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FUNDACJA MONUMENTA ARCHAEOLOGICA BARBARICA
WYDZIAŁ ARCHEOLOGII UNIwersYTETU WARSZAWSKIEGO

MARCIN WOŹNIAK

KLESZEWO

**CEMETERY OF THE PRZEWORSK AND WIELBARK CULTURES
IN NORTHERN MAZOVIA.
PART 2: THE ANALYSIS.**





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A Germanic head with a Suebian hair-knot on a bronze cauldron mount
from Czarnówko, Łęborg County, Northern Poland

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Clay vase from grave 884

(photo: Marcin Woźniak)

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*Jakub Gierkowski|
In memoriam*

1. INTRODUCTION

The Kleszewo cemetery is one of the largest, fully explored burial grounds of the Late Iron Age recorded in Poland. Discovered in 1961, it was excavated in the years 1964–1972 by Stefan Woyda, the then Archaeological Monument Conservator for the Warsaw Voivodeship. During the works, approx. 7250 m² of the site's area were excavated, uncovering 520 graves and 44 features of the Przeworsk and Wielbark cultures, dating from the late pre-Roman period to the early Migration period.¹ The material recovered has been presented, as a catalogue of sources, in part 1 of the monograph on the cemetery.² This tome presents its analysis.

Considering that, to date, none of the better-explored sites of the Przeworsk and Wielbark cultures in the Lower Narew River basin have been fully analysed, the material from Kleszewo has been presented here against a relatively broad backdrop, including selected, heretofore unpublished finds from the region. This approach is essential to acquaint the Reader with the nature of local settlement and, in turn, indicate the original features of the analysed cemetery that distinguish it from other sites in the Lower Narew region and, more broadly, the entire area of Mazovia.

The core of the presented work consists of an analysis of the artefacts found at the site. Further on, the book describes the funerary rite practised by the community burying their dead at the titular cemetery, characteristics of the grave contents, as well as spatial and temporal development of the site. The rich grave

goods found in many burials made it possible to create a system of relative chronology of the cemetery, which was then correlated with the general chronology of the Przeworsk and Wielbark cultures. The longevity of the site, covering almost the entire development cycle of both these cultural units in Mazovia, provided an opportunity to track the changeability of funeral practices and trends in furnishing the graves, on both an individual and collective level, for example, in relation to the age and, to a lesser extent, sex of the deceased. The publication ends with a description of settlement of the Przeworsk and Wielbark cultures in the Lower Narew basin, from the crystallisation of the former to the disappearance of the latter at the end of antiquity.

This book would have not been possible in its current form had it not been for the help of many people, who granted me access to unpublished archaeological material and provided me with an opportunity to discuss and consult on the issues it concerns. I would like to thank:

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¹ Found at the site were also flint artefacts from the Stone Age, remains of a settlement from the Bronze Age and, perhaps, early Iron Age, as well as an early medieval cemetery.

² M. Woźniak 2021. The publication also presents the history of research at the site, methodology of excavation works and fate of the recovered archaeological material.

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This publication is the result of two projects:

1. *Kleszewo – The largest cemetery of the Przeworsk and Wielbark cultures in Mazovia and Podlachia. A monographic study of the cemetery* financed from the funds of the National Science Centre (agreement no. 2013/09/N/HS3/0288);
2. *Kleszewo – a Przeworsk and Wielbark culture cemetery. Publication of the research results, volume 2*, subsidised from the funds of the Ministry of Culture and National Heritage, from the Fund for the Promotion of Culture, as part of the programme “Protection of the Archaeological Heritage” (agreement no. 01452/22/FPK/NID).

2. ARTEFACT ANALYSIS

2.1. DRESS ACCESSORIES

2.1.1. BROOCHES

The cemetery yielded 256 brooches, preserved intact or in fragments. Of all of them, 204 pieces were attributed to the Przeworsk culture, and 50 – to the Wielbark culture. For the remaining two specimens, their cultural attribution could not be determined.

PRZEWORSK CULTURE

*Brooches of Middle and Late La Tène construction*³

The oldest in terms of style are the iron brooches of Middle La Tène construction, types A–C. A brooch of type A was found in grave 122 (122/1). The specimen has a clearly arched bow. The foot was bent twice near the catchplate, almost at right angles in both cases, and its end was formed into a plate wrapped around the bow. The brooch was originally 6.1 cm long; thus, it represents the short variant.⁴ Type-A fibulae are long-lived forms, common throughout central Europe. They find multiple parallels among Celtic brooches.⁵ The group is also diverse in terms of size, shape of the bow and foot, and potential decoration.⁶ In the Przeworsk and Oksywie culture areas, long brooches are usual-

ly dated to phase A₁.⁷ The chronology of short fibulae encompasses phases A₁, A₂ and early phase A₃.⁸ At the sites of northern and eastern Mazovia and Podlachia, short specimens, resembling the Kleszewo artefact, are relatively rare.⁹ The oldest co-occur with long brooches of type B and Gebhard type 19d,¹⁰ the youngest are accompanied by bowl-shaped brooches.¹¹ The Kleszewo brooch is linked to phase I of the cemetery's use.

Type C is represented by two specimens. One was found on the surface of the cemetery (ZL/1), the other – in the fill of a Wielbark culture grave (917/8). Both fibulae are made of iron. The first one measures approx. 3.5 cm, the second – 6.5–7 cm; thus, they are both short forms.¹² Type-C brooches are fairly common throughout central Europe. In contrast to type A, described above, they are rarely recorded in the La Tène culture areas, which is why they are assigned a “Germanic” origin.¹³ They are especially frequently found at Oksywie culture sites in Chełmno Land, pri-

³ If not stated otherwise, the brooches were classified in accordance with J. Kostrzewski's typology (1919a, 14–41).

⁴ T. Dąbrowska 1988, 16, 21; E. Bokinić 2005, 87–89; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 81.

⁵ E.g., brooches of R. Gebhard's groups 15–18, 20 (1991, 17–20, fig. 5–7).

⁶ E.g., E. Bokinić 2008, 17–22.

⁷ T. Dąbrowska 1988, 27; E. Bokinić 2008, 18–19; M. Grygiel 2018, 89–93, fig. 47.

⁸ E. Bokinić 2008, 17–18; T. Dąbrowska 2008, 25; M. Grygiel 2018, 95–96; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 88–89.

⁹ E.g., Kamieńczyk, graves 75, 120 (T. Dąbrowska 1997, 81), Karczewiec, graves 96, 106, 160 (T. Dąbrowska 1973, 506), Lemany, grave 31 (collection of the Stefan Woyda Museum of Ancient Mazovian Metallurgy in Pruszków [hereinafter: MSHM], inv. no. MSHM/A/1162).

¹⁰ Dąbek, site 9, grave 53 (A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 88, pl. XXVII/53:1.2).

¹¹ Kamieńczyk, grave 120 (T. Dąbrowska 1997, 34, pl. LXV/120), Oblin, grave 87 (K. Czarnecka 2007, 31, pl. XCIII/87:1–3).

¹² See footnote 4.

¹³ E.g., J. Kostrzewski 1919a, 19; J. Brandt 2001, 81.

marily at Podwiesk;¹⁴ they are less often encountered in the territory of the Przeworsk and Jastorf cultures.¹⁵ The finds from Poland are dated mainly to phase A₂.¹⁶ Thus, the Kleszewo fibulae are dated to phase I of the site's occupation.

One fragment of an iron brooch of Middle La Tène construction was found in grave 27 (27/1). The preserved part of the bow is very weakly arched; the foot was attached to the bow by a very massive ring collar. Among the finds from the Przeworsk culture area, analogously shaped bows can be found in long brooches of types A and C, as well as in fibulae of type B, regardless of their size.¹⁷ Long brooches of type A are most often dated to phase A₁ (see above), and the other forms – usually to phase A₂.¹⁸ No artefacts recovered from Kleszewo can be unequivocally associated with phase A₁, therefore, it seems more probable that the find in question represents the younger forms, i.e., type B or C. As such, grave 27 is linked to phase I of the cemetery's functioning. However, it should be borne in mind that the brooch might also be slightly older.

The largest group of brooches of Middle La Tène constructions consists of iron fibulae of type H. Classic examples – with arched bows – were recorded in eight graves (13/1, 68/1, 92/1, 117/1, 144/1, 357/1.2, 476/1, 798/1). A specimen with an almost knee-shaped bow was found in grave 224 (224/1). Fragments of two brooches, probably of type H, were stray finds (ZL/2.3). The specimens from graves 13, 68 and 357 have the foot decorated with groups of transverse grooves. Such ornament is commonly found on brooches of Middle La Tène construction from Poland, and its presence can be seen as an imitation of Celtic patterns.¹⁹ Six specimens feature a small, angular protrusion at the transition between the bow and catchplate. This detail has recently been discussed at length by A. Maciałowicz.²⁰ It originates in the artisanry of the La Tène culture peo-

ple. The oldest fibulae featuring this element are Celtic brooches of the *Mötschwil* type, usually dated to phase LT C2. In the Vistula and Oder river basins, where this protrusion is found outside the Celtic settlement zone, it has been recorded in various fibula forms of Middle La Tène construction, for example, mainly short brooches of type A in the Oksywie culture, and primarily fibulae of type H in the Przeworsk culture. Among the latter, almost all the finds come from the culture's eastern territory, mainly Mazovia. This specific concentration is interpreted as evidence of a close relationship between the "Mazovian" community of the Przeworsk culture and the Celts.²¹

Brooches of type H are commonly encountered in the Przeworsk culture area and at Oksywie culture sites by the Lower Vistula; less numerous finds are also known from the territory of the Jastorf culture. They are more rarely recorded in the areas inhabited by the Celts.²² They were used mainly in phase A₂, and the youngest examples are recorded in assemblages dating to early phase A₃.²³ This matches the chronology of their occurrence at the Kleszewo cemetery, where they were found together with brooches of type K (twice), J and M-a. Type-H fibulae are seen as a typical female dress accessory.²⁴

The cemetery yielded seven brooches of type K (45/1, 68/2, 111/1, 117/2, 203/1, 283/1, ZL/4), possibly eight, assuming the identification of a poorly preserved specimen from grave 830 (830/1) is correct. All are made of iron. This group is very diverse in terms of dimensions, and shape of the head and catchplate. The largest brooch (117/2) measured 9 cm, the smallest (ZL/4) – 3.2 cm. The brooches from graves 45, 111, 117, 283 and 830 have rounded thickenings on the head, and the fibula from grave 68 has an oval-and-pointed protrusion on both sides of the head. The head of the brooch from grave 203 is not thickened. The bows of the Kleszewo brooches are round in cross-section, occasionally also slightly oval (111/1, 117/2, 203/1, 283/1), almost triangular (68/2, ZL/4) and diamond-shaped (45/1). All the better-preserved brooches have a crest, or transverse notches that imitate it (283/1), at the top of the bow. The foot of the brooch from grave 111 was decorated with groups of small, horizontal grooves. The catchplates of the preserved specimens are frame-shaped (117/2, ZL/4) or openwork (68/2). The brooch from grave 45

¹⁴ E. Bokinić 2005, 92.

¹⁵ J. Kostrzewski 1919a, 18–19; H. Seyer 1982, 68; T. Dąbrowska 1988, 69, map 4; J. Brandt 2001, 81; E. Bokinić 2008, 32–33; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 101–102.

¹⁶ Recently, M. Grygiel 2018, 95; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 98–103; also see T. Dąbrowska 1988, 19–20, 28–29; E. Bokinić 2008, 32–33.

¹⁷ E.g., T. Dąbrowska 1988, 17; M. Grygiel 2018, 89–94, fig. 19:4,9, 20:7, 21:6, 22:4, 50:6; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, fig. 7, 11:1.

¹⁸ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 90–92, 105.

¹⁹ This decoration is commonly found on La Tène brooches of the *Mötschwil* type (A. Márton 2004, 289–290).

²⁰ A. Maciałowicz 2015, 280; 2017, 61–75, with earlier literature.

²¹ A. Maciałowicz 2017, 71–73.

²² T. Völling 1995, 160; R. Bockius, P. Łuczkiwicz 2004, 27, map 9; M. Grygiel, R. Grygiel, W. Stasiak 2019, fig. 229, list 1.

²³ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 111–112.

²⁴ T. Völling 1995, 162.

was repaired in antiquity – its cracked spring system was reinforced with an iron axis bar.

Brooches of type K are widespread in central Europe, the Baltic islands and Scandinavia.²⁵ The Kleszewo specimens represent mostly common forms, found in many of the above-mentioned areas.²⁶ On the other hand, very characteristic and firmly embedded in the local style is a brooch found in grave 68 (68/1). In the central part of its catchplate, there is a crossbar, bent twice at right angles, and the front part of the frame was probably round. In Poland, brooches of type K with openwork catchplates are found almost exclusively at Przeworsk culture cemeteries in northern and eastern Mazovia, as well as sites of the Oksywie culture on the Lower Vistula River.²⁷ Outside of the said area, they are known from Bornholm, the Scandinavian Peninsula, Jutland and mid-western Europe, among others.²⁸ The distinct concentration of the fibulae in question in Mazovia indicates that they were locally manufactured forms. The local origin of openwork ornamentation is thought to be a result of close relations between the Przeworsk culture people and the Celts.²⁹ There are oval-and-pointed projections on both sides of the head of the brooch from grave 68. This feature has recently been recognised as characteristic of a small group of type-K brooches discovered by the Middle Rhine and in the pre-Alpine zone.³⁰ However, they are also quite common in Poland.³¹ Brooches of type K are markers of phase A₂ in the Przeworsk culture and are only exceptionally found with material representing a younger style.³²

Grave 655 yielded an iron brooch of Late La Tène construction (655/1). The fibula has a strip-like bow, bent strongly at the head, an external chord and a frame-like catchplate (Fig. 1:1). The brooch finds no parallels in the classifications of brooches of the late pre-Roman/late La Tène period of which I am aware. A similar, albeit slightly larger, specimen was discovered in grave 133 at the Oksywie culture cemetery at Brachlewo³³ (Fig. 1:2). It was the only metal artefact found in that grave.

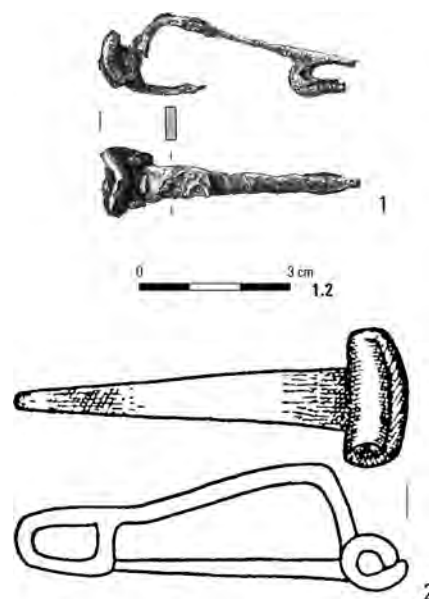


Fig. 1. Brooches from Kleszewo, grave 655 (1), and Brachlewo, grave 133 (2). After: W. Heym 1961 (2), M. Woźniak 2021 (1).

The accompanying clay vessels can be dated to phases A₂–A₃.³⁴ The brooches from Kleszewo and Brachlewo resemble the group of fibulae referred to in the literature as type “Kostrzewski, fig. 17”,³⁵ from which they differ in the shape of bow cross-section, which is flat rather than round. “Kostrzewski, fig. 17” brooches are characteristic of the Oksywie culture, where they are dated to phase A₂.³⁶

Strip bows, expanding towards the head, are found during that time primarily in La Tène brooches of the *Nauheim* type.³⁷ The Kleszewo specimen obviously cannot be linked directly to this brooch group. It differs from them, among others, in the presence of an external chord. On the other hand, *Nauheim*-type brooches are found relatively frequently in Mazovia. They are presumably imports from the Bohemian-Moravian oppidum zone or Lesser Poland.³⁸ Incidentally, we know that Mazovian craftsmen drew extensively on the designs of the La Tène culture.³⁹ For example, a brooch from grave 57 at Arbasy in Podlachia indicates that *Nauheim*-type

²⁵ T. Völling 1995, 164; S. Demetz 1999, 115–116; M. Meyer 2001; R. Bockius, P. Łuczkiwicz 2004, 32–34.

²⁶ Cf., e.g., variants K-Ib, KI-c distinguished by E. Bokinić (2008, 40, list 5).

²⁷ J. Andrzejowski, A. Maciałowicz 2017, 186–188, fig. 7, 8; A. Maciałowicz 2017, 79, fig. 11.

²⁸ M. Meyer 2001, 165–166, fig. 4; A. Maciałowicz 2017, 81–86.

²⁹ J. Andrzejowski, A. Maciałowicz 2017, 186; A. Maciałowicz 2017, 87; cf. the description of brooches of type H.

³⁰ M. Meyer 2001, 166, fig. 5.

³¹ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 116.

³² T. Dąbrowska 1988, 58; 2008, 26.

³³ W. Heym 1961, 153, fig. 8:4.

³⁴ Cf. the chronology of Oksywie culture vessels of types I.B, I.E, VII.E – A. Strobin 2011, 20–22, 37.

³⁵ J. Kostrzewski 1919a, 33, fig. 17.

³⁶ J. Kostrzewski 1919a, 33; 1919b, 7; A. Maciałowicz 2017, 75–76.

³⁷ K. Striewie 1996; S. Demetz 1999, 78–90.

³⁸ T. Dąbrowska 1988, 125; 1996, 131; 2008, 29–30; P. Poleska 2006, 148; T. Bochnak 2014, 44–45.

³⁹ Recently A. Maciałowicz 2017; cf. also the description of brooches of types H, K and bowl-shaped in this work.

fibulae were also imitated.⁴⁰ Thus, it cannot be ruled out that the craftsman who made the brooch from grave 655 at Kleszewo was to some extent inspired by La Tène forms. At present, the fibula in question appears to be a unique experiment, presumably by a local maker. Based on the stylistic features listed above, it can be dated to phase A₂ or early phase A₃.⁴¹ Such chronology of the artefact is also suggested by the accompanying pottery, consisting exclusively of vessels of the so-called first phase (see Subchapters 2.7.1 and 3.1).

Three iron bowl-shaped brooches were discovered in graves 101, 200B and 357 (101/1, 200B/3, 357/3). The best-preserved specimen was found in grave 357. Its bow is rectangular in cross-section and has a single groove along both side edges. Small, pointed protrusions are present on the head, on both sides of the bow. In the central part of the catchplate's frame, there is a crossbar, bent twice at right angles. The brooch from grave 101 has a similarly shaped head. It differs from the aforementioned one in the lack of grooves on the bow and the absence of openwork decoration on its frame-shaped catchplate. The brooch from grave 200B is heavily corroded, with only its head and spring remaining.

Bowl-shaped brooches are found across extensive areas of Europe, from the Pyrenees to the Balkans, and from the Po Plain to Bornholm.⁴² In the La Tène culture areas, they are dated to stage LT D1b or early phase LT D2.⁴³ More than 100 specimens are known from Poland; most are made of iron.⁴⁴ The majority have been discovered at Oksywie culture sites on the Lower Vistula River and, to a lesser extent, in eastern and northern Mazovia. Among them, there are also numerous analogies for the Kleszewo brooches.⁴⁵ Until recently, bowl-shaped fibulae, like iron specimens of the types *Nauheim* and Almgren 65, were interpreted as imports from the Bohemian-Moravian oppidum zone.⁴⁶ Presently, mainly due to their high numbers, the possibility that at least some of them were made in the environment of the Oksywie and Przeworsk cultures has been suggested.⁴⁷ Bowl-shaped fibulae in Mazovia and Pod-

lachia are dated to early phase A₃.⁴⁸ At the Kleszewo cemetery, they are markers of stage IIa.

In the sketch of the brooch from grave 101 that was drawn before its conservation (Fig. 2:1), the spring is wrapped with a wire. As it was not damaged, the indicated element was not used as a means of repair. This detail on the Kleszewo brooch most reminds me of rings sometimes suspended on brooch springs, e.g., of the *Nauheim* and Almgren 65 types, and of bowl-shaped specimens, discovered in the La Tène culture areas (Fig. 2:2–5).⁴⁹ A metal chain was sometimes attached to such rings (Fig. 2:4.5); if it was used to link a pair of brooches, it could have functioned as a necklace. Such chains are not found on brooches made by the Przeworsk culture people.⁵⁰ Therefore, it is difficult to determine the possible function it could have had in the case of the Kleszewo brooch. Unfortunately, the other grave goods do not contribute to solving this issue.

An iron brooch of Almgren type 65⁵¹ was found in grave 20 (20/1). This artefact, as well as other specimens of this type found in Poland, has recently been discussed several times.⁵² Thus, I will limit myself to citing the most important findings. Fibulae of Almgren type 65 originate in northern Italy and western Austria.⁵³ They are also found in large numbers at La Tène culture sites in central Europe, where they were also manufactured.⁵⁴ In central Europe, iron specimens are dominant, e.g., more than 80, including numerous blanks, have been found at Stradonice in Czechia.⁵⁵ About twenty-five Almgren 65 brooches are known from Poland.⁵⁶ The closest to the Kleszewo specimen are a pair of fibulae from the Przeworsk cemetery at Stupsk, grave 24/1917, and the Oksywie culture brooches from Papowo Toruńskie and Skowarcz.⁵⁷ In their indigenous areas, fibulae of Almgren type 65 are dated – depending on the chronological

⁴⁰ Cf. K. Rusin 1997, 47; T. Dąbrowska 2008, 29.

⁴¹ Cf. A. Maciałowicz, M. Woźniak 2015, 237.

⁴² S. Demetz 1999, 69–70, 72–73, maps 16 and 17; H. Meller 2012, 89–90, map 20.

⁴³ R. Gebhard 1991, 91–92; E. Droberjar 2006a, 14, fig. 1:9–11; H. Meller 2012, 93; A. Danielisová 2020, 117.

⁴⁴ Recently: A. Maciałowicz 2017, 89–96; P. Łuczkiwicz 2020, 247–251.

⁴⁵ A. Maciałowicz 2017, 89, fig. 14.

⁴⁶ T. Dąbrowska 1988, 125; 2008, 105.

⁴⁷ P. Harasim 2011, 230–234; A. Maciałowicz 2017, 95.

⁴⁸ A. Maciałowicz 2017, 91–94.

⁴⁹ R. Gebhard 1991, 118, pl. 10:180; H. Meller 2012, fig. 38:20–22; 39:6.13; M. Poux 2007, fig. 6, 10.

⁵⁰ The only Polish specimen with such an element known to me is a Roman fibula of the *Jezerine* type from grave 34a at Lubieszewo, Nowy Dwór County (M. Woźniak 2020, 187, fig. 8:3).

⁵¹ Here and further on, the brooches are classified following O. Almgren's typology (1897).

⁵² E.g., P. Harasim 2011, 226–228; T. Bochnak 2014, 41–44; M. Woźniak 2017, 239–243; P. Łuczkiwicz 2020, 240–243.

⁵³ S. Demetz 1999, 32–33, maps 1–5; H. Meller 2012, 66–67, maps 13–16.

⁵⁴ R. Gebhard 1991, 13–14, 27–28; A. Rybová, P. Drda 1994, 129–130.

⁵⁵ A. Rybová, P. Drda 1994, 129–130.

⁵⁶ Recently, P. Łuczkiwicz 2020, 240.

