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The Last Period of the History of Olbia: the First Gothic Town

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Olbia's archaeological materials show that after the departure of the Roman garrison and local residents, the city was briefly abandoned (270s – early 280s AD). Then a new barbarian population appeared. It had clear signs of the Cherniakhiv culture, the ethnic basis of which were the Germanic Goths. Probably, at the beginning the only interest of barbarians was the seaport. The last prosperity of the city occurred in the Hunnic period, and it came to the end together with the Cherniakhiv culture in the first third of the 5th century. Olbia was reborn as a small fortified city, a craft and trade centre. The Goths restored the Roman Citadel, as well as several forts on the borders of the former Olbian state. Perhaps here was the military-administrative centre of one of the early kingdoms, which arose after the collapse of the Ostrogothic "power of Ermanaric", and was dependent on the Hun leaders.

KEY-WORDS: Olbia, Cherniakhiv culture, Hunnic period, Goths, greyware ceramics, import

INTRODUCTION

The last period of Olbia Pontica's history has long been considered by archaeologists and historians as a process of gradual extinction of ancient culture without sharp ethnic changes in the structure of the urban population. At the same time, they associated the decline and death of the ancient city with the invasion of Goths into the Northern Black Sea region (Kryzhytskyi *et al.*, 1999: 320–324, 337–341). According to modern researchers, this Germanic people, who came from the territory of modern Poland, was the main creator of the Cherniakhiv culture (Magomedov 2001). In the second third of the 3rd – early 5th centuries, this archaeological culture occupied large areas of the forest-steppe and steppe zone of what is now Ukraine, Moldova, part of Romania and some regions of the Russian Federation. In addition to the Goths, it united groups of people from other Germanic tribes and from the local population (Alans, Dacians, Slavs).

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The first sites with materials of the Cherniakhiv culture near Olbia were found in 1947–1948 (Slavin 1952a: 55–57), and then dozens of Cherniakhiv sites were discovered in the Lower Buh region (Magomedov 1987a; Kryzhytskyi et al., 1990: 77–97; Grebennikov 2016; Fig. 1). Some burial grounds and settlements have been excavated (Magomedov 1979; 1991; 2004; Grebennikov et al., 1982). Cherniakhiv materials were also constantly found during excavations of the later layers of Olbia, but they rarely attracted attention. Although back in 1952, the authoritative explorer of the city L. M. Slavin associated the finds of Cherniakhiv ceramics in the Olbia Citadel with the presence of a "northern population" (Slavin 1952b: 40). Later, finds of brooches and combs of obviously Cherniakhiv types from the city and the necropolis were published (and republished from the excavations of B. V. Farmakovskiy in 1901-1903; see below). The finds of characteristic three-handled vases in the Olbia Citadel, unknown among ancient Roman pottery, confirmed the presence of the Cherniakhiv population (Magomedov 1985; 2007). The long-term leader of the Olbia expedition, S. D. Kryzhytskyi, presumably associated with this culture the final stage of life in the city, identified in the upper layers of the Citadel and the Lower Town (Kryzhytskyi 1985: 167-168, 178). However, some researchers believed that the nature of the material culture of Olbia remained that of Roman antiquity to the end, and considered greyware ceramics of the Cherniakhiv type as a product of local tradition (Gudkova and Krapivina 1988; 1990; Krapivina 1993: 155-156). This position is partly explained by the fact that throughout the history of the ancient city, local potters had produced grey ceramics too, along with more common oxidised wares. Fragments of such vessels from the early Roman period had a certain resemblance to fragments of Cherniakhiv tableware (grey colour, polished surface), and both of them lay in the upper, often mixed layers of Olbia and its environs. That made the false impression that both groups of pottery were synchronous.

In 2003, we studied the materials from eight hillforts that were part of the defence system of Olbia during the Roman period (Schultze *et al.*, 2006; 2009). The results of the study of closed deposits showed that the forts had a cultural layer of the 1st–3rd centuries AD with ceramics of the Greco-Roman types. Six of these strongholds also had an upper layer (second half of the 4th – early 5th century), which contained ceramics of the Cherniakhiv types and was left exclusively by the bearers of this culture (fortifications at Kozyrka 1, Zolotyi Mys, Petukhivka 2, Stanislav 1, Stara Bohdanivka 1, Mys; Fig. 1). Later it turned out that deposits with the same finds were in Olbia. Important results were obtained in the study of the chemical composition of pottery samples from these sites, supplemented with samples from the Olbian Citadel (Schultze *et al.*, 2021). It has been established that for the vast majority of Greco-Roman types of vessels from these sites they used the clay with a high content of limestone, while the vessels of Cherniakhiv types were made of clay without noticeable limestone impurities. Consequently, both ceramic complexes are based on different technological traditions and belong to different periods of Olbia's history.

