: 40)

in bibliography:

Jeremić, G. 2009

Saldum, Roman and Early Byzantine Fortification, S. Perić (ed.), Cahiers des Portes de Fer, Monographies 6, Belgrade: Institute of Archaeology.

3. Edited books (instead of the author – editor, translator) - (ed., eds.), (trans.).

within main text: (Поповић 1994)

in bibliography:

Поповић, И. (ур.) 1994

Античко сребро у Србији, Београд: Народни музеј.

within main text: (Morris 2002)

in bibliography:

Morris, I. (ed.) 2002

Classical Greece-Ancient Histories and Modern Archaeologies, Cambridge: Cambridge University Press.

within main text: (Hurst and Owen 2005)

in bibliography:

Hurst, H. and Owen, S.(eds) 2005

Ancient Colonizations-Analogy, Similarity and Difference, London: Duckworth.

within main text: (Радојчић 1960)

in bibliography:

Радојчић, Н. (прев.) 1960

Законик цара Стефана Душана 1349. и 1354., Београд: Српска академија наука и уметности.

4. Way of quoting books without author's name

within main text: (Anon. 1985)

in bibliography:

Anon. 1985

Anonymi Peri strategias, The Anonymous Byzantine Treatise on Strategy, *Three Byzantine Military Treatise* (trans. G.T. Dennis), Washington DC.

5. Simultaneous quoting of several books of the same author

a. written in different alphabets

within main text: (Поповић 2002, Поповић 2006)

in bibliography:

Поповић, И. 2002

Накит са Јухора, остава или сакрални мезаурус, Археолошке монографије 14, Посебна издања 36, Београд: Народни музеј и Археолошки институт.

Поповић, И. 2006

Roma Aeterna inter Savum et Danubium, Works of Roman Art from the Petrović-Vasić Collection, Belgrade: Archaeological Institute.

b. written in the same year

within main text: (Dawkins 1996a, Dawkins 1996b)

in bibliography:

Dawkins, R. 1996a

Climbing Mount Improbale, London: Viking.

Dawkins, R. 1996b

River out of Eden, London: Pfoenix.

6. Quoting chapters in books (acta)

within main text: (Петровић 1997: 87-90)

in bibliography:

Петровић, Б. 1997

Накит, у: *Античка бронза Сингидунума*, С. Крунић (ур.), Београд: Музеј града, 85-117.

within main text: (Samson 1970: 44-68)

in bibliography:

Samson, C. 1970

Problems of information studies in history, in: *Humanities information research*, S. Stone, (ed.), Sheffield: CRUS, 44-68.

7. Translated books

in bibliography:

Vajron, DŽ. G. 2005 (1812)

Ћajld Harold, Z. Paunović (predgovor), N. Tučev (prevod), Београд: Zavod za udžbenike i nastavna sredstva.

8. Books and articles published in electronic form

within main text: (Fishman 2005: 11)

in bibliography:

Fishman, R. 2005

The rise and fall of suburbia, [e-book], Chester: Casle Press. Available through Anglia Ruskin University Library. <http://libweb.anglia.ac.uk>>[pristupljeno 5 juna 2005].

II PAPERS PUBLISHED IN PERIODICALS, CONGRESS ACTA AND SIMILAR

within main text: (Vasić 2008: 69, fig.3)

in bibliography:

Surname, name's initial. Year

Title, *Title of the acta (italic)*, Name's initial. Surname, (ed.), Place of editing: Editor, page numbers.

Vasić, M. 2006. Stibadium in Romuliana and Mediana. *Felix Romvliana 50 years of archaeological excavations*. M. Vasić (ed.). October, 27-29 2003, Zaječar, Serbia. Belgrade: Institut of Arhcaeology, Committee on Archaeology of Serbian Academy of Sciences and Arts, and Zaječar: National Museum, 69-75.