⁵⁷ M. Woźniak 2017, 242, fig. 3.

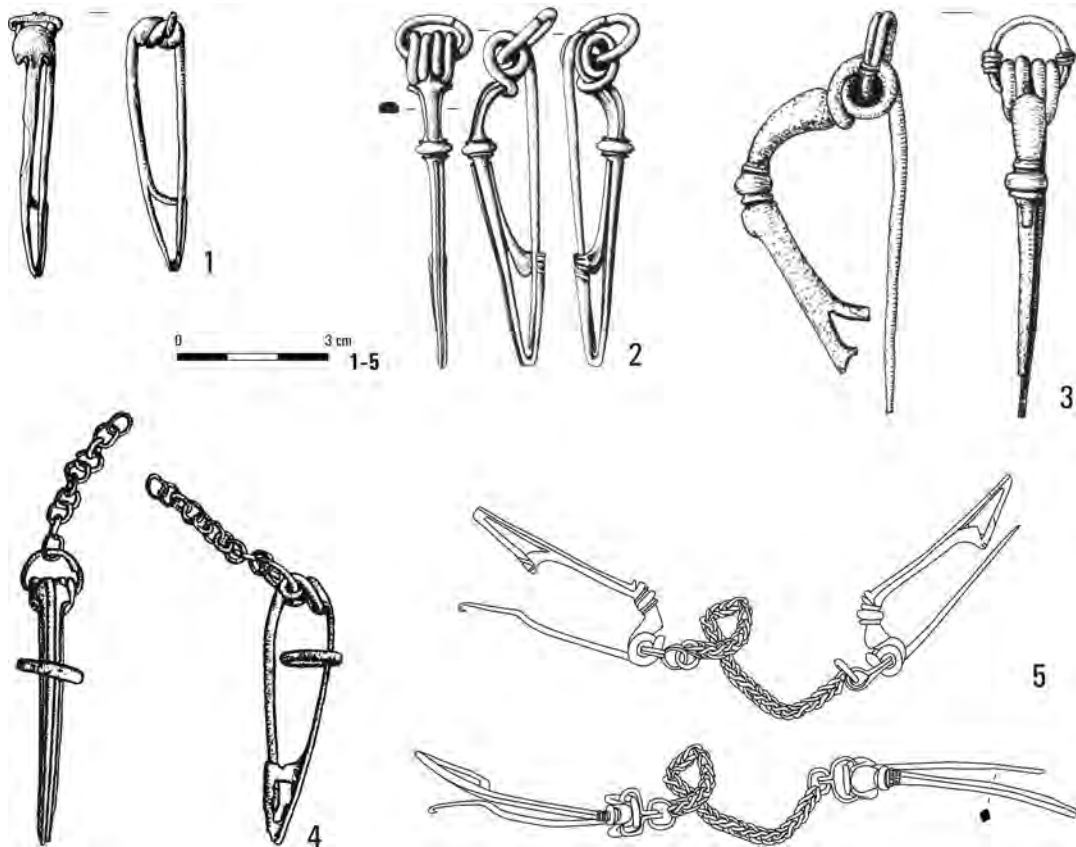


Fig. 2. La Tène brooches with a ring passed through the chord. 1 – Kleszewo, grave 101; 2 – Manching; 3 – Ornavasso-San Bernardo, grave 6; 4 – Cadimarco; 5 – Corent. After: J. Graue 1974 (3), R. Gebhard 1991 (2), M. Poux 2007 (5), H. Meller 2012 (4), MSHM Archive (1)

system – to stage LT D1b or LT D2a.⁵⁸ The finds from Poland are mostly assigned to phase A₂.⁵⁹ The youngest of them co-occur with bowl-shaped brooches,⁶⁰ which are dated in Mazovia to the beginning of phase A₃ (see above). The Kleszewo brooch was accompanied by vessels of the first and second ceramic phases; thus, I date it to stage IIa of the cemetery (see Subchapter 3.1). The fibula is probably an import from Bohemia or Moravia.⁶¹

The largest group among the brooches from the late pre-Roman period, with 35 discovered pieces, consists of iron fibulae with a strongly curved bow, types M-a or N-a distinguished by T. Völling.⁶² Eighteen specimens were identified as type M-a type; they come from 12 graves (200B/1.2, 219A/1, 224/2, 245/1, 518/1.2, 967/2,

1019/1.3, 1022/1.2, 1024A/1, 1024B/1, 1026B/1, 1030/1, 1047/3) and a secondary context in the fill of a Wielbark culture grave pit (597/3). All the completely preserved type-M-a brooches have a frame-like catchplate. The bow and foot of each specimen are usually identical in cross-section, either circular or angular. The exception is the brooch from grave 1030, whose bow was round and foot quadrangular in cross-section. The bows are either not profiled (e.g., 219A/1, 1022/2, 1024B/1) or, as is the case with most specimens, there is a crest below their top (e.g., 200B/1, 518/1.2, 1026B/1). In the case of the brooch from grave 224, this detail was imitated by two transverse grooves. In one of the sketches of brooch no. 1 from grave 1019, drawn before its conservation, some elements resembling groups of crests, or mounted (?) wire rings, are marked below the top of the bow and on the foot. I know of no analogy for this type of ornament on brooches of types M or N. Moreover, it cannot be ruled out that the drawing is an over-interpretation.⁶³

⁵⁸ S. Rieckhoff 1995, 120; A. Rybová, P. Drda 1994, 127–130; E. Droberjar 2006a, 12–14; H. Meller 2012, 71–72; A. Danielisová 2020, 117, fig. 4A.

⁵⁹ Recently, P. Łuczkiewicz 2020, 242–243.

⁶⁰ A. Maciałowicz 2017, 90, table 2.

⁶¹ M. Woźniak 2017, 249.

⁶² T. Völling 1995, 193, 199, 200, fig. 22, 24.

⁶³ In a drawing documenting the profile of the brooch, the “ornament” was not drawn. The artefact is heavily corroded; it is

Brooches of type M-a are recorded across extensive areas of barbarian Europe – from the Rhine to the Vistula River basin, above all, in central Germany and Poland.⁶⁴ At Przeworsk culture sites in Mazovia and Podlachia, they are the primary markers of phase A₃.⁶⁵ At Kleszewo, the oldest specimens co-occurred with bowl-shaped fibulae (grave 200B) and a brooch resembling type H (grave 224). The younger specimens were found with brooches of type N-a (graves 967 and 1024A). Fibulae of type M-a are markers of phase II of the cemetery's use.

The iron brooches of type N-a number from five to eight (1/1961/2, 361/1?, 949/1?, 967/1.3, 1024A/2, 1024C/1, 1025/1?). The whole specimens have a solid (967/1, 1024C/1) or perforated (1/1961/2) catchplate. None of the type-M-a brooches from Kleszewo had such a construction. Thus, I tentatively assign the remaining *geschweifte*-type brooches with a solid catchplate (361/1, 1024A/2) to type N-a. The bows of all specimens were round or nearly oval in cross-section. On most of the better-preserved specimens, there was a small crest below the top of the bow (967/1, 1024A/2, 1024C/1). The brooch from grave 967 was repaired – its broken spring was stabilised with an iron axis bar.

Iron brooches of type N-a are essentially characterised by the same area of occurrence as specimens of type M-a discussed above.⁶⁶ The finds from Poland are dated to phase A₃ and, exceptionally, to the beginning of the Roman period.⁶⁷ At the large cemeteries of Mazovia and Podlachia, they are found less often than brooches of type M-a.⁶⁸ This trend can also be observed at Kleszewo. This may be due to the shorter period of use of forms with an internal chord. At the titular cemetery, fibulae of type N-a appeared somewhat later than those of type M-a. They do not occur in features with vessels of the first ceramic phase, fibulae of Middle La Tène construction or bowl-shaped ones. Thus, they are considered to be a marker of stage IIb.

An unambiguous classification of the remaining iron brooches with a strongly curved bow (85/86/1, 153/1, 451/1, 500/1, 860/1–3, 1019/2, 1020/1) is not possible due to their poor state of preservation. Almost half of

then possible that corrosion products were wrongly interpreted as a decoration.

⁶⁴ T. Völling 1995, 193, cf. also R. Bockius, P. Łuczkiwicz 2004, 50–61.

⁶⁵ Recently, T. Dąbrowska 2008, 30–31.

⁶⁶ T. Völling 1995, 200; R. Bockius, P. Łuczkiwicz 2004, 61, map 22.

⁶⁷ T. Dąbrowska 1988, 44; 2008, 30, 32; R. Bockius, P. Łuczkiwicz 2004, 62, map 23; E. Bokinić 2008, 48.

⁶⁸ T. Dąbrowska 2008, 30–31.

them (860/1–3, 1019) are forms with frame catchplates. This type of construction has not been observed in the Kleszewo brooches with an internal chord. This suggests that the listed specimens likely represent type M-a.

A bronze brooch of type N-a was found in grave 536 (536/1). Its bow is round in cross-section, with a crest below the top. There is an iron axis bar between the coils of the spring, which is most likely indicative of damage to this piece and its subsequent repair. A fragment of a similar brooch was also found in grave 238 (238/1). However, its classification as type N-a is uncertain. It can also be linked to Almgren type 2aI, which is also characterised by a round cross-section of the bow and an internal chord (see below). The raw material from which the brooches in question were made suggests that they were imports in Mazovia, which is also supported by the small number of such artefacts discovered there. However, it is difficult to indicate the possible direction from which they came. Like their iron counterparts, bronze brooches of type N-a are an inter-regional form, found in various areas of barbarian Europe.⁶⁹ Considering the lists compiled to date, it seems that most have been found in Germany.⁷⁰ In the case of Mazovia, I know of two such brooches.⁷¹ They come from Karczewiec, grave 176,⁷² and Pajewo-Szwelice, grave 16.⁷³ The former was accompanied by vessels of the second ceramic phase, while the latter was found together with an iron brooch of type N-a. Both graves can, therefore, be dated to phase A₃ and, in the case of the Karczewiec specimen, also to phase B_{1a} (see below). The presence of bronze brooches of type N-a in the oldest horizon of the Roman period has been confirmed by the finds from other areas of *Barbaricum*.⁷⁴ The Kleszewo specimen from grave 536 is dated within phases IIb–III, the brooch from grave 238 – to phase III of the cemetery's functioning.

Grave 861 yielded fragments of a bronze fibula with an internal (?) chord, a strongly curved strip bow, terminated with a small crest, and a narrow foot, decorated

⁶⁹ J. Kostrzewski 1919a, 39; K. Peschel 2005, 215, fig. 6:15; E. Droberjar 2006a, 64, fig. 33/733:1; in this last work, the fibula was classified as type O.

⁷⁰ R. Bockius, P. Łuczkiwicz 2004, 173–183.

⁷¹ The fibula from grave I at Krupice, considered to be bronze (J. Jaskanis 2005, 82, pl. XCIX/I:1; T. Dąbrowska 2008, 32, fig. 8:9), is, in fact, made of iron (collection of the State Archaeological Museum in Warsaw [hereinafter: PMA], inv. no. IV/418).

⁷² T. Dąbrowska 1973, 490, pl. XLVII:8; the brooch was classified as type O.

⁷³ Z. Dłubakowski 2005, 23, pl. XII/16:5.

⁷⁴ T. Völling 1995, 203, fig. 24:c, table 10; E. Bokinić 2005, 61, 96; N. Döhlert 2009, 423.

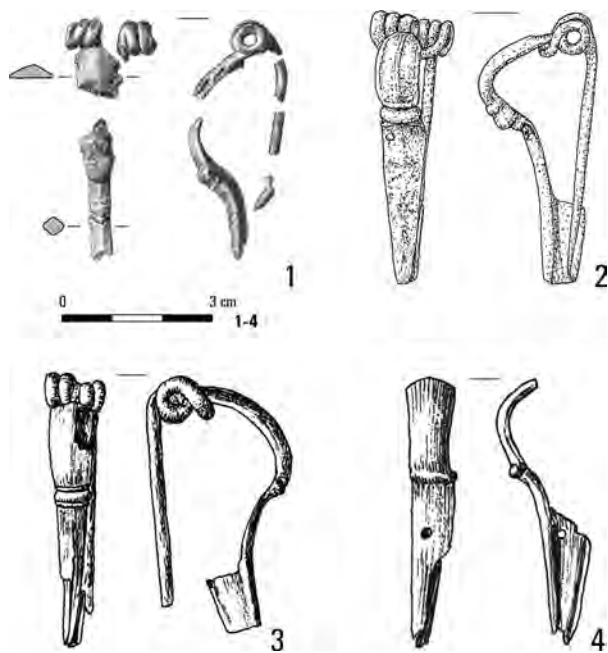


Fig. 3. N-c type brooches from Mazovia.

1 – Kleszewo, grave 851; 2 – Modła, grave 217;

3 – Niedanowo, grave 152; 4 – Niedanowo, grave 611.

After: J. Andrzejowski 2009 (2), W. Ziemińska-Odojowa 1999a (3.4), M. Woźniak 2021 (1).

with grooves and a pair of punched circles (861/1). The fibula most closely resembles the late variants of type-N brooches (T. Völling's variant N-c).⁷⁵ Such brooches were made of iron or bronze. They are mainly found in Mecklenburg and southern Holstein. Few specimens have been discovered, e.g., on the Danish islands, in north-western Poland and the Bohemian Basin.⁷⁶ A few examples are also known from northern Mazovian cemeteries of the Przeworsk culture, forming the easternmost "cluster" of type N-c (Fig. 3 and 4).

These fibulae are the youngest among brooches with a strongly curved bow. They date to the beginning of the Roman period.⁷⁷ The finds from northern Mazovia can also be assigned to phase B₁. The brooch from grave 611 from Niedanowo, found together with a fibula of Almgren type 68, comes from subphase B_{1b}. The others were accompanied by pottery typical of the early Roman period.⁷⁸ Decorating the foot with small

⁷⁵ T. Völling 1995, 201, fig. 27.

⁷⁶ T. Völling 1995, 201, 203, fig. 26, list 7; R. Bockius, P. Łuczkiwicz 2004, 67, map 25; J. Schuster 2018a, 25–27, fig. 19.

⁷⁷ T. Völling 1995, 206, table 12; R. Bockius, P. Łuczkiwicz 2004, 63, table 7.

⁷⁸ Kleszewo, grave 861, Modła, grave 217 (J. Andrzejowski 2009, 184, pl. 3.105/217), Niedanowo, grave 152 (W. Ziemińska-Odojowa 1999a, 34–35, pl. XLIV/152).

circles punched just below the crest, which we note in the case of the Kleszewo and Modła brooches,⁷⁹ also seems to share this chronology. This ornamentation is found, e.g., on trumpet fibulae,⁸⁰ brooches of Almgren type 71,⁸¹ and the Elbe forms of Almgren group I.⁸² The presence of type-N-c brooches in northern Mazovia suggests relations between the local population and the western Baltic Sea area.

Ten to twelve brooches can be identified as Almgren type 2. All specimens with a preserved spring have an internal chord (232/1, 351/1, 657/1, 706/1, 711/1, 1026A/1). As such, they correspond to Almgren variant 2a as defined by T. Völling.⁸³ The brooch fragments from graves 48, 231A-B, 859, in which the spring has not been preserved (48/1, 231A.231B/1, 859/1), should probably also be associated with this form. In the areas to the east of the Middle Vistula, specimens with an external chord and a stop plate, Almgren type 2b, are almost non-existent.⁸⁴ Among the finds from Kleszewo, specimens of Almgren variant 2aII, i.e., with bows of triangular cross-section, sometimes decorated along the "ridge" with a band of small incisions or punched points, are dominant. Brooches with a wire bow, Almgren type 2aI, were found in grave 91 and, assuming it is not a brooch of type N-a (see above), in grave 238. It is possible that a fragment of another specimen of Almgren type 2 is a stray find of a fibula foot with a catchplate with two round holes (ZL/5).

Almgren-2a brooches are an interregional form, found across vast areas of barbarian Europe, from the Rhine to the Vistula River basin. They are much less numerous in the areas south of the Danube – in the pre-Alpine zone and the Balkans.⁸⁵ Their largest concentrations have been recorded in the Bohemian Basin and Poland: in western Lesser Poland, the interfluvium of the rivers Warta and Prosna, northern and eastern Mazovia and the Lower Vistula region. The wide spread of the form in question makes it difficult to determine its origin and indicate the place of its manufacture. Most researchers consider them to be a "Germanic" form, which is primarily indicated by the area of their oc-

⁷⁹ J. Andrzejowski 2009, 184, pl. 3.105/217:1.

⁸⁰ T. Dąbrowska 2002, 226, pl. XI/36:1; J. Schuster 2016, 123, fig. 4:1; 2017a, 123, fig. 4:1.

⁸¹ W. Nowakowski 1999, fig. 3:a.b.f.

⁸² O. Almgren 1897, 8.

⁸³ T. Völling 1995, 222–223, fig. 35.

⁸⁴ T. Dąbrowska 2008, 32–33; the only brooch of (perhaps) Almgren type 2b that I know of comes from Oblin, grave 247 (K. Czarnecka 2007, 74, pl. CCVII/247:1).

⁸⁵ T. Völling 1995, 222; S. Demetz 1999, 112, map 33; R. Bockius, P. Łuczkiwicz 2004, 71, map 26; T. Dąbrowska 2008, 32–33.

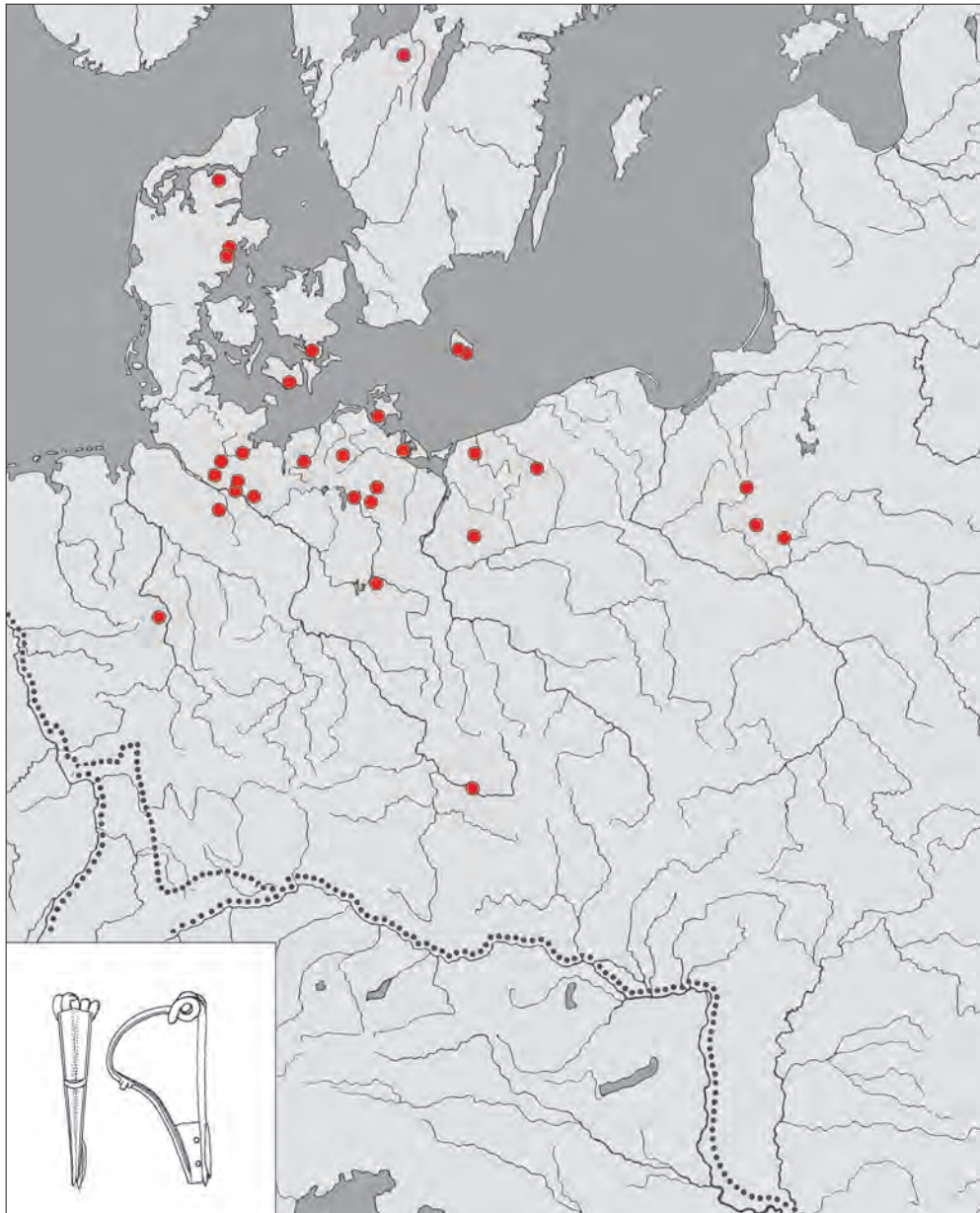


Fig. 4. Distribution of N-c brooches in northern and central European Barbaricum. After: J. Schuster 2018a, with additions

currence; their similarity to type-N brooches typical of central European *Barbaricum* is also significant. On the other hand, the possibility that they were also made in the eastern Alpine region is not excluded.⁸⁶ Almgren-2a brooches date to around the turn of the era. They are found together with fibulae of types M and N, and, above all, with early Roman forms.⁸⁷ In the Bohemian Basin, from where they are believed to have come to

the areas north of the Carpathians, they are considered to be a marker of the oldest phase of the Roman period.⁸⁸ The finds from Mazovia and Podlachia are dated to phase A₃ or A₃/B₁,⁸⁹ corresponding to the beginning of the Roman period. Most of the specimens whose chronology can be determined with greater precision, thanks to the accompanying artefacts, have been recorded in assemblages from early phase B₁, e.g., grave

⁸⁶ T. Völling 1995, 223–224; S. Demetz 1999, 112; E. Droberjar 1999, 77–78; R. Bockius, P. Łuczkiwicz 2004, 68–69; M. Grygiel, R. Grygiel, W. Stasiak 2019, 311–312.

⁸⁷ T. Völling 1995, 224–226; R. Bockius, P. Łuczkiwicz 2004, 70.

⁸⁸ E. Droberjar 1999, 77–78; 2006b, 605.

⁸⁹ Cf. T. Dąbrowska 1997, 18, 62, 64; J. Andrzejowski 2006, 24; K. Czarnecka 2007, 15–16, 20–21.

134 from Bartki,⁹⁰ feature 56 from Pajewo-Szwelice,⁹¹ an unnumbered grave from Szczepkowo-Zalesie,⁹² all also with fibulae of Almgren type 67. The synchronicity of both forms in Poland was highlighted by T. Dąbrowska.⁹³ At Kleszewo, Almgren-2a brooches, like fibulae of Almgren type 67, are markers of phase III.