In the 4th century, the inhabited area of the city was greatly reduced, compared to the Hellenistic and Early Roman periods. In the Upper Town of Olbia, it occupied only

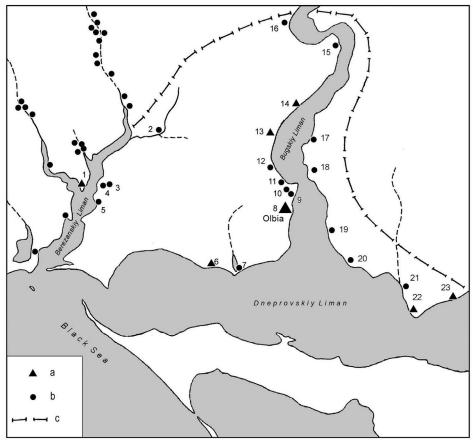


Fig. 1. Sites of Cherniakhiv culture dated to the late 3th–4th centuries on the Lower Buh (a – forts, b – rural settlements, c – border of the Olbian state until the middle of 3rd century).
1 – Mys; 2 – Kamianka-Anchekrak; 3 and 4 – Izhetske 2 and 3; 5 – Kaborha 4; 6 – Petukhivka 2;
7 – Adzhiholska Kosa 2; 8 – Olbia; 9 and 10 – Voloska Kosa 11 and 9; 11 – Chertovate 1; 12 – Kateline 2; 13 – Kozyrka 1; 14 – Stara Bohdanivka 1; 15 – Mala Korenikha 1; 16 – Velika Korenikha 3; 17 – Halitsinivka; 18 – Lishoz 1; 19 – Khabliv khutir; 20 – Skelka 2; 21 – Oleksandrivka (Aleksandrovka) 1; 22 – Stanislav 1; 23 – Zolotyi Mys. After: Schultze et al., 2006: abb. 2.

the Roman Citadel (originally built in the 2nd century AD), and in the Lower Town – the part that adjoined the port (Fig. 2). In the Citadel, large-scale excavations of layers of the Roman period were carried out in Trenches in sector L (by F. M. Shtitelman, 1951–1953; R. I. Vetshtein, 1964–1971) and Trench R-25 (by V. V. Krapivina and A. V. Buiskykh, 1982–2021). Since 2016, excavations in the new area, Trench R-23 have been carried out by the Ukrainian-Polish expedition led by Alfred Twardecki and Alla V. Buiskykh. In the Lower Town, the latest

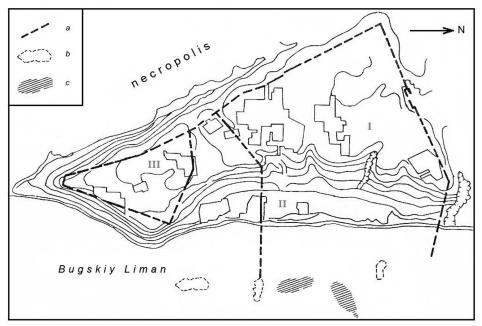


Fig. 2. Olbia plan. a – defensive walls; b – remains of stone structures in the flooded part; c – accumulations of amphoras in the flooded part. I – Upper Town; II – Lower Town; III – Citadel. After: Krapivina 1993: fig. 3, with changes by the author.

materials were found in the Trenches of sector NG (excavated by L. M. Slavin, 1935–1936), and in sector NGC (excavated by S. D. Kryzhytskyi, 1963–1966) and in the flooded part of the city (investigated by S. D. Kryzhytskyi, 1971–1977).

Most of the finds of the Cherniakhiv period came from the Citadel. In the Lower Town, they are represented mainly by amphorae and *pithoi*. The exception is Burial no. 181 with clay vessels and glassware (Leypunskaya 2006).

Cherniakhiv vessels make up only part of the finds from the Citadel. The majority of greyware pottery is represented by items from the 1st to the first half of the 3rd century AD (Fig. 3). This tableware has a traditional set of forms, mainly characterised by grey and red vessels of the early periods of Olbia's history. In the vast majority these are hemispherical bowls with rim turned inward, also various jugs and other shapes. The surface of all these products is usually polished and sometimes decorated with polished ornaments. Cookware is not represented among Greco-Roman grey ceramics (pots are red or brown).

Cherniakhiv greyware ceramics from Olbia and the neighbouring fortresses is completely different, and practically identical to the finds at hundreds of sites of this culture

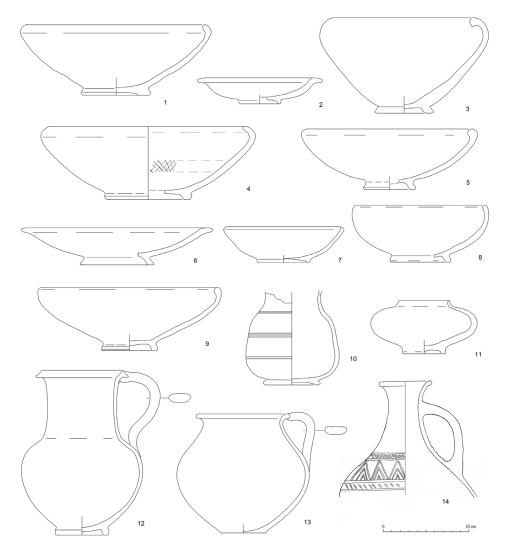


Fig. 3. Greyware tableware of the 1st - mid 3rd centuries from Olbia, R-25 section.

of the 3rd–4th centuries. Bowls, which are the most common form of tableware, usually have a "biconical" profile (Fig. 4). Three-handled vases are a characteristic form of Cherniakhiv crockery, which has its roots in the Przeworsk culture. The five specimens known to us from Olbia (Fig. 5:1, 2, 4, 6) belong to the "Olbian" type (Magomedov 2001: 49). Others also were

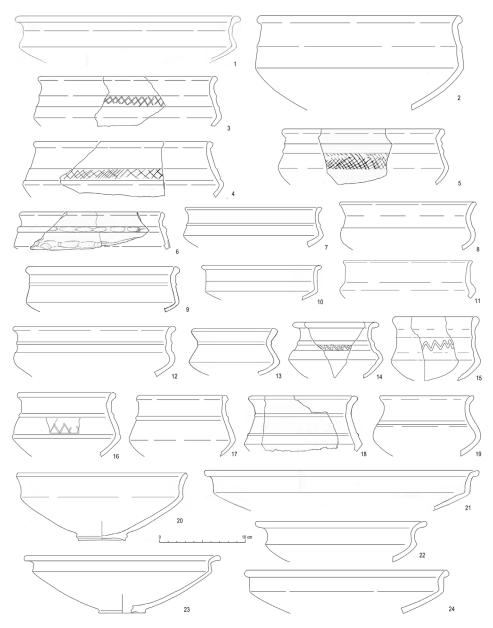


Fig. 4. Table bowls of the Cherniakhiv culture from Olbia, R-25 section.