Series' data are also needed:

Петровић, П. 1997

Римљани на Тимоку, у: *Археологија источне Србије* (Научни скуп Археологија источне Србије, Београд-Доњи Милановац, децембар 1995), М. Лазих (ур.), Центар за археолошка истраживања 18, Београд: Филозофски факултет, 115-131.

III PERIODICALS

within main text: (Бајаловић-Хаци-Пешић, 2001: 108)

Surname, Name's initial. Year

Title, *Name of the periodical (italic)* number of the periodical: page number.

Бајаловић-Хаци-Пешић, М. 2001, Налази хабанске и постхабанске керамике у Србији, *Годишњак града Београда* 47-48 (2000-2001): 107-121.

- For periodicals with similar titles, behind the name of the periodical, place of publishing should be stated in brackets:

Анђелковић, Б. 1988

Праисторијски налази са локалитета Јелица-Градина, *Зборник радова Народног музеја* (Чачак) 18: 81–85.

Анђелковић, Б. 1994

Први резултати анализе мумије из Народног музеја у Београду, *Зборник Народног музеја* (Београд) 15-1: 153–159.

- Depending on the year of publishing *Старинар* is named in its full title:

years 1884-1895 *Старинар Српског археолошког друштва*

years 1906-1914 [novog reda] *Старинар* (н.р.)

years 1922-1942 [treća serija] *Старинар* (т.с.)

years 1950-2010 [nova serija] *Старинар* (н.с.)

- If there is a difference between the year of actual printing and the year of publishing, the second is stated in brackets:

Жеравица, З., и Жеравица, Л. 1979, Средњовековно насеље у Поповици код Неготина, *Старинар* (н.с.) XXVIII-XXIX, (1977-1978): 201–211.

IV PAPER IN PRINT / FORTHCOMING

- (in print), within papers written in English (in print)

- (forthcoming), within papers written in English (forthcoming).

within main text: (Јовановић, in print)

in bibliography:

Јовановић, А. (in print)

Бор и околина у античком периоду, у: *Бор и околина у праисторији, антици и средњем веку*, ур. М. Лазић, Бор и Београд: Музеј рударства и металургије и Филозофски факултет.

Papers overtaken from the internet, from electronic periodicals, are quoted in the same way as printed papers, only there is a full web-address written at the end with http://...

V DOCTORAL AND MASTER THESES

Instead of place of editing and editor, the full name of faculty/university is given, where the thesis was conducted.

within main text: (Ilić, 2005)

in bibliography:

Ilić, O. 2005

Ranohrišćanski pokretni nalazi na području dijeceze Dakije od IV do početka VII veka, Magistarska teza, Filozofski fakultet, Univerzitet u Beogradu.

within main text: (Patch, 1991)

in bibliography:

Patch, D. C. 1991

The Origin and Early Development of Urbanism in Ancient Egypt: A regional Study, Ph.D thesis, University of Pennsylvania.

VI ARTICLES FROM NEWSPAPERS

within main text: (Кашанин, 1929)

in bibliography:

Кашанин, М. 1929, Музеј савремене уметности, *Политика*, 23. јул, 7-8.

MAIN TEXT

Quoting bibliography in the main text according to the pattern (author's surname and year: page number, footnote, figure, table):

(Papazoglu 1969: 52, sl. 4/1, T. 18-4-6)

(Babović 1984: 68; Moritz 1978: 68, figs. 40-41; Tasić 1997: 84, sl. 21)

- Additional data within brackets can be written after a dash:

(Swoboda-Milanović 1958: 55, Taf. 18/24 – olovne pločice).

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- If the author, work and page number are the same as in the previous quotation, they are quoted as *loc. cit.* (lat. *loco citato*) – quoted place.

- Abbreviation *cf.* (lat. *confer*) - compare

- Abbreviation *e.g.* (lat. *exempli gratia*) - for example

- Abbreviation *i.e.* (lat. *id est*) - actually.

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