Grave 533 yielded a bronze brooch of Almgren type 18b1⁹⁴ (533/1). I have already discussed this artefact elsewhere.⁹⁵ It is a form recorded in a vast territory covering central European *Barbaricum* and the areas near the Alps; isolated finds are known from the Balkans. Over 20 specimens come from the Polish lands, most of them have been registered in the Przeworsk culture (e.g., Mazovia, Lesser Poland, Kuyavia), slightly fewer have been recorded at Oksywie culture (mainly Chełmno Land) and Tyniec group sites.⁹⁶ Brooches of Almgren type 18b1 in the Alpine region are dated to the last quarter of the 1st century BCE and the first fifteen years of the 1st century CE.⁹⁷ The better-dated specimens from Poland can be linked to the end of the late pre-Roman period and the beginning of the Roman period.⁹⁸ The brooches discovered in the Przeworsk and Oksywie cultures are considered imports.⁹⁹ The small number of discovered specimens and their relatively wide-spread distribution make it difficult to indicate the places of their manufacture. S. Demetz assumed that they originated in the eastern Alpine areas.¹⁰⁰ He also suggested that large specimens, such as the Kleszewo example, were a rather short-lived form that could have been produced in Raetia and Vindelicia. Assuming an eastern Alpine provenance of the design and the dating given above, Almgren-18b brooches were used in their native areas at the time of the decline of the independence of the tribes inhabiting the eastern Alps and in the first decades after their domains had been incorporated into the Roman Empire. In this light, the Kleszewo fibula, next to the

Jezerine brooches discussed below, may be one of the oldest provincial-Roman imports discovered in northern and eastern Mazovia. Its presence may be related to long-distance contacts of the local community with the South, which were manifested, among others, by an inflow of Norican-Pannonian brooches of Almgren type 67 into the areas east of the Middle Vistula (see below).

Graves 576 and 657, dated to phases II and III respectively, contained fragments of bronze fibulae with a narrow foot and circumferential crest on the bow (576/1, 657/2). Due to their state of preservation, the specimens are difficult to classify. Among bronze forms with such features, dating to the end of the pre-Roman period or the oldest horizon of the early Roman period, brooches of Almgren type 18 are the most common in Mazovia and Podlachia. Therefore, such an interpretation of the fibulae from graves 576 and 657 seems quite probable. Almgren-18b brooches have been discussed above. Almgren-18a brooches (without a hook holding the chord spring) were also made in the La Tène culture. Among them, based on morphological features (the degree to which the bow is arched, the shape of the head, etc.), there are several variants, which are also characterised by certain territorial variability.¹⁰¹ In Poland, such brooches are quite common, and most of them are “eastern Alpine”¹⁰² specimens of the *Altenburg* variant as defined by T. Völling, or Almgren type 18a2 according to S. Demetz; other forms, e.g., the Rhine variant of *Wederath* distinguished by T. Völling, are rarely found here.¹⁰³ In the areas of the La Tène culture, Almgren-18a brooches are dated to phase LT D2 and, sometimes, to the beginning of the Roman period,¹⁰⁴ in the Przeworsk and Oksywie cultures – mainly to phase A₃.¹⁰⁵ Their presence in Mazovia can be associated with contacts of the local population with the people of the Tyniec group.¹⁰⁶

Brooches of O. Almgren's group II and resembling groups II and IV

Seventeen brooches with covered springs were found at the cemetery.¹⁰⁷ Twelve of them are fibulae of an older

⁹⁰ D. Bohnsack 1939, 45, fig. 2–3.

⁹¹ Z. Dłubakowski 2005, 46, pl. XLVIII/56.

⁹² *Katalog Muzeum Archeologicznego*, vol. I, 122; J. Kostrzewski, *Archive*, folder 72, unnumbered card; artefacts in the PMA collection, inv. no. IV/228

⁹³ T. Dąbrowska 2003, 156.

⁹⁴ S. Demetz 1999, 119–120.

⁹⁵ M. Woźniak 2017, 245–249.

⁹⁶ The list from 2017 (M. Woźniak 2017, 246, fig. 5, 7) may be supplemented with the finds from Legionowo, grave 108B (P. Harasim 2017, 53, fig. 3:2.3).

⁹⁷ Cf. S. Demetz 1999, 133, 145, 147; H. Sedlmayer 2009, 128–130, 136–137.

⁹⁸ Recently, P. Łuczkiwicz 2020, 254.

⁹⁹ E.g., T. Bochnak 2014, 45–47; P. Harasim 2017, 53–55.

¹⁰⁰ S. Demetz 1999, 119, 122.

¹⁰¹ T. Völling 1995, 179–184, fig. 14, 16–18; S. Demetz 1999, 116–118, 121–122, pl. 29–30, maps 35–37.

¹⁰² Recently, the possibility that this form was manufactured also in the Tyniec group has been suggested (P. Harasim 2017, 55).

¹⁰³ P. Harasim 2011, 231–233; 2017, 54–55; T. Bochnak 2014, 45–47; P. Łuczkiwicz 2020, 251–255.

¹⁰⁴ S. Demetz 1999, 122.

¹⁰⁵ Recently, P. Łuczkiwicz 2020, 255.

¹⁰⁶ T. Dąbrowska 1988, 126–127.

¹⁰⁷ The brooches from graves 429 and 516 are missing the upper part of the bow and the spring. Their other morphological fea-

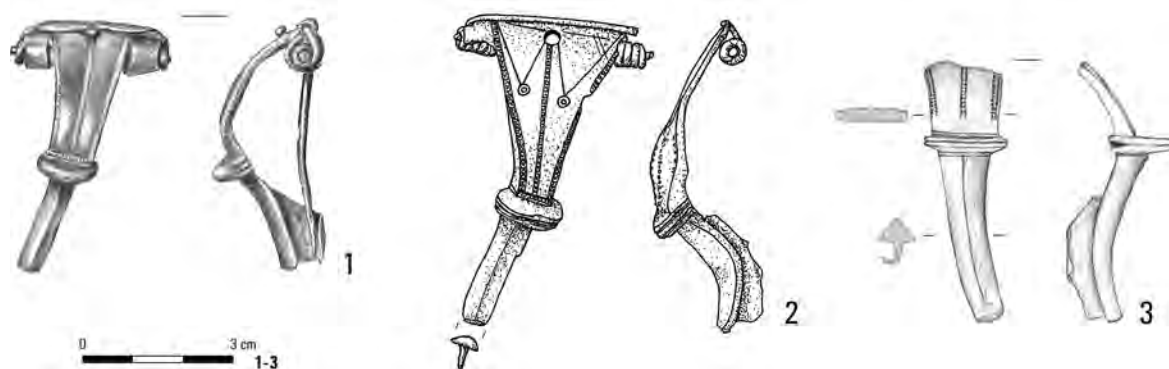


Fig. 5. Spring-cover brooches with a narrow foot. 1 – Kleszewo, grave 132; 2 – Nadkole, site 2, stray find; 3 – Magnuszew Mały, stray find. After: J. Andrzejowski 2001a (2). Drawn by P. Holub (1), T. Rakowski (3)

variant of the eastern series, Almgren type 38–39.¹⁰⁸ Three are forms combining the features of spring-cover and heavily profiled brooches.¹⁰⁹ The remaining two pieces are fragmentarily preserved and cannot be unambiguously assigned to one of the above-mentioned types.

Fibulae of Almgren type 38–39 were recorded in eight features. Four graves contained one pair each (32/1.2, 132/2.3, 363/1.2, 364/1.2), another four yielded only one specimen each (240/1, 242/1, 429/1, 516/1). The brooch from grave 240 is made of iron, which is not commonly recorded in the areas east of the Middle Vistula.¹¹⁰ The remaining specimens are bronze. The brooches form quite a diverse set, with individual pieces differing from each other in details, such as the width of the bow, shape of the foot, size of the crest and method of mounting the spring. The brooches from graves 32 and 363 have relatively wide bows, low and profiled combs and short spring covers.¹¹¹ The specimens discovered in graves

132, 240, 429 and, to a lesser extent, 364 have a slightly different build. These brooches seem to be a bit more slender, and their crests are high and narrow. Almost all Almgren-38–39 fibulae from Kleszewo have a flat foot of roughly triangular cross-section, expanding towards the end and slightly upturned, which is typical of this form. The specimen (specimens?) from grave 132 differs from this pattern, as it has a narrow, straight foot of triangular cross-section (132/2). Such a shape is very rarely found in brooches of Almgren type 38–39 (Fig. 5). This form appears to be local, characteristic of the eastern zone of the Przeworsk culture.¹¹² The shape of these brooches clearly resembles the local variant of fibulae combining the features of Almgren's groups II and IV (see below). In fact, the only difference between the two forms is the presence of a crest at the end of the foot in the case of the latter specimens.

The brooches from grave 132 and probably from grave 240 have the end of the spring set in a hole in the bow. The stray finds of spring-cover fibulae are also characterised by a similar construction (ZL/17.18), but it is not certain whether they are remains of specimens combining the features of Almgren groups II and IV.¹¹³ This method of affixing the spring is even more common in the latter (see below). Early spring-cover brooches of the eastern series featuring the discussed

tures – flat bow, crest between the bow and foot – leave no doubts that both artefacts are spring-cover fibulae.

¹⁰⁸ I believe that there are no grounds to treat Almgren types 38 and 39 as separate forms. The suggestion (J. Schuster 2005, 95, footnote 11) that Almgren type 39 is supposedly characterised by a construction of the spring cover different from the one in Almgren type 38 (cylinder instead of a cap) is not, in my opinion, confirmed by the work of O. Almgren, e.g., the fibulae from Grudziądz-Rządź (O. Almgren 1897, 141), which he included in type 39, have the “usual” covers/caps (cf. S. Anger 1890, pl. XII:21–24; M. Kurzyńska 2020, 141, 153, 167, pl. 69:21–24).

¹⁰⁹ Cf. M. Olędzki 1986; J. Andrzejowski 1994a.

¹¹⁰ E.g., Brudnice, graves 68 and 69 (A. Szela 2021, 43–44, pl. XXXIX/68:3.4, XL/69:4), Modła, grave 274 (J. Andrzejowski 2009, 215, pl. 3.143/274:3).

¹¹¹ This feature is primarily characteristic of the youngest spring-cover fibulae, Almgren type 41 (J. Schuster 2006, 102).

However, in northern and eastern Mazovia, it is observed in brooches of Almgren type 38–39 (e.g., Kamieńczyk, graves 167, 211 – T. Dąbrowska 1997, pl. LXXXVIII/167:1, CXI/211:1) and contemporaneous brooches resembling Almgren groups II and IV (cf. J. Andrzejowski 1994a, fig. 8:a.k.l, 9:i.k).

¹¹² Cf. J. Andrzejowski 2001a, 180–181.

¹¹³ The brooches from grave 363, contrary to the opinions appearing in the literature (e.g., M. Olędzki 1992, 56, 64), feature the “usual” spring design, i.e., the end of the spring is located on the axis bar rather than in a hole in the bow.

design were described by M. Ołędzki as Almgren variant 38–39a.¹¹⁴ This variant is mainly found at Przeworsk culture sites in Mazovia and Podlachia, and in adjacent areas, e.g., the Kielce region.¹¹⁵

The fibulae discovered at Kleszewo are decorated in a manner typical of “Mazovian-Podlachian” brooches of Almgren type 38–39. Therefore, their ornamentation is relatively sparse. It includes moulded ribs or one or two parallel grooves along the edge and centre of the bow and, sometimes, above and below the crest. In the brooches from graves 32, 132 and 363, the ribs or the space between the grooves is covered with a band of small cuts imitating beading. The fibula from grave 242 also has two small circular depressions on the bow, and the brooches from graves 132, 240 (?) and 364 have grooves along the foot terminal. In the grooves on the crest of one of the fibulae from grave 132 (132/3), there are remains of silver inlays.

Spring-cover brooches of Almgren type 38–39 are found throughout central European *Barbaricum* and are most numerous in the areas east of the Oder River.¹¹⁶ They are most often recorded in graves of women or representing female grave-good model, although there are exceptions to this rule.¹¹⁷ These fibulae have not yet been comprehensively studied, although attempts have been made to distinguish their various, usually local, variants.¹¹⁸ The oldest forms of these brooches known from Poland are dated to subphase B_{2a}.¹¹⁹ In northern and eastern Mazovia and Podlachia, fibulae of Almgren type 38–39 are not accompanied by material that could confidently be attributed to this subphase. All precisely dated specimens come exclusively from subphase B_{2b}.¹²⁰

Bronze specimens with a narrow foot ending in a small, knobbed crest form a smaller group of spring-cover brooches. One example was found in grave 43 (43/1), two come from grave 365B (365B/1.2). All have prominent, semi-circular, narrow crests profiled with grooves between the bow and foot and round crests on the foot terminal. In the brooch from grave 365B, the grooves were inlaid with silver. The bow of the fibula from grave 43 is decorated along the side edges with

rows of pseudo-beading, and of the brooches from grave 365B – with ribs. In all the above-mentioned specimens, the beginning of the spring is placed in a hole located in the upper part of the bow. The brooch from grave 43 was probably repaired.¹²¹ The damaged part of the spring, along with the pin and chord, was replaced with a new element (see below).

The fibulae in question are a specific form combining features of spring-cover and heavily profiled brooches. O. Almgren drew attention to their presence over one hundred and twenty years ago, defining such items as *Mischform zwischen der Fig. 39 und der Gruppe IV*.¹²² They were elaborated upon by M. Ołędzki,¹²³ who referred to them as type *Nadkole*, and by J. Andrzejowski.¹²⁴ The latter isolated spring-cover fibulae as the 3rd series of brooches with features of Almgren’s group II and IV. It differs from the other two series in the design of the spring mechanism – brooches of the 1st series have the string held by a hook; in the 2nd series, the chord and string are enclosed in a cylinder. This division based on morphological features is reflected in the distribution of finds of individual forms. Brooches of the 1st series are characteristic of the Middle Elbe basin and northern Jutland. Brooches of the 2nd series are found mainly in the south-eastern zone of the Baltic Sea. Brooches of the 3rd series are a form typical of the Przeworsk culture people inhabiting Mazovia, mainly its northern and eastern parts. They are rare outside this region, and exceptionally rare in the areas of other cultures.¹²⁵ Brooches of the 3rd series are dated, like brooches of Almgren type 38–39, to subphase B_{2b} and were likewise worn by women.¹²⁶ It is very possible that the discussed type is also represented by the stray finds of spring-cover brooch fragments from Kleszewo (ZL/17.18). This comment applies especially to the specimen with a narrow, almost rectangular bow, decorated with rows of diagonal lines, and with similarly ornamented spring covers, which finds the best analogies in brooches of Almgren type 4, 3rd series, group II/IV.¹²⁷

At Kleszewo, spring-cover brooches of both variants discussed above are markers of stage Vb of the cemetery’s use.

¹¹⁴ M. Ołędzki 1992, 53–57; 1995, 232–235, map 2; 1998, 75.

¹¹⁵ M. Ołędzki 1998, fig. 13; cf. also J. Andrzejowski 2001b, 62–64.

¹¹⁶ O. Almgren 1897, 18; R. von Uslar 1938, 102; E. Cosack 1979, 37, map 9; M. Ołędzki 1997, 64, fig. 4; 1998, 74, fig. 1.

¹¹⁷ M. Ołędzki 1992, 62.

¹¹⁸ E.g., M. Ołędzki 1992; 1995; 1998; M. Mączyńska 2006, 162–164; 2011, 33–35; J. Schuster 2014, 467–469.

¹¹⁹ M. Ołędzki 1998, 74–75; M. Mączyńska 2006, 161–162.

¹²⁰ E.g., Kamieńczyk (T. Dąbrowska 1997, 119), Modła (J. Andrzejowski 2006, 18), Nadkole, site 2 (J. Andrzejowski 1998a, 107–108), Niedanowo (W. Ziemińska-Odojowa 1999a, 140).

¹²¹ It cannot be ruled out that this condition is a result of modern conservation treatment, as the spring and chord have been glued together from several fragments.

¹²² O. Almgren 1897, 20.

¹²³ M. Ołędzki 1986.

¹²⁴ J. Andrzejowski 1994a.

¹²⁵ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 120–122, with older literature.

¹²⁶ J. Andrzejowski 1994a, 97–99, 101–102.

¹²⁷ Cf. J. Andrzejowski 1994a, 95–96.

Brooches of O. Almgren's group III

The site yielded 31–33 eye brooches. The lack of precision in determining their number results from the fact that the stray finds of two fibula fragments (ZL/13.15) may be parts of brooches from graves 452 (452/1) and 515 (515/2). All specimens are made of bronze.

Brooches of the main series were found in three graves (83/1, 525B/1.2, 702/1) and on the surface of the site (ZL/7). The last one is the oldest in terms of style. Only part of the head has been preserved. However, it is so characteristic that a more precise classification of the artefact is possible. On both sides of the brooch's head, there are small, quadrangular protrusions with transverse grooves. Next to them, right next to the edge where the now broken-off bow was located, two small arched notches are visible. These marks prove that the brooch had rounded cutouts on the head, below the protrusions. This design is a distinctive feature of Almgren-45 fibulae. The Kleszewo brooch is distinguished by the unusual construction of the spring mechanism, which is undoubtedly the result of a repair. The brooch is composed of two parts: a bronze spring on an iron axis bar is set in a secondarily drilled hole in the head.

Brooches of Almgren type 45 are the most common form among early eye fibulae of the main series. Their large number and wide distribution, covering almost the entire area of central European *Barbaricum* and, to a lesser extent, also the adjacent Roman provinces, resulted in numerous studies on this category of artefacts.¹²⁸ Their greatest concentration is found in the Elbe basin; consequently, this region has long been perceived as the main place of their manufacture.¹²⁹ The question of provenance of the finds from the Roman provinces is more problematic. This concern applies primarily to quite numerous specimens from the Lower and Middle Rhine region, the presence of which prompted some researchers to assume the hypothesis that these brooches were also made in Roman workshops.¹³⁰ However, this proposal is sometimes questioned.¹³¹ The main argument “against” is the model of distribution of this form, different from other contemporaneous fibulae, and the small number of finds from contexts related to Roman “civilian” settlement. It is assumed that the presence of these brooches by the

Rhine could be related to the arrival in the region of groups of Elbe Germans, whose presence there is dated to the end of the La Tène period.¹³²

Several dozen brooches of Almgren type 45 are known from Poland.¹³³ The most have been recorded at Wielbark culture sites, primarily those located by the Lower Vistula. Slightly fewer have been found in the Przeworsk culture areas. In other cultural zones, e.g., in the Lubusz group, only isolated specimens have been recorded. The presence of the fibulae in question in the above-mentioned areas is interpreted as a manifestation of contacts between the local populations and people of the Elbe River basin, the Bohemian Basin in particular.¹³⁴ Almgren-45 brooches are dated in *Barbaricum* to phase B₁, most often to its later section.¹³⁵ The same dating is also applied to specimens from the areas east of the Middle Vistula, where at least ten such artefacts have been recorded.¹³⁶

The second of the early eye fibulae of the main series found at Kleszewo (83/1) corresponds to Almgren type 46. It differs from the one described above almost exclusively in the form of the head – the “eyes” are circular holes with small incisions next to them. The great similarity of both types means that Almgren-46 brooches are considered to be a form that evolved from Almgren type 45.¹³⁷ Both types are characterised by the same chronology and similar distribution,¹³⁸ but fibulae of Almgren type 46 are less numerous.¹³⁹

A dozen or so Almgren-46 brooches have been discovered in Poland.¹⁴⁰ Everything that has been written above regarding the dating and distribution of Almgren-45 specimens in the areas north of the Car-

¹²⁸ E.g., E. Cosack 1979, 59–63; E. Droberjar 1999, 73–75; J. Kunow 1998; M. Mączyńska 2004, 211–212; W. Walther, T. Schierl 2018.

¹²⁹ O. Almgren 1913, 270; E. Cosack 1979, 59–61; E. Droberjar 1999, 73–75.

¹³⁰ J. Kunow 1998, 110.

¹³¹ B. Steidl 2018, 157.

¹³² M.P. Speidel, B. Scarigi 1990; K. Frank 2017; B. Steidl 2018, 157.

¹³³ M. Mączyńska 2004, 212, 220–221.

¹³⁴ M. Mączyńska 2004, 212.

¹³⁵ J. Kunow 1998, 104–106; E. Droberjar 1999, 73–75; M. Mączyńska 2004, 212.

¹³⁶ Gródek, Wysokie Mazowieckie County, grave 82 (A. Szela 2017, 212, 214, fig. 2:17), Kleszewo, stray find, Kuczbork-Osada, feature 19A (A. Szela 2018a, 22, pl. XIV/19A), Książ Dwór, grave 20 (A. Brinkmann 1909, 280, 283, fig. 183), Nadkole, site 2, graves 15 and 22B (J. Andrzejowski 1998a, 19, 21, pl. XI/15, XVIII/22A–B), Niedanowo, grave 478 (W. Ziemińska-Odojowa 1999a, 85, pl. CLXXIV/478), Modła, graves 18 and 218 (J. Andrzejowski 2006, 25, fig. 14/218; 2009, 80, pl. 3.4/18:1), Karniewo Commune, stray find (collection of the Museum of Zawkrzenska Land in Mława [hereinafter: MZZ], inv. no. MZZ/A/1453).

¹³⁷ E. Droberjar 1999, 75.

¹³⁸ Cf. E. Droberjar 1999, 73–75.

¹³⁹ J. Kunow 1998, fig. 2, 5.

¹⁴⁰ M. Mączyńska 2004, 212, 220–221.

pathians also applies to Almgren type 46. In right-bank Mazovia and Podlachia, such brooches are rare.¹⁴¹

Stylistically younger eye brooches of the main series were found in grave 525B. The better-preserved specimen has two concentric circles punched on the head (525B/1), which allows it to be identified as Almgren type 52. The bow is decorated with a band of pseudo-filigree, and, at the end of the foot, two engraved lines meet at an angle. The head of the second brooch from the grave (525B/2) was melted. Its clear typological classification is impossible. In size and shape, it closely corresponds to the first brooch from this grave, so I assume that it represents the same form.¹⁴² Almgren-52 brooches are found in large numbers in barbarian Europe. Unlike Almgren types 45 and 46 discussed above, few have been discovered in the Bohemian Basin; this scarcity has been associated with the decline of Marcomannic craft centres, which may have occurred after the collapse of Maroboduus' rule.¹⁴³ A relatively large group of Almgren-52 brooches consists of finds from the Roman provinces, primarily from the Rhine region.¹⁴⁴ However, the possibility of their manufacture in imperial workshops is sometimes contested.¹⁴⁵ In *Barbaricum*, these fibulae are dated to late phase B₁, sometimes separated as stage B_{1c}.¹⁴⁶ In the Przeworsk culture areas east of the Middle Vistula, brooches of Almgren type 52 occur within the horizon of Almgren-68 fibulae,¹⁴⁷ which covers – treated jointly here – the younger and late sections of phase B₁ (see below). This is also how the Kleszewo brooches are dated (phase IV of the cemetery's functioning).

A fragment of an eye brooch of the main series was found in grave 702 (702/1). Its state of preservation makes further classification difficult. Its slender foot and grooves along the side edges point to one of the late variants – Almgren 52 or 53.¹⁴⁸ I have discussed Almgren-52 brooches above. Fibulae of Almgren

type 53 are characterised by the lack of “eye” decoration. They are quite abundant in *Barbaricum*, mainly in its central-eastern part, i.e., in the Wielbark and Przeworsk culture areas and, to a lesser extent, in Scandinavia.¹⁴⁹ Their second concentration can be found in the Roman province areas adjacent to *Barbaricum*. There are especially many of them in Lower and Upper Germania, and a few examples have also been recorded in Noricum and Pannonia.¹⁵⁰ J. Kunow's compilation¹⁵¹ shows that the number of “Roman” brooches of Almgren type 53 is much higher than those discovered in barbarian areas. While the finds from the Middle Danube region can be explained by intensive Roman-barbarian contacts along the so-called Amber Road, the presence of over a hundred pieces by the Upper and Middle Rhine is difficult to interpret as anything other than local manufacture.¹⁵² As such, there are no grounds to consider the finds from Poland as Roman imports. Brooches of Almgren type 53 were then probably made independently in two, quite distant, regions: in the Roman Empire (Lower and Upper Germany) and barbarian areas, in the Polish lands. We encounter a similar situation in the case of contemporaneous fibulae of Almgren type 68 (see below).