found in sites in the southern regions of the Cherniakhiv culture, namely: in the Nikolaev region – Kamianka-Anchekrak, Koblevo and Luhove (Lugovoe; four specimens); in the Odesa region – Nestoita; in Moldova – Lazo (Symonovich 1979: fig. 10:9; Kozlov 1989: fig. 3; Magomedov 1991: fig. 10:1; Levinskiy 1999: fig. 35:5; Magomedov and Gudim-Levkovich 2003: fig. 8:1–4). The dated complexes belong to the second half of the 4th – early 5th centuries. One of the Olbian vases is decorated with a frieze depicting combs (Fig. 5:1). Similar drawings are known to us on eight vessels of the Cherniakhiv culture, including four items from the Northern Black Sea region (Magomedov 2022: 285, fig. 2).

Two jugs (probably also the lower part of the third) with oblique flutes (Fig. 5:7, 9, 10) belong to type 13a, the "Olbian" variety (Magomedov 2001: 52). A similar specimen was found whole at the Danilova Balka burial ground in the middle reaches of the Southern Buh River (Fig. 5:11). Fragmented specimens came from the Kaborha (Kaborga) IV settlement and the Kamianka-Anchekrak cemetery near Olbia, as well as from the Luhove settlement (Symonovich 1964: fig. 23:10; Magomedov 1979: pl. I:29; 2004: fig. 18:5; Magomedov and Gudim-Levkovich 2003: 37). In addition to these jugs, many vessels were also decorated with relief ornaments in the form of cuts or flutes (Figs 4:6; 5:1, 2, 6), which is characteristic of ceramics of the late stage of the Cherniakhiv culture (Schultze and Strotsen 2008). Grey kitchen pots and bowls are typical of this culture, as well as *pithoi* – large vessels for storing food (Fig. 6). The ceramic material from the cultural layer is represented mainly by fragments. A set of whole utensils (dining bowl, jug and two cups, three kitchen pots, also a glass cup) was found in the Cherniakhiv Burial 181 in the Lower Town (Fig. 7).

In addition to ceramics, there were combs and fibulae of the Cherniakhiv culture found in Olbia. The combs are made of deer antler and have a three-layer structure. Four specimens of Thomas types I (Fig. 8:1) and III (Fig. 8:2) came from excavations of the early 20th century, mainly from the necropolis, and they were dated to the 4th century (Thomas 1960; Sorokina 1976: 203, fig. 3; Peters 1986: 67, pl. XIII:13–15).

Cherniakhiv fibulae, known to us from the excavations of Olbia before 1938, were described in the monograph by A. K. Ambroz (1966: 64, 66, 73). Early Cherniakhiv brooches of the Almgren VII group (second third of the 3rd – early 4th centuries) from the Upper Town and the necropolis (Figs 8:3, 4) were left by the first Gothic inhabitants of Olbia. Two specimens from the Lower Town are dated to the second half of the 4th century (Fig. 8:5) and to the end of the 4th – beginning of the 5th centuries (Fig. 8:6). Among the unpublished specimens from the excavations of the Citadel in 1951–1952, there are two fibulae which belong, according to description, to the Cherniakhiv types of "crossbow" and "two-plate" fibulae (Shtitelman 1952).

The Cherniakhiv layers are dated by imported items. These are amphorae, red slipware, and glassware from the second half of the 3rd – early 5th centuries. At least, such items are absent in the closed complexes of the previous period before the middle of the 3rd century.

The range of imported ceramics of the late Roman period, like other finds of this time in Olbia, basically corresponds to the finds at the Cherniakhiv sites of the Northern Black

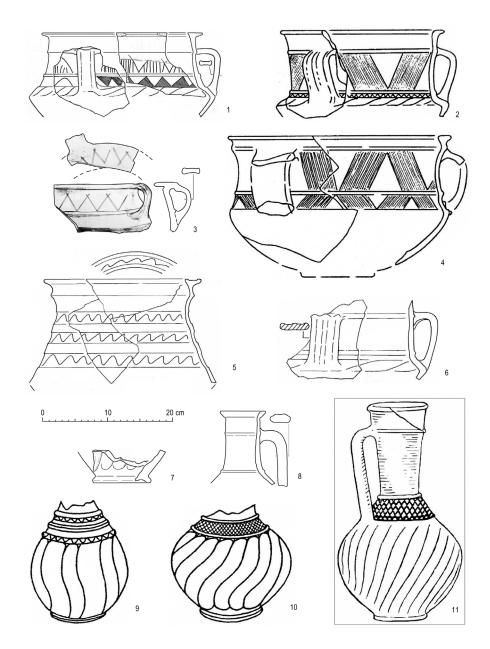


Fig. 5. Tableware of the Cherniakhiv culture from Olbia, sectors L (1, 2, 4–6) and R-25 (3, 7–10); 11 – jug from the Cherniakhiv cemetery at Danilova Balka.

1, 2, 4–6 – after: Magomedov 2020: fig. 2:1–5; 9, 10 – after: Gudkova and Krapivina 1988: fig. 3:13, 14; 11 – after: Symonovich 1964: fig. 23:10.