Almgren-53 brooches in the Wielbark and Przeworsk culture areas are dated to the late section of phase B₁ and the beginning of phase B₂.¹⁵³ At Mazovian-Podlachian cemeteries of the Przeworsk culture, they co-occur with Almgren-68 fibulae,¹⁵⁴ early trumpet brooches,¹⁵⁵ and the youngest examples – with eye brooches of the Prussian series¹⁵⁶ and Almgren type 103.¹⁵⁷ The Kleszewo specimen is associated with phase IV of the cemetery's use.

With 26–28 pieces found, eye brooches of the Prussian series form the largest group of fibulae from the

¹⁴¹ E.g., Modła, grave 285 – 2 pcs. (J. Andrzejowski 2009, 221, pl. 3.152/285), Niedanowo, grave 102 (W. Ziemińska-Odojowa 1999a, 26, pl. XXXI/102:1). Identified at times as Almgren type 46, the brooch from Wielki Łęck (cf. M. Mączyńska 2004, 221) has “eyes” in the form of punched circles, as in Almgren type 52 (A. Bezzenberger 1909, 68, fig. 36; H. Jankuhn, *Archive*).

¹⁴² Nonetheless, it cannot be excluded that it was a specimen without the “eye” decoration, of Almgren type 53.

¹⁴³ M. Mączyńska 2004, 213.

¹⁴⁴ J. Kunow 1998, fig. 5; M. Mączyńska 2004, 213.

¹⁴⁵ M. Mączyńska 2004, 213; cf. J. Kunow 1998, 107, 110.

¹⁴⁶ K. Godłowski 1985, 41; M. Mączyńska 2004, 213.

¹⁴⁷ Cf. M. Mączyńska 2004, 212.

¹⁴⁸ Cf. Niedanowo, grave 302 (W. Ziemińska-Odojowa 1999a, 59, pl. CV/302:1), Nadkole, site 2, grave 30 (J. Andrzejowski 1998a,

23, pl. XXIII/30:5), Modła, grave 54 (J. Andrzejowski 2009, 98, pl. 3.21/54:2).

¹⁴⁹ M. Mączyńska 2004, 212, 221, 224, map 2.

¹⁵⁰ J. Kunow 1998, fig. 7.

¹⁵¹ J. Kunow 1998, fig. 5.

¹⁵² J. Kunow 1998, 109; cf. M. Mączyńska 2004, 213.

¹⁵³ K. Godłowski 1985, 41; R. Wołagiewicz 1993, 24; Mączyńska 2004, 212.

¹⁵⁴ E.g., Modła, grave 100 (J. Andrzejowski 2009, 123, pl. 3.45/100:1.2).

¹⁵⁵ E.g., Kamieńczyk, grave 14 (T. Dąbrowska 1997, 14, pl. VI-II/14:1).

¹⁵⁶ E.g., Nadkole, site 2, grave 30 (J. Andrzejowski 1998a, 23, pl. XXIII/30:6).

¹⁵⁷ E.g., Niedanowo, grave 264 (W. Ziemińska-Odojowa 1999a, 52, pl. LXXX/264:2.3).

Table 1. Typological classification of the Kleszewo eye brooches of the Prussian series.

Type	Artefact no.	No. of pcs.
Almgren 57	262/1, ZL/10?.11	3
Almgren 58–59	282/1, 537/2, 607/1?	3
Almgren 60	132/1, 262/2, 282/2, 452/1, 537/1	5
Almgren 61	515/1	1
Almgren 57, 58–59 or 60	383/1, 537/3, 538/1, ZL/14	4
Almgren 60 or 61	141/2, 365B/3, 403/1, 515/2, ZL/12	5
Undetermined	248/1, 284/1, 397/1?, 856/1, 862/1, ZL/13.15	7

early Roman period registered at Kleszewo. Most are less or more damaged, so only 12 of them could be precisely classified (Table 1).

The oldest in terms of style were the fibulae from grave 262 and stray finds from the site's surface (ZL/10?,¹⁵⁸ ZL/11). These are brooches of Almgren type 57, with lateral projections on both sides of the head decorated with concentric circles. Two or three further specimens (282/1, 537/2, 607/1?) of similar shape but without the “eyes” on the head were classified as Almgren type 58–59.¹⁵⁹ Eleven brooches correspond to Almgren types 60 and 61, characterised by the bow narrowing near the spring. Of them, five were identified as Almgren type 60 (132/1, 262/2, 282/2, 452/1, 537/1), with a crest between the foot and bow, and one as Almgren type 61 (515/1), which lacks this element. The type of the remaining 11 eye brooches of the Prus-

¹⁵⁸ It cannot be ruled out that it is a fragment of a brooch of the main series, i.e., Almgren type 52 (see above). However, I find this possibility less likely.

¹⁵⁹ According to O. Almgren (1897, 30), types 58 and 59 differ in the shape of lateral projections on the sides of the head. In brooches of Almgren type 58, they are large, similar to those observed in late forms of the main series and Almgren type 57; in Almgren type 59, they are reduced to small protrusions. In the enormous number of finds from central European *Barbaricum*, including Kleszewo, there are many specimens with smaller projections than the ones in the model example of Almgren type 58, albeit larger than the ones in the illustration of Almgren type 59. As the criterion of the projection size is unclear, I treat all eye brooches of the Prussian series with side projections and without “eyes” on the head as one form.

sian series from Kleszewo, due to their poor state of preservation, could not be unequivocally determined.

The Kleszewo eye fibulae of the Prussian series are decorated in the manner typical of this type. The bows are ornamented along the central part with a band of pseudo-filigree forming different patterns, e.g., a row of domed circles or ovals placed in a groove (Fig. 6:1.2), a row of quadrangular depressions (Fig. 6:3), or a moulded strip with protrusions (Fig. 6:4). Two to four pairs of “eyes” are punched on the foot; usually, there are three pairs, with the last one sometimes placed between the arms of an angle, a triangle, or a similar pattern, engraved at the foot terminal. The exception is the Almgren-60 fibula from grave 452, which has “eyes” also at the ends of the bow – two on the head and one above the crest (452/1). This decoration is relatively rare in the case of brooches of Almgren type 60 and 61.¹⁶⁰

Eye brooches of the Prussian series are found in almost all of barbarian Europe. Their largest concentrations have been recorded in the Wielbark, Dollkeim/Kovrovo and the eastern part of the Przeworsk culture areas, whereas few have been found in the western part of *Barbaricum*, between the Rhine and Elbe.¹⁶¹ Exceptional is the collection of the fibulae in question from the Roman *Augusta Vindelicorum*¹⁶² in Raetia (now Augsburg), with more than 200 specimens, including half-finished pieces indicating their local manufacture. The manufacture of this form, characteristic of barbarian Europe, in Roman workshops is difficult to explain. Hence, there have been various attempts to interpret this phenomenon.¹⁶³ The possibility that the form in question was made in Roman workshops does not undermine its barbarian origin. Over 1,000 specimens¹⁶⁴ found in Poland show that they were made locally. The question of the possible presence of southern imports in this assemblage requires further study.

Prussian-series eye brooches of Almgren types 57 and 58–59 are mostly dated to subphase B_{2a}; the chronology of Almgren types 60 and 61 is broader, covering

¹⁶⁰ E.g., Kamińczyk, grave 111 (T. Dąbrowska 1997, 31, pl. LVIII/111:1), Modła, grave 255 (J. Andrzejowski 2009, 203, pl. 3.129/255:3), Nadkole, site 2, grave 113 (J. Andrzejowski 1998a, 42, LXVIII/113:10).

¹⁶¹ U. Pfeiffer-Frohnert 1998, 129, maps 3–5; J. Andrzejowski, A. Cieśliński 2007, 282–283, fig. 4; J. Andrzejowski 2020, 12, fig. 4; A. Chylińska-Früboes 2020, 188–205.

¹⁶² L. Bakker 2002, 263–264, fig. 3; H.-U. Voß 2008, 343–346, fig. 1.

¹⁶³ Recently, P. Łuczkiwicz, P. Gan, J. Kleemann, A. Kuzioła 2022, 278–282; with an overview of older concepts.

¹⁶⁴ J. Andrzejowski, A. Cieśliński 2007, 283.



Fig. 6. Bow ornamentation of the Kleszewo eye fibulae.

1 – grave 262/2; 2 – grave 365B/3; 3 – grave 515/1; 4 – grave 515/2. Photo by M. Woźniak

also subphase B_{2b}.¹⁶⁵ At Kleszewo, brooches of Almgren types 57 and 58–59 were found in graves that cannot be precisely dated based on the accompanying forms. Thus, in establishing their chronology (stage Va), I have used the results of research conducted for the largest Przeworsk cemeteries in eastern Mazovia – Kamieńczyk and Nadkole site 2. In the case of the former, brooches of Almgren types 57 and 58–59 are a marker of horizon 6,¹⁶⁶ in the case of the latter – of horizon 1b,¹⁶⁷ according to the relative chronology systems developed for these cemeteries. Both episodes are synchronised with subphase B_{2a}. The Kleszewo brooches of Almgren types 60 and 61 were in use for a longer period (stages Va and Vb). They first appeared in the horizon of fibulae of Almgren types 57, 58–59¹⁶⁸ (graves 262, 282, 537), while the youngest were found together with brooch-

¹⁶⁵ Recently, A. Chilińska-Früboes 2020, 191, 195, 197, 200, 201, with older literature.

¹⁶⁶ T. Dąbrowska 1997, 115.

¹⁶⁷ J. Andrzejowski 1998a, 105, 107.

¹⁶⁸ Closed character of the assemblage from grave 141, in which an eye fibula was found together with an Almgren-68 brooch, is dubious. The eye fibula was found in the upper part of the feature, several cm below a cut disturbing the top level of the pit. It is possible that in the spot of its discovery, the cut was deeper than can be seen in the feature's profile. As such, the brooch

es of Almgren type 38–39 (grave 132) and those with features of Almgren groups II and IV (grave 365B).

Brooches of O. Almgren's group IV

Five brooches of Almgren type 67 (113/1, 231B/1.2, 701A/1, ZL/6) were found at Kleszewo. All of them have pouch-shaped heads, which makes it possible to link them to variants of Almgren 67a as defined by T. Völling¹⁶⁹ and S. Demetz.¹⁷⁰ None of them have the foot and catchplate completely preserved, which makes a more accurate classification in the typology of the latter researcher difficult, as the number of holes in the catchplate is an important criterion in differentiating between Almgren variants 67a1 and 67a2.¹⁷¹ Almgren-67a1 brooches have a relatively long foot, with at least four holes. Specimens of Almgren variant 67a2 have a proportionally shorter foot and no more than three holes in the catchplate. Variant-2 fibulae are also usually shorter and less profiled than variant-1 specimens. The Kleszewo specimens are residually preserved and deformed by fire. The massiveness of the fibulae from graves 231B and 701A and one recovered as a stray find (231B/1–2, 701A/1, ZL/6), and the heavily profiled specimen from grave 113 (113/1), indicate that they likely represent Almgren variant 67a1. This form is thought to have developed in Noricum at the end of the 1st century BCE.¹⁷² In the Roman Empire area, Almgren-67a1 brooches are mainly dated to the middle and late Augustan Age.¹⁷³ It is possible, however, that they began to be manufactured slightly earlier, even before Augustus' Alpine campaign of 16–15 BCE. Indeed, two specimens discovered at Magdalensberg were found with material dating to 25–10 BCE.¹⁷⁴ Almgren-67a brooches are discovered in quite large numbers outside the borders of the Empire, including areas north of the Carpathians,¹⁷⁵ e.g., in northern and eastern Mazovia.¹⁷⁶ These fibulae probably came to Poland from the Bohemian Basin. During the reign of

would have been found in a secondary context rather than the fill of grave 141.

¹⁶⁹ T. Völling 2005, 143–146.

¹⁷⁰ S. Demetz 1998, 140–141; 1999, 128–129.

¹⁷¹ S. Demetz 1998, 140–141; 1999, 128–129.

¹⁷² S. Demetz 1999, 133; T. Völling 2005, 144.

¹⁷³ S. Demetz 1998, 142–143; 1999, 133.

¹⁷⁴ H. Sedlmayer 2009, 31.

¹⁷⁵ T. Völling 2005, 144, map 20.

¹⁷⁶ E.g., Kamieńczyk, graves 15b, 37, 241 (T. Dąbrowska 1997, 82, pl. IX/15b:9, XX/37:8, CXX/241:1), Niedanowo, graves 144, 178 (W. Ziemińska-Odojowa 1999a, 33, 38, pl. XXXIX/144:1, XLIX/179:1.2), Stupsk, grave 4/91 (A. Grzymkowski 2005, 174, 176).

Maroboduus, i.e., in the first two decades CE, the area acted as a distribution centre for Roman imports,¹⁷⁷ which may have been influenced by the Roman merchants residing there.¹⁷⁸ In *Barbaricum*, Almgren-67a fibulae are markers of the oldest section of the early Roman period, i.e., subphase B_{1a}.¹⁷⁹ This is also how they are dated at Kleszewo (phase III of the cemetery's use). In their native territory, Almgren-67a brooches were most often part of women's clothing. Outside the Empire, they are found in graves with both female and male grave-good models.¹⁸⁰

Nine bronze brooches were classified as Almgren type 68. The specimens from graves 141 and 352 are complete (141/1, 352/1.2). The remaining fibulae are preserved in fragments: part of a bow with the head (521B/1, 718/1, ZL/8.9) or a foot with the catchplate (200A/1, 231A/1). All¹⁸¹ are represented by specimens with heads rounded from the top. Each catchplate has three circular holes, usually of different diameters. The foot terminals are topped by an almost spherical (141/1), disc-shaped (200A/1, 231A/1) or profiled (352/1.2) knob.

Almgren-68 brooches are commonly found in the eastern part of central European *Barbaricum* (including Mazovia and Podlachia) and in the Roman Empire.¹⁸² They are derived from Norican-Pannonian fibulae of Almgren type 67. Roman origin of the brooches discovered in the provincial areas is not in doubt, as it has been confirmed by half-finished pieces found there.¹⁸³ Less clear is the question of provenance of the finds from the *Barbaricum* area, where they are also very numerous.¹⁸⁴ They are considered either barbarian imitations of Roman brooches or provincial-Roman imports.¹⁸⁵ Any attempt to distinguish barbarian wares from possible imports is hampered by the negligible morphological diversity of these brooches. This remark applies to specimens with heads rounded from the top, which are predominant in Poland, and also commonly found in the areas of the Roman Empire, and which we know, for example, from Kleszewo. They differ only

in the size and number (two or three) of holes in the catchplate.¹⁸⁶ The situation is different for specimens with heads of angular cross-section. Common in the Roman areas, often recorded in Slovakia and Moravia, they are found quite exceptionally north of the Carpathians.¹⁸⁷ As a result, such specimens found in the Przeworsk and Wielbark culture areas are considered to be imports from the south.¹⁸⁸

The manufacture of Almgren-68 brooches in the Roman areas is thought to have started at the end of the reign of Tiberius.¹⁸⁹ They were most popular during the reigns of Claudius and Nero, and at the beginning of the Flavian period.¹⁹⁰ In *Barbaricum*, the fibulae in question are dated to the younger and late sections of phase B₁, with the latest specimens recorded in the context of material from phase B₂.¹⁹¹ At Kleszewo, Almgren-68 fibulae are markers of phase IV of the cemetery's use.

The Kleszewo site yielded 12 trumpet brooches. The oldest one was discovered in grave 200A together with an Almgren-68 brooch. It is a small bronze specimen with a large circular head, whose lower edge meets the crest between the bow and foot (200A/2). The underside of the bow and the adjacent part of the head show traces of filing (?). The catchplate is decorated with bands of fine incisions along the side edges. The fibula is similar to Almgren types 74 and 75, or variant 1 in T. Liana's division of trumpet brooches from Przeworsk culture sites.¹⁹² It is the oldest form among the brooches of the 2nd series of Almgren group IV known from the sites of this cultural unit, used mainly in late phase B₁.¹⁹³ These brooches were made of iron or bronze. They are found in graves of both men and women, with iron specimens more frequently recorded in features containing elements of weaponry.¹⁹⁴ The specific ornament decorating the catchplate of the Kleszewo brooch finds analogies among the trumpet fibulae from Kolonia Rychłocice, grave 113,¹⁹⁵ and Karczyn/Witowe, stray find.¹⁹⁶

An iron trumpet brooch inlaid with silver was a stray find (ZL/16). In raw material, shape and bow decoration, it resembles the specimen from Bråten in Nor-

¹⁷⁷ E.g., S. Demetz 1999, 173; T. Dąbrowska 2008, 117; J. Schuster 2010, 298.

¹⁷⁸ Tacitus, *Annals* II,62.

¹⁷⁹ T. Völling 2005, 93–94, 145–146.

¹⁸⁰ S. Demetz 1999, 131–132.

¹⁸¹ The comments apply to the specimens that have had these parts preserved.

¹⁸² M. Buora 2002, 67, map 1; M. Mączyńska 2002; 2011, 27–31; S. Schmid 2010, 21.

¹⁸³ H. Sedlmayer 2009, 33–34; D. Knauseder 2014, 156–157.

¹⁸⁴ M. Mączyńska 2011, 24.

¹⁸⁵ E.g., T. Liana 1970, 442; M. Olędzki 1997, 60–63; M. Mączyńska 2002, 165.

¹⁸⁶ E.g., J. Lichardus 1984, 14, fig. 1.

¹⁸⁷ R. Prochowicz 2003; A. Krzyszowski, J. Schuster 2009, 126; cf. M. Olędzki 1997, 61–63.

¹⁸⁸ R. Prochowicz 2003, 333.

¹⁸⁹ S. Demetz 1999, 135.

¹⁹⁰ H. Sedlmayer 2009, 33; S. Schmid 2010, 21.

¹⁹¹ M. Mączyńska 2002, 167; 2011, 27–28, table 2.

¹⁹² T. Liana 1970, 442–444.

¹⁹³ T. Liana 1970, 443–444; K. Godłowski 1985, 41.

¹⁹⁴ T. Liana 1970, 443.

¹⁹⁵ W. Siciński 2019, 114, fig. 73:7.

¹⁹⁶ J. Bednarczyk, A. Romańska 2015, 51, pl. LXXXVII/w.XX:1.

way¹⁹⁷ that became the model for Almgren type 76. Almgren did not define this form clearly. Inferring from the sketch in the plate, as well as the information in the paragraph on the ornamentation of fibulae of the 2nd series of group IV and in the catalogue,¹⁹⁸ it can be assumed that its only certain distinctive feature is the presence of diagonal or transverse notches on the bow (!) and foot, possibly with inlay. The lack of precisely defined classification criteria has meant that morphologically and stylistically different brooches, e.g., ones without a notched bow, are now included in Almgren type 76; on the other hand, trumpet fibulae with grooves on the foot and bow are sometimes assigned to other types.¹⁹⁹

Trumpet brooches of various shapes, completely covered with notches, usually iron and inlaid with silver, which includes the Kleszewo specimen, are found in vast areas of barbarian Europe, from Scandinavia to Bohemia and Moravia.²⁰⁰ They are also known from the Przeworsk culture territory, especially its western and southern parts, e.g., Cieślówice Duże, grave 14;²⁰¹ Kalinów;²⁰² Łęg Piekarski, grave 2(?);²⁰³ Siemiechów, grave 26,²⁰⁴ which is not surprising as other forms of iron brooches found there were also commonly decorated in an analogous way, e.g., fibulae of the 8th series of Almgren group V.²⁰⁵ East of the Middle Vistula, trumpet fibulae with a notched bow and foot are very rare.²⁰⁶ No such brooches have been discovered at the Przeworsk cemeteries of several hundred graves at Kamieńczyk, Nadkole site 2 or Niedanowo. More frequently recorded there are forms with notches (and inlay) present only on the foot.²⁰⁷

¹⁹⁷ I. Undset 1882, 490, fig. 188.

¹⁹⁸ O. Almgren 1897, 41–45, 158–163.

¹⁹⁹ E.g., the iron trumpet brooches fully covered with silver inlay from grave 7 at Oblin (K. Czarnecka 2007, 13, pl. VIII/7:1) and grave 24 at Chmielów Piaskowy (K. Godłowski, T. Wichman 1998, pl. XXXIII/24:5) were classified as Almgren types 88 (or 96) and 78–79.

²⁰⁰ E.g., O. Almgren 1897, 158–163; I. Peškař 1972, 37, pl. 13:10; K. Godłowski 1977, 10.

²⁰¹ M. Dziegielewska, M. Kulczyńska 2008, 15, pl. XL/14:3.4.

²⁰² A. Langenhan 1890, 110, pl. III:11.12.

²⁰³ K. Czarnecka 2001, 210, 214, fig. 1b.

²⁰⁴ M. Jażdżewska, W. Siciński 2017, 28, fig. 30:9.10.

²⁰⁵ H. Machajewski 1998, 189.

²⁰⁶ E.g., Opoka, grave 72 (A. Szarek-Waszkowska 1971, 102, pl. XXXVI:5.6).

²⁰⁷ E.g., Brudnice, grave 10 (A. Szela 2021, 24, pl. VII/10:5), Modła, graves 6, 36A, 134 (J. Andrzejowski 2009, 76, 89, 142, pl. 3.2/6:1, 3.13/36A-B:1, 3.62/134:1), Oblin, grave 33 (K. Czarnecka 2007, 18, pl. XXXIII/33:2), Gródki “Łysa Góra”, grave 41 (J. Oku-

licz 1983, fig. 59:i), Drohiczyn, pit XXVIII (Z. Szmit 1923, 166, fig. 151), Szczepkowo-Zalesie, grave 11 (R. Odoj 1962, 825–826).

Trumpet brooches decorated with inlay or notches only are dated to the end of phase B₁ and, most often, to phase B₂.²⁰⁸ Specimens with a notched foot only are of an earlier chronology. Specimens completely covered with ornamentation are generally dated to phase B₂.²⁰⁹ The stray find from Kleszewo can also be dated to this time section (stages Va–b of the cemetery’s functioning).

The largest group of trumpet brooches, numbering nine or ten specimens, consists of fibulae of Almgren types 78 and 79 (2/1, 118/1, 121/1.2, 354/1.2, 383/2, 429/1.2?, 979/1). They are all made of bronze. They have grooves along the edges of their heads, and the crests are profiled; these elements are sometimes inlaid with a silver (383/2) or bronze wire (979/1). Brooches of Almgren type 78, to which all the better-preserved Kleszewo specimens belong, have a circular disc-shaped crest on the bow. In the case of fibulae of Almgren type 79, the crest is flattened at the bottom and, in principle, does not extend beyond the line of the bow from below. Only the brooch from grave 429 (429/2) has its crest shaped in this way. However, it is missing the head and foot terminal, which puts its inclusion in the group of trumpet brooches into question. The other two fibulae, from graves 2 and 118, cannot be classified more precisely, other than falling within the two types discussed, due to their state of preservation.

Bronze brooches of Almgren types 78 and 79 are among the most common fibulae found at Przeworsk culture cemeteries located east of the Middle Vistula. They are found in graves of women and, in smaller numbers, also men. They are mostly dated to the developed and younger sections of phase B₂.²¹⁰ The Kleszewo brooches are associated with stage Vb and, exceptionally, as in the case of the specimen from grave 979, with stages Va–b (Va?) of the cemetery’s use. The early chronological position of the last specimen is suggested by the accompanying fibula of the 7th series of Almgren group V and, indirectly, also by the engraved lines on its catchplate. In Mazovia and Podlachia, an analogous ornament is recorded quite rarely and usually on brooches dated to subphase B_{2a}.²¹¹

I also include in the group of trumpet brooches a half-preserved specimen found in grave 253 (253/1).

licz 1983, fig. 59:i), Drohiczyn, pit XXVIII (Z. Szmit 1923, 166, fig. 151), Szczepkowo-Zalesie, grave 11 (R. Odoj 1962, 825–826).

²⁰⁸ K. Godłowski 1977, 10–11.

²⁰⁹ K. Godłowski 1977, 11; K. Czarnecka 2001, 214.

²¹⁰ E.g., T. Dąbrowska 1997, table 4; J. Andrzejowski 1998a, 118.

²¹¹ E.g., Kamieńczyk, grave 55 (T. Dąbrowska 1997, 20–21, pl. XXVI/55:2), Niedanowo, graves 26, 31, 596 (W. Ziemlińska-Odojowa 1999a, 16–17, 102–103, pl. IX/26:1, XII/31:1, CCXI/596:1.2).

The absence of the larger part of the bow and head makes its classification difficult. The straight foot terminated in a conical knob, a small, profiled comb and the shape of the bow, which is distinctly narrower than the foot, indicate that the fibula probably represents variant 5 of trumpet brooches.²¹²

It is a local form, characteristic of the Przeworsk culture population inhabiting Mazovia and Podlachia. Outside this region, it is found rarely, and in other cultural areas – quite exceptionally.²¹³ Its creation is the result of a local evolution of brooches of the 2nd series of group IV.²¹⁴ Some inspiration from provincial-Roman forms, specifically Almgren 84, is also possible.²¹⁵ Brooches of variant 5 are most often found in graves of women or of female grave-good model.²¹⁶ East of the Middle Vistula, they are markers of the younger section of phase B₂.²¹⁷ Thus, I date the specimen from Kleszewo to stage Vb of the cemetery's functioning.

Stylistically late brooches of Almgren group IV were also found in grave 969 (969/1.2). The bow of an almost triangular cross-section is constricted in the central part and separated from the foot by a small crest. These features allow the artefacts to be identified as the so-called Mazovian variant of heavily profiled fibulae.²¹⁸ Such brooches represent the last developmental link of fibulae of the 2nd series of Almgren group IV, which developed in the so-called eastern zone of the Przeworsk culture at the end of the early Roman period. Their starting forms were the slightly older brooches of variant 5. On the basis of the features of grave contents and the results of anthropological analyses, fibulae of the Mazovian variant are associated with female dress.²¹⁹ The specimens from Kleszewo have a two-piece construction and knee-shaped bows, which means that they can be assigned to type 2B of the form in question.²²⁰ They are distinguished from the "ordinary" examples of this type by their high catchplate and an elongated, profiled and upward-pointing knob at the end of the foot. The uniqueness of these features was pointed out by J. Andrzejowski.²²¹ He defined such fibulae as the *Topornica* variant. Apart from Kleszewo, such brooches have been found at a few sites of the Przeworsk culture in southern

Poland and one in the Masłomęcz group area; further specimens of this type discovered in south-eastern Poland and, above all, western Ukraine cannot be attributed to specific cultures.²²² None of the *Topornica*-variant fibulae recorded so far can be dated precisely based on the accompanying artefacts. Based on their stylistic features, it is presumed that they first appeared no earlier than phases B₂/C₁–C_{1a}.²²³ Hence, I associate the brooches from Kleszewo with the terminal horizon of the Przeworsk culture at the site, identified as stage Vc.

A fragment of a brooch with a foot of triangular cross-section, terminated in a disc-shaped, profiled crest with a knob at the end, was found in grave 339 (339/1), which is dated to stages Va–b of the cemetery's use. Of the early Roman forms found at Kleszewo, such a foot shape is found in the trumpet brooches from graves 354, 429 and 979, and the fibulae combining features of Almgren groups II and IV (365B). Probably, the specimen from grave 339 should also be categorised as one of these types.

A fragment of a fibula with a similarly shaped foot was found in grave 353 (353/1). It differs from the one discussed above in its slightly more upturned crest, which is additionally inlaid with a bronze wire, and catchplate decorated with engraved lines. This ornamentation suggests dating the artefact to an older section of phase V (see the discussion on trumpet brooches). This specimen is unlikely to be associated with the group of fibulae with characteristics of Almgren groups II and IV, as none of the dozens of Przeworsk culture fibulae of this form discovered to date have been decorated in this way.²²⁴

Brooches of O. Almgren's group V

The Kleszewo site yielded 11 brooches derived from the heavily profiled form.

Fibulae of the 7th series of group V were found in graves 105,²²⁵ 201 and 979. They are specimens with slender, arched bows of triangular cross-sections (105/1, 201/1, 979/2), closest to Almgren types 109 and 110. The crests at the foot terminal of the bronze specimens are disc-shaped and topped with a knob (105/1, 979/2); the iron brooch has an approximately conical shape (201/1). In northern and eastern Mazovia and

²¹² T. Dąbrowska 1995, 7–10, fig. 3; 1998, 151, fig. 1.

²¹³ Recently, J. Andrzejowski 2020, fig. 5.

²¹⁴ J. Andrzejowski 2001a, 64.

²¹⁵ T. Dąbrowska 1995, 10.

²¹⁶ T. Dąbrowska 1995, 19.

²¹⁷ T. Dąbrowska 1995, 19–20; 1997, 119.

²¹⁸ T. Dąbrowska 1995, 10–14.

²¹⁹ T. Dąbrowska 1995, 19.

²²⁰ T. Dąbrowska 1995, 10.

²²¹ J. Andrzejowski 2020, 21, fig. 11.

²²² J. Andrzejowski 2020, 21–22, fig. 12, 13; B. Niezabitowska-Wiśniewska 2021, 236.

²²³ J. Andrzejowski 2009, 257.

²²⁴ Cf. J. Andrzejowski 1994a.

²²⁵ It is possible that the other brooch from grave 105 (105/2) and a fibula from grave 288 (288/1) also represent this type. Their unequivocal classification as the 7th series of group V is prevented by the absence of a part of the bow and both feet.

Podlachia, brooches of the 7th series are found quite frequently. They are known from almost all the better-investigated cemeteries.²²⁶ Most are bronze specimens. In the western settlement zone of the Przeworsk culture, 7th-series brooches are recorded much less frequently, while they are common in the Wielbark culture.²²⁷ The fibulae in question are generally dated to an older section of phase B₂, less frequently to subphase B_{2b}.²²⁸ T. Dąbrowska regarded them as a marker of the 7th stage of development of the Kamieńczyk cemetery, which she synchronised with late subphase B_{2a}.²²⁹ However, the majority of finds from Mazovia are dated less precisely – to subphase B_{2a}²³⁰ or B_{2b}.²³¹ At Kleszewo, these brooches were discovered in assemblages which cannot be precisely dated based on other grave goods. In determining their chronology to stages Va–b (Va?), I used the findings from other Mazovian-Podlachian cemeteries of the Przeworsk culture.

A specific form similar to the 7th series is an iron brooch from grave 104 (104/2). It differs from those discussed above mainly in the absence of a crest on the head. Instead, the chord spring is wrapped around it, which is sometimes interpreted as an imitation of a crest.²³² Such a brooch form is known from several Mazovian cemeteries of the Przeworsk culture²³³ and sites of the Wielbark culture on the Lower Vistula.²³⁴ The territorially closest analogies for the specimen from grave 104 are the brooches from graves 31 and 201 from the cemetery at Stary Szelków,²³⁵ not far from Kleszewo. The fibulae in question are dated to subphase B_{2a} or B_{2b}.²³⁶

²²⁶ E.g., Kamieńczyk – 12 pcs. (T. Dąbrowska 1997, 82–83), Modła – 8 pcs. (J. Andrzejowski 2009, 62), Nadkole, site 2 – 6 pcs. (J. Andrzejowski 1998a, 56).

²²⁷ K. Godłowski 1985, 52–53; M. Mączyńska 2011, 43–45.

²²⁸ K. Godłowski 1985, 52–53; J. Schuster 2010, 102; M. Mączyńska 2011, 44–45.

²²⁹ T. Dąbrowska 1997, 118–119.

²³⁰ E.g., J. Andrzejowski 1998a, 105, 107; J. Schuster 2017a, 123.

²³¹ E.g., Dzierzgowo, grave 2/96 (M. Piotrowski, A. Szela 2001, 165–166, fig. 2, 3), Niedanowo, grave 628 (W. Ziemińska-Odojowa 1999a, 107, pl. CCXXII/628:1–3), Nadkole, site 2, grave 88 (J. Andrzejowski 1998a, 37, pl. LVI/88:3.4), where they were accompanied by spring-cover fibulae.

²³² Cf. T. Dąbrowska 1997, 83; J. Andrzejowski 1998a, 56.

²³³ E.g., Kamieńczyk, grave 351 (T. Dąbrowska 1997, 70, pl. CLX/351:1), Niedanowo, grave 636 (W. Ziemińska-Odojowa 1999a, 108, pl. CCXXIII/636:1).

²³⁴ A. Mistewicz 2005, 217.

²³⁵ R. Prochowicz 2017a, 143–144, fig. 7 and information from R. Prochowicz (PMA), who excavates this site.

²³⁶ Cf. T. Dąbrowska 1997, 70; J. Andrzejowski 1998a, 42–43, 106–107; W. Ziemińska-Odojowa 1999a, 108; A. Mistewicz 2005, 217.

A bronze brooch of the 8th series of group V was found in grave 42 (42/1). It is a rather slender specimen with a small semicircular crest on the head, corresponding to Almgren type 120.²³⁷ The fibula can be assigned to type 1 in the classification of brooches of the 8th series by H. Machajewski.²³⁸ It is the oldest form of fibulae with a crest on the head, found primarily in the northern part of central European *Barbaricum*.²³⁹ These brooches were in use throughout phase B₂, exceptionally also in phases B₂/C₁–C_{1a}.²⁴⁰ In the areas of the so-called eastern zone of the Przeworsk culture, Almgren-120 brooches, both bronze and iron, are not common. Their highest number has been recorded at the cemeteries of northern Mazovia, e.g., seven fibulae of this type each were found at Niedanowo²⁴¹ and Modła.²⁴² The further south-east one goes, the lower their number at individual sites becomes.²⁴³ Almgren-120 brooches in Mazovia and Podlachia are dated to subphase B_{2a} or B_{2b}.²⁴⁴ I associate the Kleszewo specimen with stage Vb of the cemetery's functioning.

Series 10 of group V is represented by four iron specimens (34/1, 42/2, 104/1, 363/3). They all have rod-shaped bows, similar to Almgren type 148. The brooch from grave 104 is a small, rather slender specimen with a bow of triangular cross-section and an undefined foot. The chord of its spring is wound around the head (104/1).²⁴⁵ The brooches from graves 42 and 363, very similar to each other, are much more massive. Their bows are flat on the underside and polygonal on the top. Their feet are decorated with diagonal grooves joined at an angle. Both brooches have a transverse crest at the transition between the bow and foot (42/2, 363/3). The last of the Kleszewo fibulae of the group under discussion (34/1) has a damaged bow of indeterminate shape. Its foot is short, triangular in cross-section,

²³⁷ It cannot be ruled out that the residually preserved brooches from graves 105 (105/2) and 288 (288/1) (see above) also represent this type.

²³⁸ H. Machajewski 1998, 188–189, fig. 2.

²³⁹ Cf. M. Mączyńska 2011, 54, fig. 22.

²⁴⁰ K. Godłowski 1985, 52–53; H. Machajewski 1998, 190; A. Cieśliński 2010, 59; M. Mączyńska 2011, 52.

²⁴¹ W. Ziemińska-Odojowa 1999a, 113.

²⁴² J. Andrzejowski 2009, 65.

²⁴³ E.g., Nadkole, site 2 – 2 pcs. (J. Andrzejowski 1998a, 56, pl. XXXIX/54:5, LXV/112:2), Kamieńczyk and Starawieś – 1 pc. each (W. Radig 1942, 200, pl. IV:6; T. Dąbrowska 1997, 83, pl. CVI/196:1).

²⁴⁴ T. Dąbrowska 1997, 119; J. Andrzejowski 1998a, 107; W. Ziemińska-Odojowa 1999a, 139–140.

²⁴⁵ *Nota bene*, the other brooch from this grave, resembling series 7 of group V (104/2), is of similar construction.

marked by a small crest. The brooch from grave 104 is dated within stage Va–b (Va?), and the other fibulae are dated to stage Vb of the cemetery's use.

Brooches of the 10th series are most commonly found in the northern part of central European *Barbaricum*.²⁴⁶ Iron specimens are characteristic of the Przeworsk culture; in other areas of their occurrence, e.g., in the Wielbark and Dollkeim/Kovrovo culture territory and the Elbe cultural circle, bronze specimens are dominant.²⁴⁷ In northern and eastern Mazovia and Podlachia, these brooches have been recorded at many sites of the Przeworsk culture.²⁴⁸ Iron specimens are dominant, outnumbering bronze specimens by a significant margin. The brooches from Kleszewo represent variants that find good analogies at many cemeteries. This remark applies especially to the specimens with polygonal, massive bows, with the foot marked by a crest, which we know from graves 42 and 362. Such brooches are very common in the eastern zone of the Przeworsk culture, although slender forms, analogous to the one found in grave 104, are not as frequently recorded there. An almost identical brooch, in terms of morphology as well as the design of the spring mechanism, was found at the cemetery at Dąbek, site 29, feature 21.²⁴⁹ In the Przeworsk culture area, fibulae of the 10th series first appear in early phase B₂,²⁵⁰ while massive specimens with rod bows are usually dated to phase B_{2b}.²⁵¹

A fragment of a brooch with a small, grooved crest on the head was found in grave 288. The state of preservation of the artefact makes it difficult to classify it more precisely. The shape of the crest and the slender, delicately faceted bow point to the 7th series and suggest dating the specimen to stage Va, or possibly an earlier (?) episode of stage Vb of the cemetery's use. The brooch is characterised by the peculiar way in which the spring is fixed – its end is set in a groove filed on the underside of the head. The brooch was originally

a single piece. The present two-piece construction is most likely the result of a repair.

Other forms

Jezerine-type brooches were found in graves 1/1961 (1/1961/1) and 1047 (1047/1.2). I have already discussed them in detail elsewhere.²⁵² Hence, I will only present the most important information here. All the artefacts represent a specific variant with the bow tapering towards the foot, S. Demetz's type III.²⁵³ Their best analogies come from northern Italy and (one specimen) from the western part of the Púchov culture (Fig. 7). Like the other variants, they were most likely made in Roman workshops.²⁵⁴ Finds from the areas north of the Carpathians are interpreted as evidence of the existence of the so-called Amber Road.²⁵⁵ *Jezerine*-type brooches in their native areas have a broad chronology – from the second half of the 1st century BCE and the first three decades of the 1st century CE. Type-III specimens were probably made for a somewhat shorter period; their use seems to have ceased around the turn of the era.²⁵⁶ In *Barbaricum*, these brooches (of all varieties) are dated to phase LT D2 or A₃, and a few specimens have also been recorded in assemblages from the early Roman period.²⁵⁷ The specimens from Kleszewo, found with brooches of type M-a (grave 1047) and N-a (grave 1/1961), are dated to stage IIB of the cemetery's use.

A bronze fibula with two knobs on the bow was found in grave 199 (199/1). It has a frame-like catchplate, and the chord is held by a small hook. The brooch can be attributed to Almgren variant 236c.²⁵⁸ It is the most common and long-lasting variant of Almgren type 236. A huge number of brooches of this type have been discovered in its native areas, i.e., in Noricum and Pannonia, and, to a lesser extent, in other central European provinces of the Roman Empire.²⁵⁹ They were probably used there throughout the 1st century CE, especially in

²⁴⁶ I. Peškař 1972, 91–92; K. Godłowski 1977, 21; A. Cieśliński 2010, 60; A. Chilińska-Früboes 2020, 269–274.

²⁴⁷ A. Cieśliński 2010, 60.

²⁴⁸ E.g., Bartki/*Bartkengut* – 1 pc. (R. Grenz, *Archive*), Drohiczyn – 1 pc. (Z. Szmit 1923, 175, fig. 155), Kamieńczyk – 15 pcs. (T. Dąbrowska 1997, 83), Krupice – 5 pcs. (J. Jaskanis 2005, 89), Łajski – 1 pc. (T. Liana 1961, 216, pl. II:8), Modła – 5 or 6 pcs. (J. Andrzejowski 2009, 64), Nadkole, site 2 – 9 pcs. (J. Andrzejowski 1998a, 57), Niedanowo – 4 pcs. (W. Ziemińska-Odojowa 1999a, 113), Nowe Dłutowo – 1 (?) pcs. (W. Ziemińska-Odojowa 1999b, 406), Tuchlin – 1 pc. (Ł. Okuliczowa 1965, 383).

²⁴⁹ A. Mistewicz 2005, 207, fig. 10/21:1.

²⁵⁰ K. Godłowski 1985, 52–53.

²⁵¹ T. Dąbrowska 1997, 119; J. Andrzejowski 1998a, 108; W. Ziemińska-Odojowa 1999a, 140.

²⁵² M. Woźniak 2020.

²⁵³ S. Demetz 1999, 99–101.

²⁵⁴ The possibility of local manufacture, based on Roman originals, has been indicated for the finds from Slovenia and Croatia (I. Drnić 2013, 47–51; I. Drnić, A. Tonc 2014, 192–196).

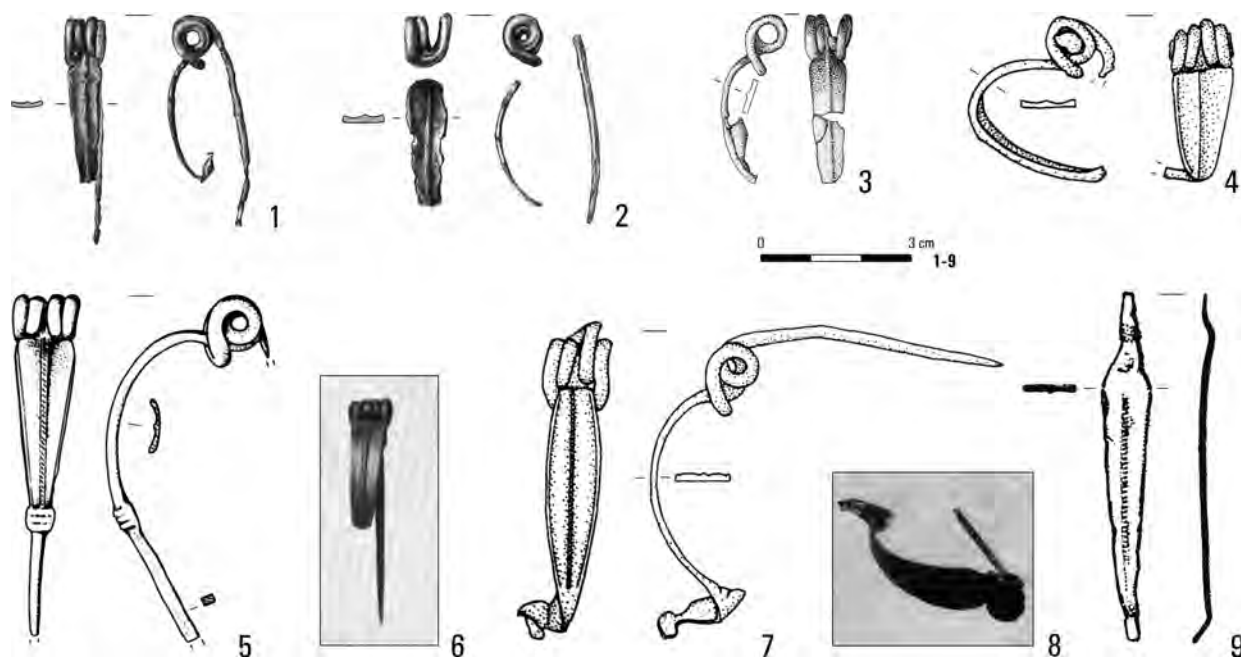
²⁵⁵ E.g., J. Okulicz, W. Nowakowski 1996, 167–168; W. Nowakowski 2013, 128.

²⁵⁶ S. Demetz 1999, 104–105.

²⁵⁷ K. Pieta 1982, 34, 160, 162; D. Božič 2008, 144–147; R. Čambal 2017, 94; M. Woźniak 2020, 182–183.

²⁵⁸ J. Garbsch 1965, 29–32.

²⁵⁹ E.g., Raetia, Italy – J. Garbsch 1965, maps 6 and 7; S. Seidel, M. Lavarone 2008, 145–146.



Ryc. 7. Brooches of type *Jezerine* III. 1, 2 – Kleszewo, grave 1047; 3 – Este-Baratella; 4 – Pressana-Sant’ Agata; 5 – Sevegliano; 6 – Gropello Cairoli, grave VIII; 7 – Púchov; 8 – Strassoldo; 9 – Doss Zelor. After: M. Woźniak 2021 (1, 2), H. Meller 2002 (3), L. Salzani 1990 (4), S. Seidel, M. Lavarone 2008 (5, 8), M. Fortunati Zuccála 1980 (6), E. Beninger 1937 (7), P. Leonardi, C. Mengotti, D. Panciera 1991 (9)

its first half.²⁶⁰ These fibulae were part of women’s clothing.²⁶¹ Such brooches are also found in great numbers outside the Roman state areas, mainly in the interfluvium of the Lower Morava and Váh rivers, in the Bohemian Basin and Poland. They are usually dated to phase B₁, mainly its later section. Their presence in *Barbaricum* has been linked to contacts via the so-called Amber Road. In the areas outside the borders of the Empire, brooches of the type discussed are found in both male and female graves.²⁶²

A fragment of a bronze brooch with an external chord held by a trapezoidal hook was found in grave 238 (238/3), dated to phase III. In the oldest section of the Roman period, this type of spring apparatus design is found in various brooch forms, including the above-discussed brooches of Almgren types 18b, 67, 236.

Fragments of bronze brooches with a circumferential crest on the bow were found in graves 861, from phases III–IV, and 1048, dated to phase III of the cemetery’s use. The former specimen has a strongly arched, wide

bow of triangular cross-section (861/2). Its closer classification is impossible. The second one (1048/1) has a more slender bow of circular cross-section, in which it resembles fibulae of types N-a, Almgren 18 and 2a1, discussed above.