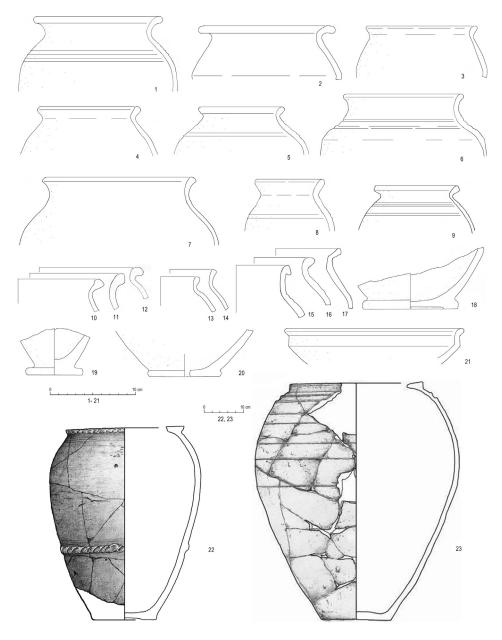


Fig. 6. Kitchen vessels of the Cherniakhiv culture from Olbia, sector R-25 (1–21); pithos from sector R-23 (22, 23). 22 – after: Twardecki and Buiskykh 2021: II. 6:A; 23 – after: Buiskykh *et al.*, 2020: fig. 2:2.

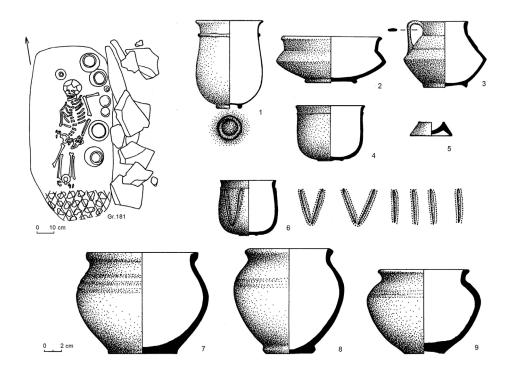


Fig. 7. Cherniakhiv period child burial Nr. 181 from the Lower Town of Olbia. 1 – glass cup; 2–4, 6 – table ceramics; 5 – bottom of a red clay vessel; 7–9 – kitchen ceramics. After: Leypunskaya 2006: figs 1, 2.

Sea region.¹ Most of the fragments (Fig. 9:1) belong to red-clay amphorae from Sinope, type C Snp I–1 (Zeest 100, Delakeu) from the second half of the 4th to the first half of the 5th centuries (Magomedov 2011). They are present in the Citadel, in the Lower Town and in the flooded area of the port (Leypunskaya 1984: 76; 1988: 79; Krapivina 1993: 98, type 29; 2014: fig. 214:11–14). Fragments of light clay amphorae of Shelov E type (Zeest 104) are quite common (Leypunskaya 1988: 79; Krapivina 2014: fig. 214:5, 8–10). They were produced in Heraclea at the end of the 4th – the middle of the 5th century (Magomedov 2001: 62). Interestingly, fragments of Shelov F type amphorae are rare in Olbia (Krapivina 2014: fig. 214:6, 7), while such fragments and whole specimens of that type are known practically throughout the entire territory of the Cherniakhiv culture. Different subtypes

¹ I am grateful to Dr Serhii Didenko for advice on imported ceramics from Olbia.

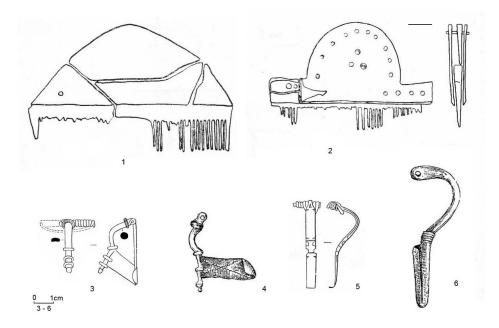


Fig. 8. Combs (1, 2) and fibulae (3–6) of Cherniakhiv culture types from the city and necropolis of Olbia. 1, 2 – after: Sorokina 1976: fig. 3; 3, 5 – after: Ambroz 1966: tab. 11:13; 12:15; 4, 6 – after: Furmanska 1953: tab. IV: 8; V:7.

of these amphorae are dated generally to the 320s–370s (Didenko 2014: 46). Their small number in Olbia is an indicator of the low activity of the Cherniakhiv population in the city during most of the mentioned period, probably, except for its last segment.

Other types are quite rare both in Olbia and in Cherniakhiv settlements. This is a group of North Pontic amphorae with grooved handles of Zeest type 72–73 (they are also type Böttger III.1, "Myrmekiam", type "Charax, burial 33"). The specimen from the Citadel (Krapivina 2014: fig. 214:1) belongs to type 3 according to Serhii Didenko and is dated mainly to the years c. 320–360 (Didenko 2018: 7). Fragments of amphorae type LRA 1 were also found in the Citadel (Fig. 9:2). They were produced in the northeastern Mediterranean in the 4th – 6th centuries (Riley 1979: 212–215, fig. 91).