Spring fragments from 22 brooches of undetermined types, which can be associated less or more reliably with the Przeworsk culture, were discovered in 19 graves and as stray finds (Table 2). Those recovered from features dated to phases I–IIa are made of iron. One iron and one bronze specimen come from graves from phase II. Only springs made of bronze, some of which are wound on an iron or bronze axis bar, were found in features from phases III–V.

WIELBARK CULTURE

All the Wielbark culture brooches that could be more precisely classified represent Almgren group VI. They are dominated by specimens of the 1st series, i.e., with a returned foot, of which there are 29 examples. Brooches of the 2nd series, i.e., with a full catchplate, were found at Kleszewo in ten copies.

Brooches of the 1st series of O. Almgren’s group VI
A bronze one-piece fibula from grave 884 (884/6) corresponds to Almgren type 158. It is characterised by

²⁶⁰ J. Garbsch 1965, 29, 30, fig. 41; S. Demetz 1999, 49; H. Sedlmayer 2009, 27.

²⁶¹ J. Garbsch 1965, 26.

²⁶² E. Droberjar 1997, 51; 1999, 158, 163; 2006, 605, 617; J. Andrzejowski 1998b, 72–76; J. Zagórska-Telega 2017; A. Cieśliński 2020.

a relatively wide, rather flat and partially faceted bow, with incised metopes at both ends. A similar ornamental detail is also found on its foot. Almgren-158 brooches are a long-lived and stylistically diverse form. They are found throughout barbarian Europe, most abundantly in the areas covered by Przeworsk culture settlement.²⁶³ As regards the Wielbark culture territory, I am aware of more than 20 brooches of Almgren type 158 and similar forms (e.g., Almgren types 159 and 166),²⁶⁴ scattered throughout the area occupied by said culture during its Cecele phase.²⁶⁵ This number, compared to more than 800 specimens recorded in the Przeworsk culture area, is negligible.²⁶⁶ For a long time, therefore, the brooches in question in the Wielbark culture environment have been regarded as a foreign form, most likely originating in the Przeworsk culture area (imported, or possibly made locally as a result of inspiration from that zone). In fact, the Wielbark culture examples find numerous analogies there. The Kleszewo fibula corresponds to the *Jakuszowice* variant, recently distinguished by I. Jakubczyk,²⁶⁷ which includes specimens with a metope-decorated bow of trapezoidal or semicircular cross-section. This variant is dated broadly, from subphase C_{1a} to the beginning of the Migration period, mostly within phases C_{1b}–C₃. Grave 884 from Kleszewo is associated with stage VIIa, which I synchronise with the end of the Roman period.

The largest group of brooches of the 1st series of group VI consists of bronze fibulae of crossbow construction and with a returned foot, Almgren type 162. All of the better-preserved brooches from Kleszewo are specimens with proportionally long springs and knee-shaped bows. Dominant among them are forms with a rod-shaped bow of triangular or trapezoidal cross-section (184/1.2, 186/1.2, 636/1, 808/1, 916A/1), sometimes with metopes at both ends (158/3, 355/1, 750/1). Their feet are most often profiled the same as bows.

²⁶³ Recently, in more detail: M. Mączyńska 2011, 73–79; V. Bârcă 2014; I. Jakubczyk 2014.

²⁶⁴ E.g., Brulino-Piwki, grave 10 (A. Kempisty 1968, 415, fig. 18a), Leśno, site 2, grave 84 (K. Walenta 2009, 52, 61, pl. XCVII/84:2), Lipianki, feature 714 and stray find (I. Jakubczyk, A. Strobin 2016, 152, pl. III/714:1; IV/LZ:1–3; V/LZ:4.5), Opoka, grave 96 (M. Stasiak-Cyran 2005, 446, fig. 3d), Pruszcz Gdańsk, site 5, graves 8A, 38 (M. Pietrzak, L. Cymek, F. Rożnowski 2015, 20, 37, pl. VII/8A–B:4; XXXII:1.2), Węgrowo, grave 21 (M. Kurzyńska 2013, 24, pl. XX:1).

²⁶⁵ Cf. R. Wołagiewicz 1986, 70–71, fig. 16; 1993, 29–30; J. Andrzejowski 2007, 236–239.

²⁶⁶ I. Jakubczyk 2014, 115.

²⁶⁷ I. Jakubczyk 2014, 139, pl. XXX.

Table 2. Fragments of iron and bronze brooch springs, stray finds and recovered from features, which can be associated with the Przeworsk culture.

The asterisk (*) marks springs with a bronze axis bar, and the hash (#) – with an iron one. The question mark (?) denotes artefacts of uncertain cultural attribution and dating.

Dating	Raw material	
	Iron	Bronze
I lub II	59/1, 67/1, 70/1, 102/1, 283/2, 1022/3	
II–III		255/1?, 704/2
III		91/2, ZL/34?
IV–V		61/3*, 689/1?, 832/2*
V		300/1*, 336/1, 403/2*, 408/1*, 409B/2, 979/3*, ZL/28*.29*.30*.31
I–V		700/1

These brooches are perhaps the most common fibula forms discovered at Wielbark culture sites occupied in the younger Roman period. The Kleszewo specimens correspond to patterns ZM 71 and ZG 79 distinguished by A. Kokowski.²⁶⁸ At Wielbark culture cemeteries, such fibulae are usually dated to phases C_{1b}–C₂, exceptionally to phases C₃–D.²⁶⁹ The finds from the Masłomęcz group are dated to phase C₂.²⁷⁰ In two cases, it was possible to precisely date the Kleszewo brooches, based on the accompanying artefacts. In grave 158, the Almgren-162 fibula was found together with Almgren-168 brooches, which are markers of phase C₂ (see below). In grave 355, the fibula of interest was discovered with a type-D 30 belt buckle, characteristic of phases C_{1b}–C₂ (see below). Therefore, the chronological position of the Kleszewo fibulae corresponds to the findings from other Wielbark culture sites. These brooches are indicative of phase VI of the cemetery's use.

Grave 524 yielded fragments of a bronze crossbow brooch with a returned foot and spherical knob on the head (524/1). It has a rod bow, which is analogous to the specimens of Almgren type 162 discussed above, as is its dating. A knob on the head of brooches of the 1st series of group VI is not uncommon. Specimens of

²⁶⁸ A. Kokowski 1995, 14, fig. 2:j.k.

²⁶⁹ A. Cieśliński 2010, 62, with earlier literature.

²⁷⁰ A. Kokowski 1995, 42–43.

Almgren types 161–162,²⁷¹ as well as their more ornate derivatives, i.e., Almgren types 167 and 168, were decorated in this way. This element was either cast together with the bow, as in the case of the Kleszewo specimen, or made separately and then affixed on a pin protruding from the head. The latter construction probably dominates²⁷² among the finds from Mazovia and Podlachia.

The bronze specimens with a wide, flat and faceted bow found in graves 418 (418/1) and 884 (884/2.3) form a smaller group of Almgren-162 brooches from Kleszewo. The fibula from grave 916A (916A/1) resembles those previously listed, but it is a bit more slender. In the case of Almgren-162 fibulae, strip bows are considered to be a late feature, characteristic of specimens from the late Roman period or the beginning of the Migration period.²⁷³ However, this view is based on a small sample, as these brooches are rarely found with material that can be dated precisely, as was the case, for example, at Brulino-Piwki, grave 25,²⁷⁴ and Kozłówko, grave X.²⁷⁵ Nonetheless, it should be emphasised that, in Mazovia and Podlachia, they are not found in assemblages confidently dated to phases C₁ and C₂. At Kleszewo, two such brooches, recovered from grave 884, were accompanied by type-H 12 buckles and an Eggers 230 glass beaker, among others; they are, therefore, associated with stage VIIa of the cemetery's use. The specimens discovered in graves 418 and 916A, with scarce grave goods, cannot be dated precisely on the basis of the accompanying artefacts. The former, due to its strip bow, can probably be associated with phase VII of the cemetery's functioning. Narrowing down the dating of the brooch from grave 916A, which is more slender than the pieces from graves 418 and 884, to a specific phase is impossible.

Two silver brooches of crossbow construction and with a returned foot, from grave 158, have the so-called

dead spring (158/1.2). Thus, they can be assigned to Almgren type 168. Such fibulae are found quite frequently in the Wielbark culture areas, especially in Pomerania. At Mazovian-Podlachian sites of this culture, similar to the Kleszewo cemetery, they usually constitute a small percentage of brooches with a returned foot²⁷⁶ or are absent altogether.²⁷⁷ In the Wielbark culture, brooches of Almgren type 168 are markers of phase C₂;²⁷⁸ exceptionally, they co-occur with material characteristic of phases C₃–D.²⁷⁹ The Kleszewo brooches were found together with an Almgren-162 fibula with a rod bow and a type-D 29 buckle, allowing them to be dated to phase VI of the cemetery's use.

Three crossbow brooches with a returned foot, with wide, faceted bows were discovered in grave 884 and on the site's surface (884/4.5, ZL/20). The specimens from grave 884 are made of silver and were found in a richly furnished grave, dated to stage VIIa of the cemetery's functioning. The stray find is made of bronze. In terms of morphology, the fibulae discussed most resemble the above-mentioned, stylistically late specimens of Almgren type 162, associated with the end of the Roman period, possibly the beginning of the Migration period. The only different element is the form of the catchplate's terminal: in Almgren type 162, it is wire-like, in the specimens in question – it is strap-like near the catchplate and, further on, cut into a narrow strip that wraps around the bow. The strap-like part makes these brooches similar to fibulae with a so-called sheet catch, Almgren type 172 (see below). A few specimens with such a catchplate design are known from several sites of the Wielbark culture and the Masłomęcz group (Fig. 8:1–6): Gródek, Hrubieszów County, site 1C, grave 64;²⁸⁰ Kosmów area, stray find;²⁸¹ Kozłówko, grave IX;²⁸² Niedanowo, grave 553;²⁸³ Waplewo, feature 49.²⁸⁴ A pair

²⁷¹ Brooches of Almgren type 161–162 with a knob on the head are sometimes incorrectly identified as Almgren types 163–164. The latter, described quite comprehensively by the author of the classification, encompass a specific group of brooches with a returned foot, short spring and arched bow (O. Almgren 1897, 78–79, pl. VII:163.164), which is currently considered to be a variant of Nydam type brooches (cf. J. Bemmann 1993; G. Bemmann, J. Bemmann 1998, 146–180).

²⁷² Information about the knob construction is usually omitted. Thus, determining whether the brooch has a knob cast with the bow or set on a pin is based purely on a sketch of the artefact. In many cases, it is impossible to ascertain this unequivocally.

²⁷³ E.g. A. Cieśliński, A. Rau 2017, 330–331; M. Woźniak 2019a, 247.

²⁷⁴ A. Kempisty 1968, 423, fig. 43.

²⁷⁵ Recently, M. Woźniak 2011, 174, with older literature.

²⁷⁶ E.g., Brulino-Piwki (A. Kempisty 1968, 430, 439, fig. 65:b; K. Czarnecka 1991, 99), Cecele (J. Jaskanis 1996, 105), Niedanowo (W. Ziemińska-Odojowa 1999a, 129).

²⁷⁷ E.g., Goździk (A. Niewęglowski 1984, 146), Krupice (J. Jaskanis 2005, 90).

²⁷⁸ E.g., R. Wołagiewicz 1993, 24–25; A. Cieśliński 2010, 63–64.

²⁷⁹ Recently, A. Cieśliński, M. Wyczółkowski 2008, 181.

²⁸⁰ A. Kokowski 1993a, 51; 1993b, fig. 53:c.

²⁸¹ B. Niezabitowska-Wiśniewska 2021, 146, fig. 37:357, pl. XXXII:357.

²⁸² M. Woźniak 2016, 196–197; cf. 2011, 173–174, fig. 4/IX:1, with older literature.

²⁸³ Collection of the Museum of Warmia and Masuria in Olsztyn (hereinafter: MWiM), inv. no. MWiM/A/867, cf. W. Ziemińska-Odojowa 1999a, 96, pl. CXCIX/553:1; in the publication, the brooch was classified as Almgren type 163.

²⁸⁴ K. Skóra, M. Troszczyńska-Antosik 2012, 149, 151, fig. 5:1.



Fig. 8. Brooches of pattern ZG 64 and similar. 1 – Kleszewo, grave 884; 2 – Niedanowo, grave 553; 3 – Kozłówko, grave IX; 4 – Gródek, Hrubieszów County, grave 64; 5 – Kosmów (vicinity), stray find; 6 – Waplewo, feature 49; 7 – Boldești-Grădiștea, grave 14; 8 – Bratislava-Dubravka; 9 – Pančevo, grave 30. After: K. Elsček 2017 (8), L. Grumeza 2014 (9), A. Kokowski 1993b (4), B. Niezabitowska-Wiśniewska 2021 (5); K. Skóra, M. Troszczyńska-Antosik 2012 (6), V. Teodorescu, D. Lichiardopol, M. Peneș 1993 (7); M. Woźniak 2011 (3). Photo/Drawn by M. Woźniak (2)

of similar brooches comes from the cemetery of the Sântana de Mureș culture²⁸⁵ at Boldești-Grădiștea (Fig. 8:7).²⁸⁶ Apart from the specimen from the Kosmów area, which is slender and has the so-called dead spring, these fibulae can be attributed to A. Kokowski's pattern ZG 64, which includes stocky and massive specimens of Almgren type 162, characterised by a catchplate whose

²⁸⁵ It is possible that there are more such brooches in the Sântana de Mureș and Chernyakhov culture areas. It would not be surprising considering the commonality of Almgren-172 brooches in their territory. However, their identification is difficult due to the schematic drawings and laconic descriptions in the publications, which render it impossible to clearly determine the shape of the catchplate's terminal.

²⁸⁶ V. Teodorescu, D. Lichiardopol, M. Peneș 1993, 430, fig. 7:a.b.

end, from which extends a wire for wrapping around the bow, adjoins the foot over a relatively large area.²⁸⁷ Such detail also characterises two (Fig. 8:8,9)²⁸⁸ of the dozen or so brooches with a returned foot of the *Dyback/Independența* variant, characteristic of the Car-

²⁸⁷ A. Kokowski 1995, 15, fig. 2:s, 71, map 49; the fibulae from the Sântana de Mureș areas assigned to pattern ZG 64 are constructed differently from the above-mentioned specimens from the areas of the Wielbark culture and Masłomęcz group (cf. G. Diaconu 1965, 66, pl. CXVI:13; 1969, fig. 12:10; B. Mitrea, C. Preda 1966, 35, fig. 78: 1; E.A. Rikman 1967, 72, fig. 28:10; I. Ionița 1977, pl. 46:1, 51:3).

²⁸⁸ Bratislava-Dubravka, feature 15/88 (K. Elsček 2017, 81, 147, pl. 39:3), Pančevo, grave 30 (L. Grumeza 2014, 245, pl. 74:6).

pathian Basin and associated with the Sarmatians.²⁸⁹ Of the brooches of pattern ZG 64 known to me, the specimens from Boldești-Grădiște, Gródek, Hrubieszów County, Kozłówko, Niedanowo and Kleszewo may be more accurately dated. In the first two cases, they were found with combs with bell-shaped grips, in the third and fourth case – with stamped pottery, in the fifth case – with an Eggers 230 beaker and buckles with a thickened frame, type H 12. This allows them to be dated quite reliably within phases C₃–D, i.e., similarly to Almgren-172 brooches (see below). Deviating in shape from the others, the slender fibula from the Kosmów area, with the so-called dead spring, is dated to the later section of phase C₂, possibly phase C₃.²⁹⁰

From Kleszewo come five brooches with a returned foot and sheet catch (385/1.2, 708/2, ZL/21.22). The specimens of crossbow construction from grave 385 correspond to Almgren type 172, and the three less well-preserved fibulae from grave 708 and those found without a context may also be classified in the same way, since other forms, e.g., one-piece specimens with a sheet catch, are not found in the Wielbark culture. Almgren-172 brooches are common in the Wielbark culture area.²⁹¹ The number of finds recorded exceeds 120 specimens, recovered from more than 50 sites.²⁹² They are found throughout the area occupied by this unit during the Cecele phase, with the largest concentrations in northern and eastern Mazovia, by the Lower Vistula River and in the southern Lublin region. The Kleszewo stray finds can be classified as group I, the specimen from grave 385 – as group II, and the brooch from grave 708 – as variant IVA of Almgren type 172 according to the division of I. Sztet, A. Wiśniewska and M. Woźniak.²⁹³ In the Wielbark culture, sheet catches started to be used in brooches with a returned foot presumably in late phase C₂ or at the beginning of phases C₃–D. The oldest brooches with such a catchplate design are slender specimens with rod bows, sometimes with the so-called dead spring. Their “early” dating, however, is based on tenuous grounds. Other, more stocky, forms, which include the grave finds from Kleszewo,

are dated within phases C₃–D.²⁹⁴ The brooches from graves 385 and 708 are associated with phase VII of the cemetery’s use, which is also indicated by the accompanying artefacts. The dating of the stray finds with rod-shaped bows is unclear. Among the Kleszewo brooches of Almgren type 172, the specimen from grave 708, with the bow richly ornamented along the edge with rows of arches, stands out. A similar motif (half-circles along the edge of the bow and foot) is found on a richly decorated silver fibula from Swaryczów in the Lublin region.²⁹⁵ Similar ornaments are also recorded on other forms of fibulae with flat bows, dating to the late Roman period or early Migration period, e.g., brooches of the *Niemberg*²⁹⁶ and *Ramersdorf*²⁹⁷ types, and other fibulae with a solid catchplate.²⁹⁸

An iron brooch with a returned foot was found in grave 621 (621/1), dated to phase VI of the cemetery’s functioning. The lack of the spring and damaged head excludes the possibility of identifying whether it was a one- or two-piece fibula. In the Wielbark culture, iron brooches with a returned foot, like other items made of this raw material, are recorded relatively rarely.²⁹⁹ About a dozen such specimens are known from Mazovia and Podlachia. One-piece brooches have recently been discussed by A. Mistewicz, A. Maciałowicz and M. Woźniak,³⁰⁰ two-piece specimens were discussed twenty years ago by W. Nowakowski.³⁰¹ Most specimens are dated to the developed section of the younger Roman period. Their presence is interpreted as an element of the Przeworsk culture persisting in the Wielbark culture environment, or as a manifestation of contacts between the two populations.³⁰²

The last of the Kleszewo brooches that can likely be associated with the 1st series of group VI is a stray find (ZL/19). It most probably belongs to the group of fibulae of Almgren type 162 characterised by a rod-shaped bow, which I date to phase VI of the cemetery’s use (see above). However, unambiguous classification is hampered by the absence of the spring mechanism and the brooch’s head.

²⁸⁹ J. Schuster 2017b.

²⁹⁰ B. Niezabitowska-Wiśniewska 2021, 263–264, 378.

²⁹¹ A. Kokowski 1995, 48–49; J. Schuster 2004, 88–89, fig. 4; I. Sztet, A. Wiśniewska, M. Woźniak 2018, 167–169, fig. 15; B. Niezabitowska-Wiśniewska 2021, 226–270.

²⁹² The list from 2018 (I. Sztet, A. Wiśniewska, M. Woźniak 2018, 178–180) may be supplemented with over a dozen fibulae found in recent years in the Lublin region (B. Niezabitowska-Wiśniewska 2021, 368–370).

²⁹³ I. Sztet, A. Wiśniewska, M. Woźniak 2018, 178.

²⁹⁴ Recently: I. Sztet, A. Wiśniewska, M. Woźniak 2018, 173–177, M. Mączyńska 2019, 55; B. Niezabitowska-Wiśniewska 2021, 268; all with older literature.

²⁹⁵ B. Niezabitowska-Wiśniewska 2021, 268, fig. 42, pl. L:532.

²⁹⁶ J. Bemmann 2001, 68, fig. 4:1.2.

²⁹⁷ M. Schulze-Dörrlamm 1986, 597–600, fig. 2:1.7.

²⁹⁸ E.g., O. Tischler, H. Kemke 1902, pl. IV:14.15.24.

²⁹⁹ E.g., M. Gładysz 1997; M. Woińska 2018, 3–6.

³⁰⁰ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 123–125.

³⁰¹ W. Nowakowski 2001a, 141.

³⁰² Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 125, with older literature.

Brooches of the 2nd series of O. Almgren's group VI
The brooches with a solid catchplate from Kleszewo form a small but highly diverse collection, consisting of ten specimens. All are made of bronze.³⁰³ This diversity of forms of the 2nd series of Almgren group VI matches the situation recorded in almost the entire Wielbark culture area. The Kleszewo fibulae are often characterised by co-occurring elements, which, on their own, are regarded as distinctive features of different brooch types, e.g., a notched bow (*Raupenfibeln*), knob on the head (*Bügelknopffibeln*), plate on the head (*Spiralplattenfibeln*³⁰⁴). As a result, their formal classification can sometimes be questionable, as it is based on a subjective choice of the primary feature.

Graves 629 and 720 yielded two caterpillar brooches (629/1, 720/1). This form is characteristic of the northern part of central European *Barbaricum*.³⁰⁵ The specimens from Kleszewo are brooches with a smooth foot of roughly triangular cross-section, typical of the Wielbark culture.³⁰⁶ They correspond to the 1st variant of series II, according to the division by M. Tuszyńska.³⁰⁷ Their special feature is the shape of the knob on the head, which has the form of a small elongated projection. A pair of brooches almost identical to the Kleszewo ones was found at Pruszcz Gdański, site 7, grave 129 (Fig. 9:1.2). Similar are also the fibulae from Niedanowo, grave 601,³⁰⁸ and Gulbia, stray find.³⁰⁹ The other caterpillar brooches I know of have differently shaped knobs or represent other forms, e.g., with a rectangular foot – smooth or notched.³¹⁰ The specimens from Pruszcz Gdański, Niedanowo and Kleszewo are also similar in size, as they measure between 3–4 cm in length. The fibulae from Pruszcz Gdański were found together with an Almgren-168 brooch (Fig. 9:3), which suggests dating the assemblage to the end of phase C₂/beginning of phase C₃-D, or just the beginning of the latter.³¹¹ Other precisely dated caterpillar brooches, of all variants, known from the Wielbark culture area, date to phas-

es C₃-D.³¹² The Kleszewo brooches are dated to phase VII of the cemetery's use. The early chronology of the Pruszcz Gdański specimens, which are the best analogies for the Kleszewo fibulae, may suggest narrowing down the dating of the latter to stage VIIa.

A brooch of crossbow construction with a solid and, so-called, shortened catchplate and rectangular foot was a stray find (Fig. 10:1). Its bow and foot are of the same width, both are partially faceted, and there are metopes at their ends. Almost identical brooches were found at Niedanowo, grave 539,³¹³ and Sobieszyn, stray find³¹⁴ (Fig. 10:2.3). Other Wielbark culture brooches of similar design differ from the Kleszewo one in the cross-section of the bow and/or in the presence of a knob or plate on the head.³¹⁵ Similar fibulae are also known from other *Barbaricum* areas, e.g., the Dębczyno group³¹⁶ or the Chernyakhov³¹⁷ and Dollkeim/Kovrovo³¹⁸ cultures. The brooch from Niedanowo, found together with a fibula of Almgren type 185, can be dated to phases C₃-D.³¹⁹ The fibulae from the Dollkeim/Kovrovo and Chernyakhov culture areas are also placed within these chronological frames.³²⁰ The specimens from the Dębczyno group area, on the other hand, are dated to phase C₂.³²¹ East of the Middle Vistula, fibulae of crossbow construction with a solid and shortened catchplate are not accompanied by material exhibiting younger Roman period stylistics.³²² Therefore, I date the specimen from Kleszewo to phase VII of the cemetery's use.