Among the red slip ware from the excavations of the Citadel, there is a predomination of vessels of the PRS group (Pontic Red Slip Ware), according to Krzysztof Domżalski. The place of their production is still unknown, and the flourishing of production falls into the period from the end of the 4th to the first half of the 5th century (Krapivina and Domżalski 2008: 78). The most numerous are fragments of dishes of PRS type (Fig. 9:3–6) of form 1A (type 62B according to Hayes 1972), dating from the middle to the end of the 4th century (Krapivina and Domżalski

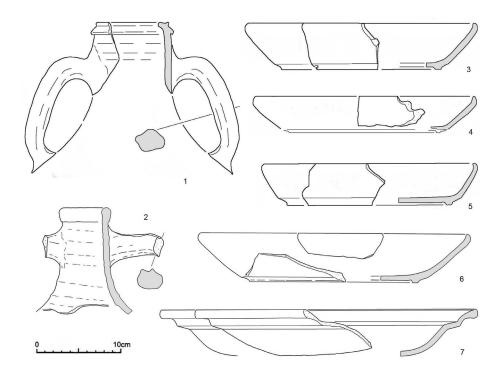


Fig. 9. Imported vessels from Olbia, section L: amphorae of types Zeest 100 (1) and LRA 1 (2), red slip vessels of types PRS form 1A (3–6) and ARS form Hayes 67 (7). After: Magomedov 2020: fig. 2:17–23.

2008: 79, fig. 1:1, 2; Didenko 2009). The same form is the dominant type on the Cherniakhiv sites of the Northern Black Sea region in the complexes of the middle of the 4th – early 5th centuries (Magomedov and Didenko 2009: 327–328; 2012: 175). There are also fragments of North African vessels of ARS (African Red Slip Ware) type, form Hayes 67, which were produced on the territory of modern Tunisia in the second half of the 4th – third quarter of the 5th century (Fig. 9:7; Hayes 1972: 112–116, fig. 19; Krapivina and Domżalski 2008: 79, fig. 2:6, 7).

Information about the finds of Late Antique glass vessels in Olbia was collected by N. P. Sorokina, who found analogies for many types of them on the sites of the Cherniakhiv culture. The fragment of bowl decorated with vertical ribs ("Bodenrippenschale") belongs to the period of the late 3rd – early 4th century (Rau 1972: 119–123; Sorokina 1976: fig. 2:1). Cups with polished ovals were especially popular among the Cherniakhiv population. The lower parts of two such cups, with characteristic features of the period from the last quarter of the 4th to

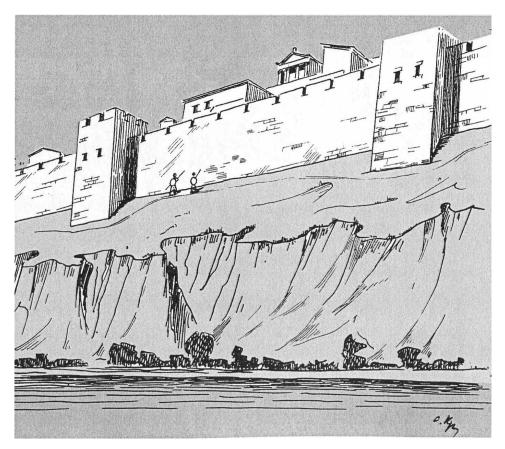


Fig. 10. The southeastern line of fortifications of Olbia's Citadel (reconstruction by S. D. Kryzhytskyi). After: Kryzhytskyi 1985: fig. 81.

the beginning of the 5th century, were found in the Citadel (Sorokina 1976: fig. 2:2, 3). Most of the fragments, decorated with trailed threads and drops of blue glass, are dated to the same period (Sorokina 1976: figs 1:1–5; 4: 1–3). A whole glass vessel, decorated with soldered thread under the rim, was found in the Cherniakhiv Burial 181 mentioned above (Fig. 7:1). Similar glass from the Cherniakhiv cemetery of Dancheny was assigned to the Eggers 239 type and dated to the second half of the 4th – beginning of the 5th centuries (Shchukin and Shcherbakova 1986: 192, pl. XLV:20). Such glass vessels with trailed thread decoration and without it are often found on Crimean sites in assemblages mainly of the middle – second half of the 4th century (Strzheletskiy *et al.*, 2005: 122). There is a widespread opinion about the production of such vessels in Tauric Chersonese.

Archaeological material shows that Olbia, in the final stage of its existence, turned into a barbarian settlement, and it should be considered a site of the Cherniakhiv culture. The absence of finds of coins from the 270s – early 280s up to the time of the reign of Diocletian (284–305) indicates a short period of desolation of the city after the departure of the Roman garrison and local residents (Karyshkovskiy 1968: 178; Kryzhytskyi *et al.*, 1999: 325). A new population, mostly Gothic, appeared soon. Judging by the finds of brooches of Almgren VII type of the second third of the 3rd – early 4th centuries (Fig. 2:3, 4), this happened at the turn of the 3rd and 4th centuries. The appearance of the earliest Cherniakhiv cemetery Kaborha IV on the Olbian periphery dates back to the same time. However, the paucity of finds of type Shelov F amphorae in Olbia (of which there are quite a few in the surrounding settlements) suggests that until the 370s there were few inhabitants in the city, at least in the territory of the Citadel. Probably, at that time the barbarians were primarily interested in the port. If amphorae and other imported goods came from the places of production to the Olbia's port, then almost all of them were soon transported in transit to the near and far Cherniakhiv settlements.

The last rise of the city took place in the Hunnic period and ended together with the Cherniakhiv culture in the first third of the 5th century. Even before the invasion of the Huns (375), the movements of nomads intensified in the steppe. The turbulent situation forced the military-political elite of one of the Gothic associations to restore the Roman Citadel (Fig. 10). After a hundred-year break, Olbia was reborn as a small fortified city, a craft and trade centre inhabited by barbarian Goths. Quite noticeable building activity of that time was registered in the Citadel and in the Lower Town, including its flooded part (Leypunskaya 1988: 80; Krapivina 1993: 41–42). Traces of handicraft production were found in the Citadel: four metallurgical and blacksmith workshops and a pottery kiln. The residents used imported goods. Amphorae, red slip ware and glassware of the Cherniakhiv horizon are dated in total from the second half of the 4th to the beginning of the 5th century.

The revival of the Citadel was accompanied by the restoration of the old defensive system on the borders of the former Olbian state (forts at Kozyrka, Petukhivka, Stanislav and others; Fig. 1). Additionally, new fortresses were built at key points of ancient steppe ways, on rocky river headlands. Fort Horodok was located 80 km upstream of the Southern Buh River from Olbia, fort Oleksandrivka (Aleksandrovka) – 70 km east of the mouth of the Buh River, near the confluence of the Ingulets River with the Dnipro (Magomedov 1987b; 2013). Excavations showed that the Cherniakhiv culture communities there were well acquainted with the practice of fortification. Fort Oleksandrivka (dimensions 190 x 190 m) was surrounded by stone walls with towers (one had a diameter of 11 m and three of 5 m each), there were a moat with a rampart, and scarps carved into limestone rock. The inner space was densely built up with longhouses (their traces were visible in the Google satellite photo). The finds included Cherniakhiv ceramics, amphorae fragments (mainly of Zeest 100 type, also of Charax 33/Zeest 72, Shelov F and E types), some red slip ceramics, an iron shield handle, and so on. The site can be dated to the last third of the 4th – the beginning of the 5th centuries. This example is evidence that the new administration of Olbia was able to rebuild the Roman defences of the Citadel and of surrounding forts.

Dr Michel Kazanskiy has suggested that after the collapse of the Ostrogothic "power of Ermanaric" (375–376), two early state formations (kingdoms) arose on the territory of the Cherniakhiv culture, which were dependent on the Hun leaders. One was located in the forest-steppe zone of Ukraine, the second, ruled by Gesimund, an ally of the Huns, was located in the steppe zone, near the coast of the Black Sea and the Lower Dnipro (Kazanskiy 1997: 182; Kazanskiy and Mastykova 2016: 99). In our opinion, the dense concentration of fortified points on the Lower Buh indicates with high probability the existence of the core of this kingdom here. The favourable location of Olbia, with port and citadel, suggests the stationing of a military-administrative centre of royal power in it.

The final period of the history of this city and its surroundings ended together with the Cherniakhiv culture. Probably, the last groups of Goths left the lands of Eastern Europe together with the Huns shortly after 433, when their leader Attila moved his headquarters from the Northern Black Sea region to the Middle Danube (Zasetskaya 1994: 146). Later on, the descendants of the temporary inhabitants of Olbia had to share the fate of their fellow tribesmen, who went further west and founded the Ostrogothic kingdom in Italy.

REFERENCES

- Ambroz, A. K. 1966. Fibuly yuga evropeyskoy chasti SSSR. Arkheologiya SSSR. Svod arkheologicheskikh istochnikov D1–30.
- Buiskykh, A., Twardecki, A. and Novichenkova, M. 2020. Tsytadel rimskoho chasu v Olvii: rezultaty ukrainsko-polskoho proektu. In Y. V. Boltrik (ed.), *Arkheolohichni doslidzhennia v Ukraini 2018*, 124–128. Kyiv.
- Didenko, S. V. 2009. Sosudy gruppy Pontic Red Slip Ware v chernyakhovskoy kul'ture. In K. Myzgin (ed.), Ostrogothica. Arkheologiya Tsentralnoy i Vostochnoy Evropy pozdnerimskogo vremeni i Epokhi Velikogo pereseleniya narodov, 64–71. Kharkiv.
- Didenko, S. V. 2014. Khronologiya svetloglinyanykh uzkogorlykh amfor tipov Shelov D i Shelov F (po materialam pogrebal'nykh kompleksov). *Oium* 4: 34–48.
- Didenko, S. V. 2018. Antychnyi keramichnyi import u Cherniahivskii Kulturi na terytorii Ukrainy. Unpublished PhD thesis, Institute of Archaeology of National Academy of Sciences of Ukraine. https://shron1.chtyvo.org.ua/Didenko_Serhii/Antychnyi_keramichnyi_import_u_Cherniakhivskii_ kulturi_na_terytorii_Ukrainy.pdf. Last access: 27.10.2024.
- Furmanska, A. I. 1953. Fibuly z rozkopok Olvii. Arkheologiya VIII: 76–94.
- Grebennikov, V. B. 2016. Pamyatniki chernyakhovskoy kultury Nikolaevskoy oblasti (arkheologicheskaya karta). Kyiv.
- Grebennikov, Y. S., Grebennikov, V. B. and Magomedov, B. V. 1982. Chernyakhovskie mogil'niki zapadnogo poberezhya Bugskogo limana. In A. V. Gudkova (ed.), *Pamyatniki rimskogo i srednevekovogo vremeni v Severo-Zapadnom Prichernomor'e*, 136–149. Kyiv.
- Gudkova, A. V. and Krapivina, V. V. 1988. Seroglinyanaya goncharnaya keramika Ol'vii pervykh vekov nashey ery. In V. A. Anokhin (ed.), Antichnye drevnosti Severnogo Prichernomor'ya, 82–103. Kyiv.
- Gudkova, A. V. and Krapivina, V. V. 1990. Seroglinyanaya keramika Tiry, Ol'vii i pamyatnikov chernyakhovskoy kul'tury. Preprint. Kyiv.

Hayes, J. W. 1972. Late Roman Pottery. London.