Three or four brooches from Kleszewo (917/1, ZL/24.25.27?) belong to a large and diverse group of

³⁰³ The specimen from grave 629/1 may have been plated with an alloy of silver with tin (cf. Appendix 3 – P. Gan).

³⁰⁴ Cf. M. Schulze-Dörrlamm 2000.

³⁰⁵ M. Mączyńska 2011, 92, fig. 37.

³⁰⁶ Recently, in more detail: A. Cieśliński, D. Wyczółkowski 2008; M. Mączyńska 2011, 91–92, fig. 37; R. Prochowicz, T. Rakowski 2013, 203–204; A. Cieśliński, A. Rau 2017, 332.

³⁰⁷ M. Tuszyńska 1988, 180.

³⁰⁸ MWiM collection, inv. no. MWiM/A/887, cf. W. Ziemińska-Odojowa 1999a, 103, pl. CCXII/601:1.

³⁰⁹ A. Cieśliński, A. Rau 2017, 328, fig. 1:2.

³¹⁰ Cf. M. Tuszyńska 1988; A. Kokowski 1995, 50.

³¹¹ Cf. A. Cieśliński, A. Rau 2017, 332; differently: M. Tuszyńska 1988, 183; M. Mączyńska 2011, 92.

³¹² Recently, A. Cieśliński, A. Rau 2017, 332.

³¹³ W. Ziemińska-Odojowa 1999a, 94, pl. CXCIV/539:2, CCX-LVI:1.

³¹⁴ P. Łuczkiwicz 2015, 389, 395–396, fig. 7:11.

³¹⁵ E.g., Kozłówek, grave XVII (M. Woźniak 2011, 175, fig. 4/XVII:1), Niedanowo, grave 521 (W. Ziemińska-Odojowa 1999a, 91, pl. CLXXXIX/521:1), Stary Targ, grave 117 (A. Żórawska 2005, 117, pl. XIII/117:1), Węgrowo, grave 56 (M. Kurzyńska 2013, 38, pl. XLIX/56:1).

³¹⁶ H.J. Eggers, P.F. Stary 2001, 152, pl. 392:32; H. Machajewski, B. Rogalski 2021, 255–256, fig. 5:1.

³¹⁷ O.V. Petrauskas 2010, 195, fig. 5.

³¹⁸ W. Nowakowski 1996, pl. 53:12.15; O.A. Homáková 2012, 262–263, fig. 5:11.

³¹⁹ W. Ziemińska-Odojowa (1999a, 94) dates the assemblage more broadly, i.e., to phases C₂-D.

³²⁰ W. Nowakowski 1996, 31; O.V. Petrauskas 2010, 195; O.A. Homáková 2012, 263.

³²¹ H. Machajewski 1992, 25; H. Machajewski, B. Rogalski 2021, 256; cf. K. Godłowski 1981a, 86.

³²² M. Woźniak 2015, 323–325.

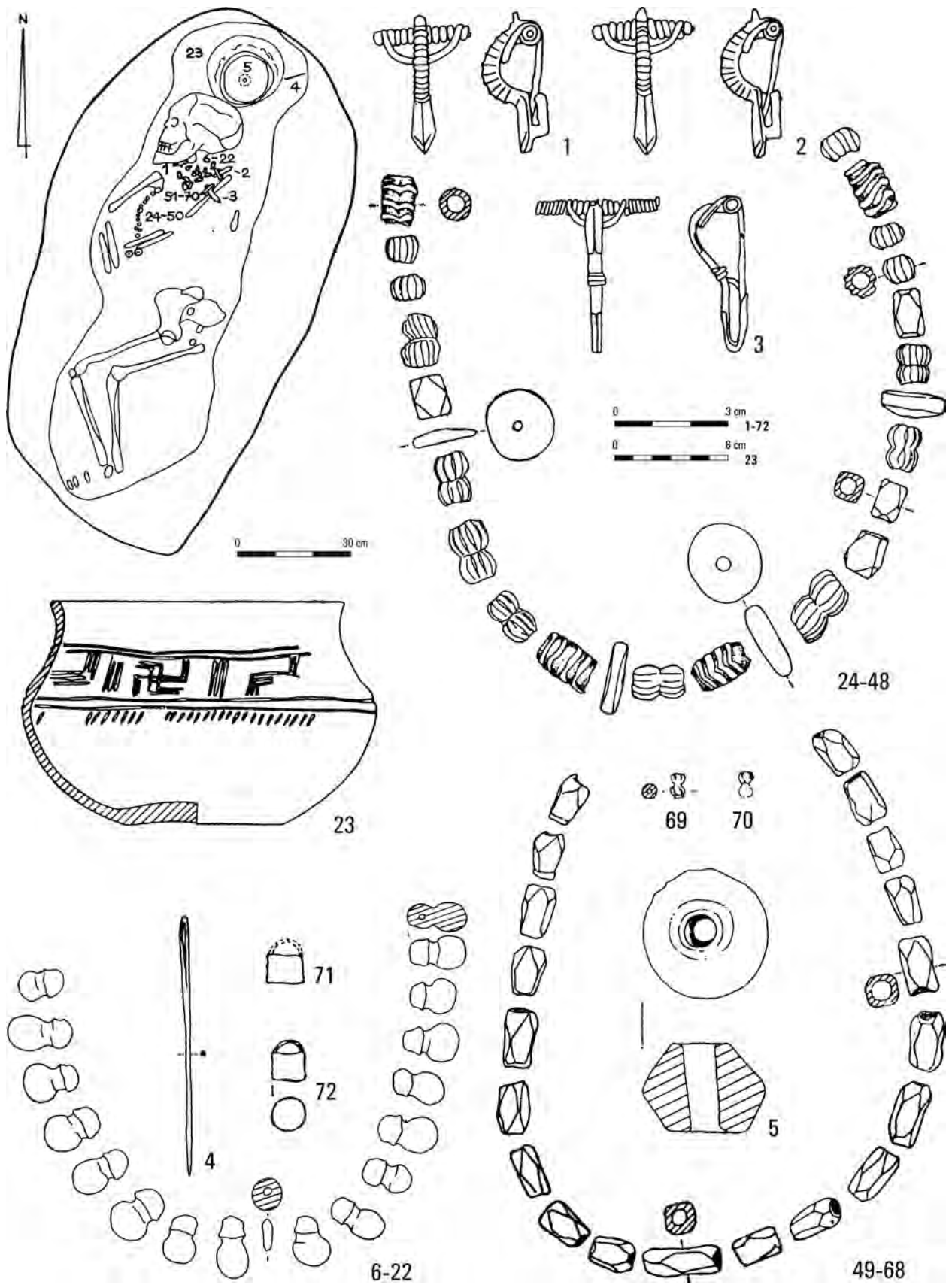


Fig. 9. Grave 129 from Pruszcz Gdański, site 7. After: M. Pietrzak M. Tuszyńska 1988

fibulae referred to in the literature as *Bügelknopffibeln*.³²³ The first two (917/1, ZL/24) are specimens with a small knob in the form of an elongated projection. Following the division of this fibula group proposed by M. Meyer,³²⁴ the two specimens can be identified as the 1st variant of series V, which is characterised by a reduced knob (*Bügelzapfe*). The knob of the fibula from grave 917 is defined on each side; in the stray find (ZL/24), it is fused to the plate intended for the spring's axis bar. The foot in both these brooches is roughly trapezoidal and decorated: in the specimen from grave 917 – with transverse grooves at both ends, in the stray find – with a metope near the bow. Fibulae with a similarly shaped foot are found relatively rarely in the Wielbark culture. Some of them do not have a knob; in other cases, the knob is replaced by a smaller or larger plate, and the shape of the bow cross-section varies as well (Fig. 11:2.3). Trapezoidal feet are also found in fibulae with solid catchplates, which belong to other types, e.g., brooches of pattern ZG 47, variant III (*Nowy Targ*)³²⁵ and similar ones (Fig. 11:4.5). Brooches of the 2nd series of O. Almgren's group VI, with a trapezoidal foot, sometimes with a knob or plate on the head, are also known, among others, from the areas of the Chernyakhov, Sântana de Mureş and Dollkeim/Kovrovo cultures, where they are dated within phases C₃–D.³²⁶ The brooch from grave 917 was found together with a buckle of type H 11, which allows it to be dated to stage VIIa of the cemetery's use. The stray find is dated less precisely – to phase VII.

The third of the brooches with a knob on the head (ZL/25) is a unique specimen, combining features of different types of fibulae of the 2nd series of Almgren group VI. The brooch has a square plate on the head, topped with a polyhedral knob set on a cylindrical pin. There is a square plate also at the top of the bow; it is decorated with engraved concentric circles and diagonal lines (Fig. 12:1). Formally, the brooch can be assigned to the *Bügelknopffibeln* subtype, already discussed many times in the literature, characterised by polyhedral knobs (Fig. 12:2).³²⁷ Their most recent divi-

³²³ E.g., M. Meyer 1960; M. Schulze-Dörrlamm 1986; H.-U. Voß 1998.

³²⁴ M. Meyer 1960.

³²⁵ J. Andrzejowski, R. Prochowicz, T. Rakowski 2008, 45–46, fig. 6, 7a–c.

³²⁶ O. Tischler, H. Kemke 1902, pl. IV:21; W. Nowakowski 1996, 52; O.V. Petrauskas 2010, 195. It is worth recalling here the two brooches with a solid catchplate and trapezoidal foot found in a Migration period hoard from Frombork (F.E. Peiser, H. Kemke 1914, 74–75, pl. I:8.9).

³²⁷ E.g., M. Meyer 1960, 226–227; A. Rau 2010a, 185–190; A. Cieśliński, A. Rau 2017.

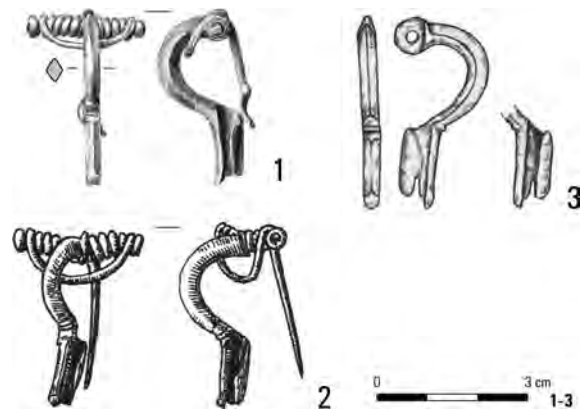


Fig. 10. Kleszewo brooch and similar forms.

1 – Kleszewo, stray find; 2 – Niedanowo, grave 539;

3 – Sobieszyn, stray find.

After: W. Ziemińska-Odojowa 1999a (2),

P. Łuczkiwicz 2015 (3), M. Woźniak 2021 (1).

sion has been based on the shape of the bow and foot.³²⁸ The bow of the Kleszewo brooch is rhomboidal in cross-section, which makes it possible to assign it to forms with a high bow. More precise classification is ruled out by the absence of the foot. Fibulae with a polygonal knob are dated to the end of the Roman period and the early Migration period.³²⁹ They are found – depending on the variant – mainly in the areas between the Upper Rhine and Danube, the Elbe basin and the Baltic zone.³³⁰ In Poland, such fibulae are concentrated at Wielbark culture sites in the northern part of the country; a few specimens have also been recorded in the Dębczyno group and Przeworsk culture areas.³³¹ Among the Polish finds, the form with an expanded, paddle-shaped foot (variant *Opin*) is dominant, while other subtypes are found there in exceptional cases. In all the fibulae known to me, the knob was attached to the head, unlike in the case of the Kleszewo brooch, where it is affixed to the edge of the plate. Such a design characterises several specimens of *Bügelknopffibeln* recently isolated as the *Serappen/Romanivka* group³³² (Fig. 12:3). Such brooches are considered to be a form originating from the Chernyakhov culture, as it is from its territory that the largest number of specimens are known. Isolated finds from the areas of other cultures are seen as imports from said territory. However, in the case of the Kleszewo

³²⁸ A. Rau 2010a, 185–190.

³²⁹ A. Rau 2010a, 191–194; A. Cieśliński, A. Rau 2017, 51–52.

³³⁰ M. Meyer 1960, 247, map 2; A. Rau 2010a, 190, fig. 72, 73; A. Cieśliński A. Rau, 2017, 47.

³³¹ A. Cieśliński A. Rau, 2017, 50–54, fig. 4, 6, 7.

³³² J. Schuster 2017c.

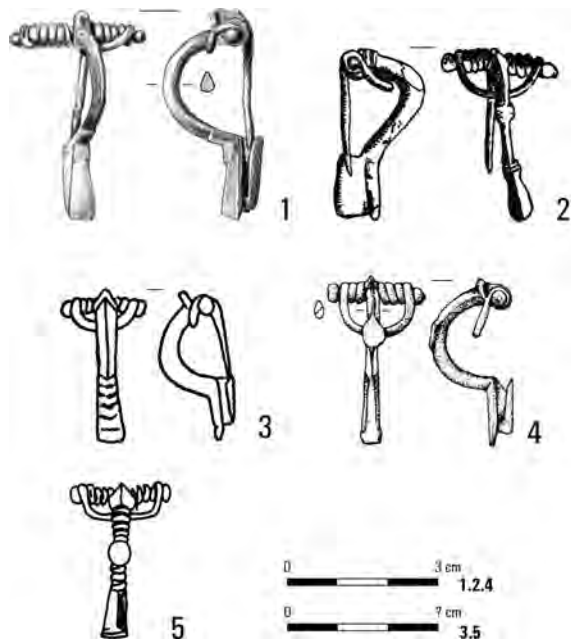


Fig. 11. Brooches with a solid catchplate and trapezoidal foot from the Wielbark culture territory. 1 – Kleszewo, stray find; 2 – Opoka, stray find; 3 – Malbork-Wielbark, grave 10; 4 – Węgrowo, grave 19; 5 – Malbork-Wielbark, grave 325. After: E. Szarek-Wichrowska 1971 (2), M. Kurzyńska 2013 (4), J. Kleemann 2017 (3.5), M. Woźniak 2021 (1)

brooch, such an interpretation is doubtful. The fibula is also characterised by features which are practically unknown from the Chernyakhov brooches,³³³ such as the aforementioned polyhedral knob and square plate at the top of the bow. The latter is a distinctive feature of fibulae of pattern ZG 47³³⁴ (Fig. 12:4), very common in the Wielbark culture as well as in the south-eastern Baltic zone. Among ZG 47 brooches, there are at least two specimens with a large knob on the head (albeit not a polyhedral one), which resemble the Kleszewo specimen. Both were found outside the Wielbark culture settlement zone, i.e., in the areas of the Dębczyno group³³⁵ and the Dollkeim/Kovrovo culture.³³⁶ In the latter case, the brooch of pattern ZG 47 was (probably) accompanied by a fibula of the *Serappen/Romanivka* group.³³⁷ The above-mentioned different forms of brooches, with design elements resembling the Kleszewo fibula, prove

³³³ Cf. O.V. Petrauskas 2010; O.V. Petrauskas, E.V. Sinica 2010.

³³⁴ A. Kokowski 1995, 14, 49, fig. 2o; J. Andrzejowski, R. Prochowicz, T. Rakowski 2008; V.G. Belāvec 2018.

³³⁵ Borkowice, grave IV (H. Schumann 1893, [576], fig. 2)

³³⁶ Lúblino, grave 24 (?) (O. Tischler, H. Kemke 1902, pl. VI:1).

³³⁷ O. Tischler, H. Kemke 1902, pl. IV:1; A. Bitner-Wróblewska, A. Rzeszotarska-Nowakiewicz, T. Nowakiewicz 2011, 443.

that - despite its uniqueness - the discussed specimen, in terms of style, matches the material from the end of the Roman period and the beginning of the Migration period,³³⁸ recorded in the eastern part of central European *Barbaricum*. However, the presence of features characteristic of different workshop circles, as well as its fragmentary state of preservation, make it impossible to indicate the presumed place of the fibula's manufacture.

A fragment of a *Bügelknopffibel* or, possibly, a *Spiralplattenfibel* is also a stray find of a short brooch spring, wound on an axis bar, at either end of which is a large, profiled knob on a long, five-sided cylinder (ZL/27). Indeed, similar knobs are most often recorded in the context of fibulae also featuring either a correspondingly shaped knob or a plate on the head.³³⁹ Such fibulae are dated within phases C₃-D.³⁴⁰

Found in grave 258 was a small brooch with a diamond-shaped plate on the head, narrow bow and rectangular foot; all the aforementioned elements are decorated with groups of engraved lines (258/1). The plate on the head is quite a common detail in the case of brooches with a solid catchplate. Its shape ranges from large, rounded or angular, pieces to small, flat projections.³⁴¹ Large, rhomboidal plates, close in shape to the specimen from grave 258, characterise fibulae from the sites of the Wielbark culture at Rębowo and Supraśl, and of the Masłomęcz group at Gródek, Hrubieszów County, site 6.³⁴² These brooches differ from the Kleszewo artefact in the shape of the bow, which, apart from the presence of a disc or its imitation at the top, is rod-like or wide. In contrast, the bow of the Kleszewo specimen is narrow and high. It finds analogies in various brooches with a solid catchplate, including *Bügelknopffibeln*,³⁴³

³³⁸ All the listed fibula forms resembling the Kleszewo one are dated in this way (phases C₃-D).

³³⁹ Gozdowo, unnumbered grave (K. Musianowicz 1949, 94-95, fig. 6), Malbork-Wielbark, grave 222a (J. Kleemann 2017, 49, pl. 12/222a:8), Nowy Targ, feature 429 (E. Fudzińska, P. Fudziński 2013, 117, pl. LXXII/429:1), Pruszcz Gdański, site 5, grave 26 (M. Pietrzak, L. Cymek, F. Roźnowski 2015, 32, pl. XXIV/26:1).

³⁴⁰ O.V. Petrauskas, E.V. Sinnica 2010, fig. 1:7; 6.

³⁴¹ M. Schulze-Dörrlamm 2000; O.V. Petrauskas, E.V. Sinnica 2010; M. Woźniak 2019a, 247.

³⁴² J. Andrzejowski, R. Prochowicz, T. Rakowski 2008, 53, fig. 3; M. Woźniak 2019a, 246, fig. 2:2; B. Niezabitowska-Wiśniewska 2021, 285, fig. 51.

³⁴³ E.g., Nowy Targ, feature 429 (E. Fudzińska, P. Fudziński 2013, 117, pl. LXXII/429:1).

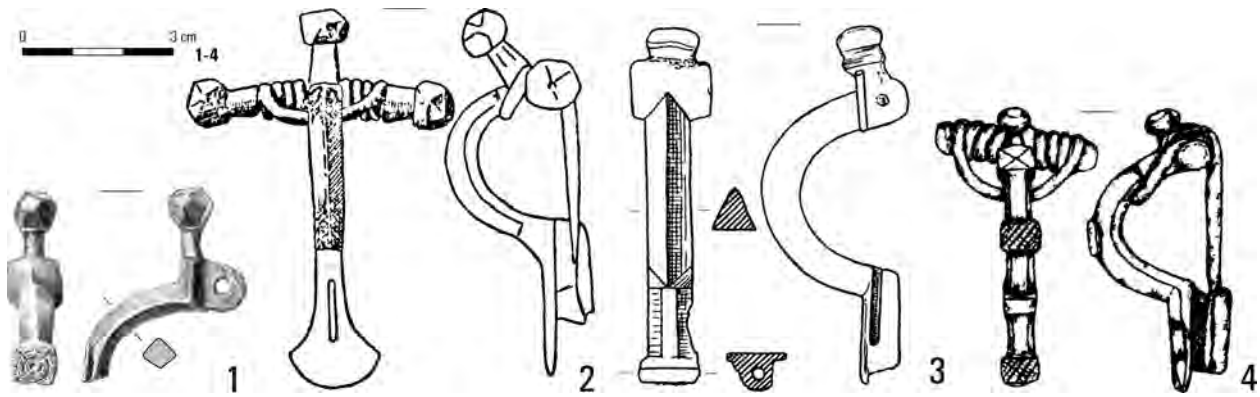


Fig. 12. Kleszewo brooch (1) and stylistically similar specimens: 2 – Malbork-Wielbark, grave 222; 3 – Verbična, stray find; 4 – Ulów, grave 2. After: R. Schindler 1940 (2), B. Niezabitowska-Wiśniewska 2007 (4), J. Schuster 2017c (3), M. Woźniak 2021 (1).

with a plate on the head,³⁴⁴ of pattern ZG 47.³⁴⁵ All the listed forms are characteristic of the late phase of the Wielbark culture covering the terminal section of the Roman period or the beginning of the Migration period. On this basis, the Kleszewo brooch is dated to phase VII of the cemetery's use.

Grave 708 yielded a brooch with a solid catchplate (708/1), similar to the model specimen of Almgren type 186. According to Almgren, type 186 consists of brooches with a solid catchplate, characterised by knobs on the head and at the ends of the spring's axis bar, so it *de facto* includes all *Bügelknopffibeln* as well as other forms.³⁴⁶ Hence, in the case of the Kleszewo brooch, the reference to Almgren's classification is only formal. The brooch in question has a faceted bow decorated with metopes. It is thickened and transversely incised at the foot, which may be seen as an imitation of a wire-like catchplate terminal wrapping around the bow, as in brooches with a returned foot. The Kleszewo specimen (Fig. 13:1) finds close parallels at Wielbark culture sites in northern Mazovia. Two almost identical fibulae were discovered at the cemetery, located about 12 km NE of Kleszewo, at Stary Szelków, grave 133 (Fig. 13:3.4).³⁴⁷ The brooches from both sites are so similar that they may have been made by the same

person. Moreover, a fibula from Modła, grave 206 (Fig. 13:2),³⁴⁸ has an identical bow and proportions. What differentiates it from the above-mentioned brooches is the absence of a pin/knob on the head and a hole in the catchplate. The latter – unless it results from use or funeral practices – makes the fibula more similar to the group of brooches with a solid catchplate and frame-like foot, Almgren type 185.³⁴⁹ The resemblance between Wielbark culture specimens of Almgren type 185 (Fig. 14)³⁵⁰ and the fibulae from Modła, Kleszewo and Stary Szelków can also be seen in other elements, such as the shape of the bow, proportions, and the presence of an imitation of the returned foot wrapping around the bow. All this supports recognising the fibulae from Modła, Kleszewo and Stary Szelków as local forms derived from Almgren type 185. The fibulae from Kleszewo and Stary Szelków were found in features with rich grave goods. The former was accompanied by an Almgren-172 fibula, chalcedony polyhedral beads, pottery made on a potter's wheel and a comb with tubular rivets, which allows dating the feature to phase VII of the cemetery's use, possibly its younger section (stage VIIb). The pair of fibulae from Stary Szelków, accompanied by a brooch with a solid catchplate and caterpillar bow, and a belt buckle with a bold frame and a buckle plate, can be dated to phases C₃-D.³⁵¹

A fragment of a silver brooch with a large semicircular plate on its head (ZL/26) can be assigned to the

³⁴⁴ E.g., Malbork-Wielbark, grave 133 (R. Schindler 1940, fig. 62:2), Warszawa-Kawęczyn, stray find (B. Jankowska 1962, 336, 343, pl. LXXI:2).