Karyshkovskiy, P. O. 1968. Iz istorii pozdney Ol'vii. Vestnik drevney istorii 1: 168–179.

- Kazanskiy, M. 1997. Ostrogotskie korolevstva v gunnskuyu epokhu: rasskaz Iordana i arkheologicheskie dannye. In M. Y. Vakhtina and Y. A. Vinogradov (eds), *Stratum + Peterburgskiy Arkheologicheskiy Vestnik*, 181–193. Saint Petersburg–Kishinev.
- Kazanskiy, M. and Mastykova, A. 2016. "Princely" finds and power centers in Eastern European Barbaricum in the Hunnic time. In H. Geisler (ed.), Wandel durch Migration? 26. Internationales Symposium "Grundprobleme der frühgeschichlichen im mittleren Donauraum", 85–103. Buchenbach. Arbeiten zur Archäologie Süddeutschlands 29.
- Kozlov, V. I. 1989. Okhrannye raskopki na chernyakhovskom mogilnike v s. Nestoita Odesskoy oblasti. In T. L. Samoylova (ed.), Arkheologicheskie pamyatniki stepey Podnestrovya i Podunavya, 88–92. Kyiv.
- Krapivina, V. V. 1993. Ol'viya. Material'naya kul'tura I-IV vv. n. e. Kyiv.
- Krapivina, V. V. 2014. Olviya Pontiiska. Hreko-rymskyi ta piznoantychnyi periody. Kyiv.
- Krapivina, V. V. and Domżalski, K. 2008. Pozdneantichnaya Ol'viya v svete nakhodok krasnolakovoy keramiki. In V. Y. Zuev (ed.), Bospor i Severnoye Prichernomor'e v antichnuyu epokhu. Materialy yubileynogo mezhdunarodnogo kruglogo stola, posvyashchennogo 10-letiyu konferentsii «Bosporskiy fenomen», 73–81. Saint Petersburg.
- Kryzhytskyi, S. D. 1985. Ol'viya. Istoriograficheskoe issledovanie arkhitekturno-stroitelnykh kompleksov. Kyiv.
- Kryzhytskyi, S. D., Buiskykh, S. B. and Otreshko, V. M. 1990. Antichnye poseleniya Nizhnego Pobuzhya (arkheologicheskaya karta). Kyiv.
- Kryzhytskyi, S. D., Rusyaeva, A. S., Krapivina, V. V., Leypunskaya, N. A., Skrzhinskaya, M. V. and Anokhin, V. A. 1999. Ol'viya. Antichnoe gosudarstvo v Severnom Prichernomor'e. Kyiv.
- Leypunskaya, N. A. 1984. Keramika iz zatoplennoy chasti Ol'vii. In S. D. Kryzhytskyi (ed.), Antichnaya kul'tura Severnogo Prichernomorya, 65–87. Kyiv.
- Leypunskaya, N. A. 1988. Predmeste pervykh vekov nashey ery v Nizhnem gorode Ol'vii. In V. A. Anokhin (ed.), *Antichnye drevnosti Severnogo Prichernomor'ya*, 71–82. Kyiv.
- Leypunskaya, N. A. 2006. Detskoe pogrebenie III–IV vv. iz Ol'vii. In D. V. Zhuravlev (ed.), Severnoe Prichernomor'e v epokhu antichnosti i srednevekovya. Pamyati N. P. Sorokinoy, 183–188. Moskva. Trudy GIM.
- Levinskiy, A. N. 1999. Lazo mogil'nik finalnoy fazy chernyakhovskoy kul'tury v Moldove. *Stratum plus* 4: 121–166.
- Magomedov, B. V. 1979. Kaborga IV (raskopki 1973–1974 gg.). In E. A. Symonovich (ed.), *Mogil'niki chernyakhovskoy kul'tury*, 24–62. Moskva.
- Magomedov, B. V. 1985. Ol'viya i chernyakhovskaya kul'tura. In S. D. Kryzhytskyi and Y. I. Kozub (eds), *Problemy issledovaniya Ol'vii. Tezisy dokladov seminara*, 47–49. Parutino.
- Magomedov, B. V. 1987a. Chernyakhovskaya kul'tura Severo-Zapadnogo Prichernomor'ya. Kyiv.
- Magomedov, B. V. 1987b. Chernyakhovskoe gorodishche u s. Aleksandrovka. In A. T. Smilenko (ed.), Dnestro-Dunayskoe mezhdureche v I – nachale II tys. n. e., 26–41. Kyiv.
- Magomedov, B. V. 1991. Kamenka-Anchekrak. Poselenie chernyakhovskoy kul'tury. Preprint. Kyiv.
- Magomedov, B. 2001. Chernyakhovskaya kul'tura. Problema etnosa. Lublin.
- Magomedov, B. V. 2004. Mohylnyk chernyakhivskoi kultury Kamianka-Anchekrak. In D. N. Kozak (ed.), *Arkheolohiia davnikh slovian. Doslidzhennia i materialy*, 131–164. Kyiv.
- Magomedov, B. V. 2007. Olviia i varvary v piznoantychnyi period. Arkheolohiya 4: 47-54.
- Magomedov, B. V. 2011. Ob amforakh tipa "Delakeu". In O. V. Sharov (ed.), Peterburgskiy apokrif. Poslanie ot Marka, 367–372. Saint Petersburg–Kishinev. Biblioteka Stratum plus.

- Magomedov, B. V. 2013. Horodok fortetsia na Buzi. Komentar do publikatsii V. I. Nikitina. *Arkheolohiya* 3: 97–99.
- Magomedov, B. V. 2020. Gorod Ol'viya: chernyakhovskiy gorizont. Keramika iz fondov Instituta arkheologii NANU. Stratum plus 4: 219–226.
- Magomedov, B. V. 2022. Grebni chernyakhovskoy kul'tury: magicheskaya funktsiya. In M. M. Kazanskiy and A. V. Mastykova (eds), *Druzey medlitelnyy uhod... Pamyati Olega Sharova*, 281–293. Kishinev.
- Magomedov, B. V. and Didenko, S. V. 2009. Krasnolakovaya keramika v chernyakhovskoy kul'ture. *Bosporskie issledovaniya* 21: 320–349.
- Magomedov, B. V. and Didenko, S. 2012. Red Slip Ware in Chernyakhov culture. In: G. R. Tsetskhladze (ed.), *The Black Sea, Paphlagonia, Pontus and Phrygia in Antiquity. Aspects of archaeology and ancient history*, 171–190. Oxford. British Archaeological Reports International Series 2432.
- Magomedov, B. V. and Gudim-Levkovich, A. N. 2003. Poselenie IV–V vv. u s. Lugovoe v Nikolaevskoy oblasti. In O. M. Gudim-Levkovich and O. V. Serov (eds), *Doslidzhennya z Arkheolohii, istorii, etnohrafii: pamyati N. M. Kravchenko*, 32–44. Kyiv.
- Peters, B. G. 1986. Kostoreznoe delo v antichnykh gosudarstvakh Severnogo Prichernomor'ya. Moskva.
- Rau, G. 1972. Körpergräber mit Glasbeigaben des 4. nachchristlichen Jahrhunderts im Oder-Weichsel-Raum. Acta praehistorica et archaeologica 3: 109–214.
- Riley, J. A. 1979. The Coarse Pottery from Berenice. In J. A. Lloyd (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice)*, vol. II, 91–497. Tripoli.
- Shtitelman, F. M. 1952. Otchet o raskopkakh uchastka "L" v Ol'vii v 1951–1952 gg. Archive of the Institute of archaeology, National academy of sciences of Ukraine, 1952/10 Unpublished.
- Schultze, E., Magomedov, B. V. and Bujskich [Buiskykh], S. B. 2006. Grautonige Keramik des Unteren Buggebietes in römischer Zeit. Nach Materialien der Siedlungen in der Umgebung von Olbia. *Eurasia Antiqua* 12: 289–352.
- Schultze, E., Magomedov, B. V. and Buiskykh S. B. 2009. Sirohlynianyi posud rymskoho chasu z poselen Olviiskoi khory. In K. Myzgin (ed.), Ostrogothica. Arkheologiya Tsentralnoy i Vostochnoy Evropy pozdnerimskogo vremeni i Epokhi Velikogo pereseleniya narodov, 101–151. Kharkiv.
- Schultze, E., Schweigart, F. and Daszkiewicz, M. 2021. Wheel Thrown Pottery in Olbia and Chernyakhov Culture. In M. Meyer (ed.), *Approaching Economic Spaces. Methods and interpretation in archaeometric ceramic analysis*, 183–200, 349–372. Berlin.
- Schultze, E. and Strotsen, B. 2008. Keramik mit ovalen Facetten. Eine Untersuchung zur Chronologie der Chernjachov-Kultur. *Eurasia Antiqua* 14: 267–332.
- Shchukin, M. B. and Shcherbakova, T. A. 1986. K khronologii mogil'nika Dancheny. In I. A. Rafalovich, Dancheny. Mogil'nik chernyakhovskoy kul'tury III–IV vv. n.e., 177–219. Kishinev.
- Slavin, L. M. 1952a. Naslidky arkheolohichnykh doslidzhen Olviiskoi ekspedytsii v 1947 i 1948 rr. Arkheolohichni pamiatki URSR IV: 48–58.
- Slavin, L. M. 1952b. Otchet o rabotakh Ol'viiskoi ekspedytsii 1952g. Archive of the Institute of Archaeology, National Academy of Sciences of Ukraine, 1952/10a Unpublished.
- Sorokina, N. P. 1976. Pozdneantichnoe steklo iz Ol'vii. In N. I. Sokolskiy (ed.), Khudozhestvennaya kul'tura i arkheologiya antichnogo mira, 199–209. Moskva.
- Strzheletskiy, S. F., Vysotskaya, T. N., Ryzhova, L. A. and Zhestkova, G. I. 2005. Naselenie okrugi Khersonesa v pervoy polovine I tys. n.e. (po materialam nekropolya "Sovkhoz nr. 10"). *Stratum plus* 4(2003–2004): 27–277.
- Symonovich, E. A. 1964. Ornamentatsiya chernyakhovskoy keramiki. Materialy i issledovaniya po arkheologii SSSR 116: 270–361.
- Symonovich, E. A. 1979. Koblevskiy i Ranzhevskiy mogil'niki okolo g. Odessy. In E. A. Symonovich (ed.), Mogil'niki chernyakhovskoy kul'tury, 63–111. Moskva.

224 Boris Magomedov

- Thomas, S. 1960. Studien zu den germanischen Kämmen der römischen Kaiserzeit. Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege 8: 54–215.
- Twardecki, A. and Buiskikh [Buiskykh], A. 2021. The Cherniakhov Culture in Olbia Pontica in the light of Polish-Ukrainian excavations 2016–2018. *Sprawozdania Archeologiczne* 73(2): 251–273.
- Zasetskaya, I. P. 1994. Kul'tura kochevnikov yuzhnorusskikh stepey v gunnskuyu epokhu (konets IV–V vv.). Saint Petersburg.