³⁴⁵ E.g., Cecele, grave 359 (J. Jaskanis 1996, 50, pl. XLII/359:2), Niedanowo, grave 119 (W. Ziemińska-Odojowa 1999a, 29, pl. XXXV/119:1), Węgrowo, grave 1 (M. Kurzyńska 2013, 17, pl. I:2).

³⁴⁶ In the catalogue, O. Almgren lists specimens without a knob or with a plate on the head as analogies for type 186 (Fibeln wie Fig. [...] 186) (O. Almgren 1897, 196–198).

³⁴⁷ R. Prochowicz 2013, 303, fig. 3:1.

³⁴⁸ J. Andrzejowski 2009, 179, pl. 3.100/206:5.

³⁴⁹ Cf. J. Schuster 2004, 85–88.

³⁵⁰ E.g., Niedanowo, graves 539, 549 (W. Ziemińska-Odojowa 1999a, 94, 96, pl. CXCIV/539:1, CXCVII/549:1), Włocławek-Szpetal, stray find (K. Hahuła 1988, 101, pl. II:13), Oronne, stray find (K. Czarnecka 2012, 122, fig. 12:3).

³⁵¹ R. Prochowicz 2013, 303, fig. 3.

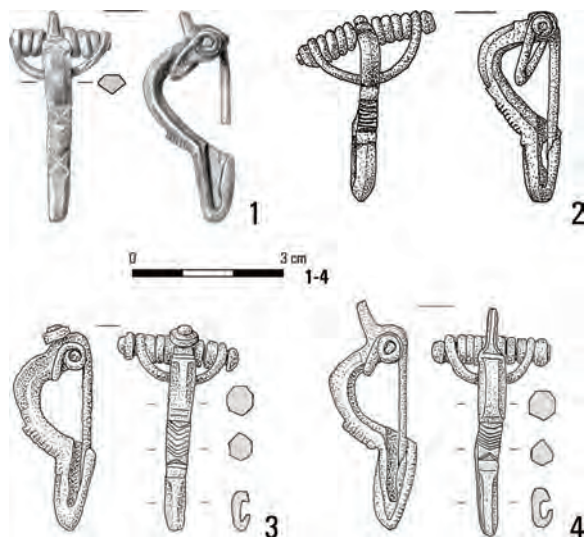


Fig. 13. Brooch from grave 708 at Kleszewo (1) and its closest analogies: 2 – Modła, grave 296; 3.4 – Stary Szelków, grave 133. After: J. Andrzejowski 2009 (2), M. Woźniak 2021 (1). Drawn by B. Karch (3.4).

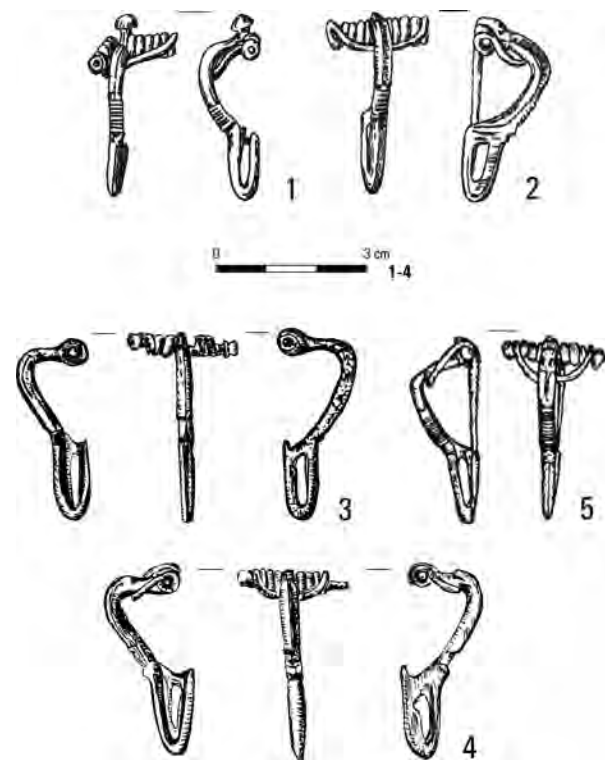


Fig. 14. Brooches of Almgren type 185 from the Wielbark culture areas. 1 – Niedanowo, grave 539; 2 – Niedanowo, grave 549; 3, 4 – Nowy Targ, feature 154; 5 – Włocławek-Szpetal, stray find. After: K. Hahuła 1988 (5), E. Fudzińska, P. Fudziński 2013 (3.4), W. Ziemińska-Odojowa 1999a (1.2).

group of fibulae referred to in the literature as sheet or plate fibulae.³⁵² On the underside of its head, there is an elongated projection with two holes, which originally housed the spring's axis bar or the axis bar and the chord. Plate brooches are a large and highly diverse group, found in vast areas across almost all of Europe.³⁵³ They have been the subject of numerous studies and classifications based on various criteria, e.g., the shape of the foot, construction of the catchplate, ornamentation or general proportions.³⁵⁴ The state of preservation of the Kleszewo artefact, above all the lack of the foot, effectively excludes its unambiguous classification within the most commonly used typologies. It is not even possible to determine whether this fibula had a solid catchplate or returned foot.

Plate fibulae are rarely found north of the Carpathians. About 30 brooches are known from the areas of the Wielbark culture (and the Masłomęcz group); most

of them have been discovered in the Lublin region.³⁵⁵ Four specimens – two from Stara Rzeką,³⁵⁶ one each from Kleszewo and Masłomęcz – are silver, the others are made of bronze. The brooches from Mazovia and Podlachia, and western Belarus (Fig. 15) are probably imports from the south. Unfortunately, none of them can be dated precisely based on the accompanying artefacts. Therefore, determining their chronology should be based on the findings regarding the material of the Masłomęcz group and, above all, the Chernyakhov and Sântana de Mureş cultures, where such fibulae are found quite frequently. Small brooches similar to the specimens we know from the Wielbark culture areas

³⁵² Cf. A. Kokowski 1996; R. Prochowicz, T. Rakowski 2013, 204–205. In German literature, these fibulae are referred to as sheet brooches (*Blechfibeln* – recently, in more detail: F. Gauß 2009), and in Russian literature – as two-plate brooches (*dwuplastinčnye fibuly* – A.K. Ambroz 1966, 76–91).

³⁵³ E.g., A.K. Ambroz 1966, 76–91; G. Diaconu 1973; A. Kokowski 1996; I. Gavritukhin 2003; F. Gauß 2009; O.V. Gopkalo 2016.

³⁵⁴ Recently, in more detail: F. Gauß 2009, 76–92, with earlier literature.

³⁵⁵ R. Prochowicz, T. Rakowski 2013, 205; B. Niezabitowska-Wiśniewska 2021, 272–276, fig. 48.

³⁵⁶ https://arkeonews.net/excavations-in-poland-uncover-goth-graves-filled-with-ornate-jewellery/?fbclid=IwAR0K-13raN73h9kahPJ2xQ4A2aOeHsDLi8cXpN9vXG4bvFF-HT_2cRbC8KPno (accessed on 26.08.2023).

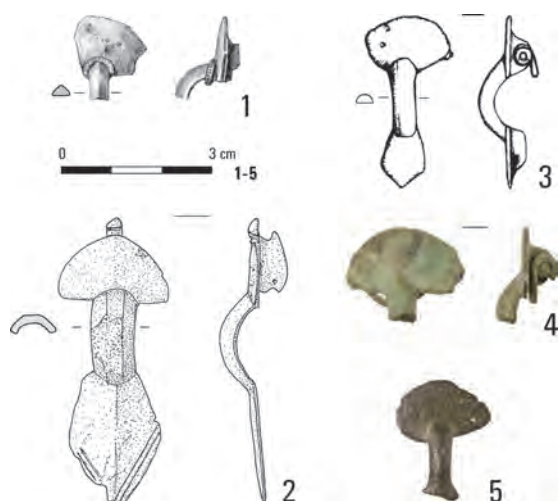


Fig. 15. Plate brooches (Blechfibeln) from the Wielbark culture areas. 1 – Kleszewo, stray find; 2 – Sieluń, stray find; 3 – Stupićava, stray find; 4 – Bielsk Podlaski (vicinity), stray find; 5 – Zawyki, stray find. 1 – silver, 2–5 – bronze.

After: R. Prochowicz, T. Rakowski 2013 (2), V.G. Belevic 2016 (3), M. Woźniak 2021 (1). Photo by D. Krasnodębski (5), M. Woźniak (4).

(mainly A. Kokowski's types B and C) are dated there to phases C₃–D.³⁵⁷

The remaining twelve brooches that can be associated with the Wielbark culture have been preserved to an extent that does not allow their more precise identification (Table 3). They are all bronze. Among them, there are fragments of brooches with rod-shaped bows of triangular cross-section (597/1, 915/1, ZL/35.36?), as well as ones with a strip bow (640/1). The latter usually characterises brooches dating from the end of the Roman period and the beginning of the Migration period (see above). The fragment of a massive bar of diamond-shaped cross-section discovered in grave 851 (851/4) may be a fragment of the bow of a brooch with a solid catchplate. If this interpretation is correct, the grave should be associated with phase VII of the cemetery's use. A fragment of a brooch whose design is unusual in the Wielbark culture was found in grave 174 (174/1). Its head is coiled into a cylinder with an iron spring axis bar. This solution finds no analogies among the Wielbark brooches I know from Mazovia and Podlachia; in their case, the axis bar is always embedded in a plate-shaped head. On the other hand,

³⁵⁷ A. Kokowski 1996, 157–160; R. Harhoiu 1997, 97–99; I. Gavritukhin 2003; R. Prochowicz, T. Rakowski 2013, 205; B. Niezabitowska-Wisniewska 2021, 276.

Table 3. Dating of brooches of undetermined form attributed to the Wielbark culture. The asterisk (*) marks spring fragments, and the question mark (?) denotes artefacts whose dating and cultural attribution are uncertain.

Dating	Artefact no.
VI	359/3*
VII	597/1.2, 640/1, 883/1*
VI–VII	174/1, 174/2*, 851/3?, 915/1, ZL/32?*.33?*.35.36?

such a design is recorded in other areas. It is a distinctive feature of brooches distinguished by G. Diaconu³⁵⁸ as the Dacian type of fibulae with a returned foot. It is found in Muntenia and north-eastern Bulgaria (Moesia), where it is dated to the 3rd century CE.³⁵⁹ Such brooches are also known from the Przeworsk culture, where they are dated - depending on the shape of the bow and foot - from phase C₁ to the early Migration period.³⁶⁰ Among other forms, some brooches of M.B. Mackeprang's group II,³⁶¹ typical of the Elbe region and Denmark in the developed section of the younger Roman period, are shaped in this way.³⁶² In the Wielbark culture settlement zone, a fibula with a similarly shaped head was discovered at Juszkowo in Gdańsk Pomerania, in the grave of a warrior from the developed section of the early Migration period.³⁶³

The remaining Kleszewo fibulae have been preserved in the form of spring fragments; the attribution of some of them to the Wielbark culture is uncertain. The dating of individual pieces is presented in Table 3.

PRZEWORSK OR WIELBARK CULTURE

From grave 244 comes a fragment of a bronze brooch with a slender foot of triangular cross-section, topped with an upturned disc (Fig. 16:1). The foot is short, straight and clearly distinguished from the arched – in the preserved part – bow. The fragmentary state of preservation of the brooch makes it difficult to determine its form. The disc is damaged; originally, it was probably roughly circular. Such an element can be found in

³⁵⁸ G. Diaconu 1971, 248–249, pl. VII:6–10.

³⁵⁹ E. Genčeva 2004, 52–53, pl. XVI.

³⁶⁰ I. Jakubczyk 2013, 151–153, pl. CXXI–CXXIII, map 45.

³⁶¹ M.B. Mackeprang 1943, 6–7, pl. 1:2.

³⁶² Recently, M.J. Przybyła 2018a, 24–53.

³⁶³ K. Dyrda B. Kontny, M. Mączyńska 2014, 117, fig. 10:3, 11:1.

some, poorly decorated, rosette brooches from group 5 as defined by U. Lund Hansen and M.J. Przybyła³⁶⁴ (Fig. 16:2–4). Several such specimens have been discovered in northern Germany, on Bornholm, and in Poland – central and western Pomerania, i.e., the territory of the Dębczyno group. This is probably the result of close ties between the people of this group and the communities of the western Baltic Sea zone.³⁶⁵ The only rosette brooch of variant 5 known to me, discovered in Poland outside the Dębczyno group territory,³⁶⁶ comes from Masłomęcz, grave 447 (Fig. 16:3). The fibulae in question are dated to the developed section of the younger Roman period.³⁶⁷

Some examples of provincial-Roman knee-shaped brooches also have the foot topped with a small disc (Fig. 16:5.6).³⁶⁸ However, this is not a common feature in this form. Most often, the foot of these brooches is only thickened at the end and, if there is a disc, it is much more massive.³⁶⁹ These brooches are usually characterised by a foot that is less clearly distinguished from the bow than in the case of the Kleszewo specimen. In Poland, Roman knee-shaped fibulae are recorded quite rarely.³⁷⁰ Several specimens have been found in the Przeworsk culture area, and slightly fewer come from the Wielbark culture territory. The brooches in question discovered in Poland are dated to phases B_{2b}–C_{1a}.³⁷¹

The brooch types briefly discussed above seem to be the ones to have most in common with the brooch fragment from grave 244 from Kleszewo. Assigning it to any of the above-mentioned forms, however, is very uncertain. It is also possible that the similarity is completely accidental. Problems with the typological classification of the artefact make it difficult to establish the dating and cultural attribution of grave 244, as the remaining grave goods do not provide more precise data in this respect. The location of the feature in the immediate vicinity of early Roman graves³⁷² suggests dating it to

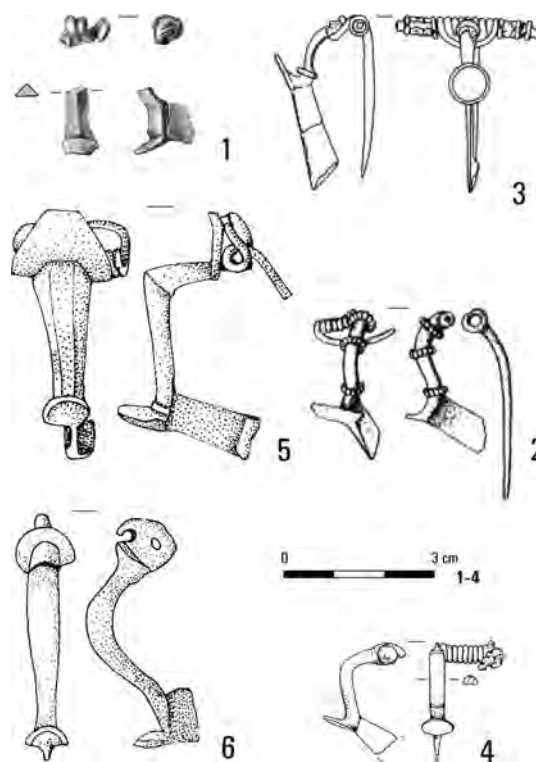


Fig. 16. Brooches with a disc at the foot terminal.

1 – Kleszewo, grave 224; 2 – Woldegk;
3 – Masłomęcz, grave 477; 4 – Husby; 5 – Romania, unknown
locality; 6 – Orșova. After: S. Cociș 2004 (5.6),
M.J. Przybyła 2018b (2–4), M. Woźniak 2021 (1)

³⁶⁴ U. Lund Hansen, M.J. Przybyła 2010, 261–262, fig. 32, 33; M.J. Przybyła 2018b, 90–101; some of the brooches, e.g. from Głuszyn, are sometimes also associated with the 2nd series of Almgren group VII (P. Kaczmarek 1998, 310, fig. 1:7.8).

³⁶⁵ E.g., H. Machajewski 1992, 158–165; M.J. Przybyła 2007.

³⁶⁶ Cf. M.J. Przybyła 2018b, 99–100, fig. 3/78.

³⁶⁷ M.J. Przybyła 2018a, 180–183; 2018b, 126–143.

³⁶⁸ S. Cociș 2004, pl. LIX:878, LXXVIII:1200, LXXIX:1217; 2019, 45, pl. 108:1.

³⁶⁹ Cf. W. Jobst 1975, 59–72, pl. 15–24; S. Cociș 2004, 88–105, pl. LVI–LXXIX.

³⁷⁰ M. Gładysz-Juścińska 2003, 193–204; M. Olędzki 2007.

³⁷¹ Recently, A. Kuzioła 2020, 386, with earlier literature.

³⁷² The closest Wielbark culture graves were recorded about 10 m to the E of grave 244.

the late or terminal horizon of the Przeworsk culture (stages Vb and Vc). If the brooch were to represent the 2nd series of Almgren group VII, then the grave should be associated with the Wielbark culture and dated to phase VI of the cemetery's functioning.

A stray find of a brooch fragment with a spring in a bronze sheet cylinder (ZL/31) is difficult to interpret. Among fibulae discovered in Mazovia and Podlachia, such design is mainly characteristic of the late variants of Almgren groups IV and V, dated to phases B_{2b}–C_{1a}.³⁷³ The finds that can be associated with the Przeworsk culture are most often made of iron, while Wielbark culture brooches are made of bronze. However, the raw material cannot be the only criterion indicating the artefact's cultural attribution. This applies particularly to Przeworsk culture brooches, which, in this area, are also sometimes made of bronze.³⁷⁴

³⁷³ Cf. J. Andrzejowski 2001b, 66, fig. 8.

³⁷⁴ K. Rusin 2001, 102, fig. 5/11:2; A. Szela 2021, 68, pl. LXXX/136:6.7.

The dating and cultural attribution of a bronze brooch pin found on the surface of the site (ZL/37) are unknown.

To conclude the deliberations on the brooches, it is worth noting the signs of repair of damaged fibulae. In all cases, they were observed on the parts of the spring mechanism. They were recorded only on Przeworsk culture brooches and, almost always, on one-piece specimens. The absence of signs of repair on Wielbark culture and most Przeworsk culture two-piece fibulae does not mean, of course, that they could not have been damaged and, consequently, repaired. The two-piece construction, however, allowed the entire spring apparatus to be replaced with relative ease. Such a procedure, unless it resulted in some unusual design, is difficult to identify. The Kleszewo brooches were repaired in a variety of ways. The cracked springs of the brooches of types K and N from graves 45 and 536 were fitted with a stabilising axis bar (45/1, 536/1). In the case of the type-N-a brooch from grave 967, its axis bar was placed between the coils of the spring, and the broken end of the chord was formed into a hook, which was caught on the bow (967/1). Traces of another method of repair may be the small wires attached to the spring of the Almgren-67a brooch from grave 701A (701A/1), which may have originally served to stiffen the broken spring by attaching it to the head.³⁷⁵ The stray eye brooch (ZL/7) was fitted with a new spring, the end of which was fixed in a hole made in the centre of the fibula head. The brooch with a crest on the head from grave 288 was also fitted with a new catch. In this case, the end of the new spring was set into a groove filed into the underside of the fibula head, while the hook to hold the chord was formed from the beginning of the old spring (288/1). This design is somewhat reminiscent of the solution known from a trumpet fibula from Pajewo-Szwelice, feature 62a–f.³⁷⁶ A different approach was taken in the case of the brooch resembling Almgren groups II and IV from grave 43 (43/1), which is the only specimen with a two-piece construction among the repaired fibulae.³⁷⁷ A half of its

³⁷⁵ Cf. the repaired Almgren-18 brooches from Pruszcz Gdański, site 10, grave 502, and Podwiesiek, grave 49 (M. Pietrzak 1997, 71, pl. CXLVII/502:2; E. Bokinić 2005, 21, pl. XXIV/49:10); the Kleszewo brooch is heavily melted and corroded, thus, it is not certain whether the melted wire fragments found on its spring were actually originally used to tie the spring to the bow or whether they found themselves there by accident.

³⁷⁶ Z. Dłubakowski 2005, 54, LVIII:20.

³⁷⁷ It cannot be ruled out that this state is a result of modern conservation treatment – the spring and chord are currently made

spring was replaced. The end of the chord of the added piece was inserted into a hole between the coils of the remaining spring, on the opposite side of the head. This type of treatment is known from barbarian Europe.³⁷⁸ For example, the brooches from the princely grave at Zgliczyn Pobodzy³⁷⁹ and from Lemany, one of the graves discovered in 1981,³⁸⁰ were repaired in this way.

2.1.2. BELT ELEMENTS

Metal belt elements³⁸¹ were recorded in 19 graves of the Przeworsk culture (32, 43, 68, 115, 118, 132, 133, 200B, 253, 261, 363, 383, 402, 409A, 409B, 413, 516, 702, 968) and 21 graves of the Wielbark culture (150, 158, 355, 356, 359, 362?, 380, 385, 386, 411, 414, 578, 621, 640, 721B, 881, 884, 887, 917, 950, 953); a few more belt buckles and fittings were stray finds from the site's surface (ZL/38–44) and from a secondary context (fill of grave 916A).

Hinged belt hooks

Hinged belt hooks, made of iron, were found in two Przeworsk culture graves (68/3, 200B/7) and, in a secondary context, in one Wielbark culture grave (916A/3). The first two are two-piece specimens, with arms of different lengths and hooked ends, bent inwards.³⁸² The third belt hook has been partially preserved, with only a fragment of an arm with a hooked end left. Since no other types of belt hooks with such terminals were found at Kleszewo, I assume that this artefact had the same form as the completely preserved specimens. The surface of the belt hook from grave 68 is decorated on the outside with engraved polylines³⁸³ and two grooves

up of several fragments, glued together.

³⁷⁸ E. Cosack 1979, 52.

³⁷⁹ J. Schuster 2016, 139, fig. 4:2; 2017a, 123, fig. 4:2.

³⁸⁰ Collection of the Museum of Kurpie Culture in Ostrołęka [hereinafter: MKK], cf. J. Korsak 1982, 125. The material from the excavations 1981 is currently a single assemblage whose elements cannot be assigned to specific features.

³⁸¹ Included here are all fittings in the form of rectangular plates attached with two rivets. Some of them were not accompanied by other belt elements, thus, their function is not clear. It cannot be ruled out that they used to be mounted on other objects. However, none of these artefacts were found in the Kleszewo graves in a context that would clearly indicate they served some other purpose.

³⁸² Cf. J. Kostrzewski 1919a, 51–53.

³⁸³ The ornament, presently in the form of very shallow depressions, is heavily abraded. Some lines are visible only under a light falling at a large angle. This fact, combined with the surface corrosion, makes the reconstruction of the pattern largely uncertain.

near the hinge. The ornamentation of the specimen from grave 200B is limited to a few grooves along the edges.

Hinged belt hooks are characteristic of the Oksywie culture, with especially many of them discovered in Chełmno Land.³⁸⁴ They are less often recorded in the areas of other cultural groups of the northern part of central European *Barbaricum* and are only exceptionally found at La Tène culture sites.³⁸⁵ So far, a dozen or so hinged belt hooks have been discovered east of the Middle Vistula, mainly in northern Mazovia.³⁸⁶ Their presence is most often associated with contacts of the local population with the Oksywie culture people.³⁸⁷ The simple ornament of the specimen from grave 200B is the most common and frequently encountered form of decorating hinged belt hooks.³⁸⁸ It is more difficult to point out analogies for the decoration of the specimen from grave 68, which is ornamented (mainly) with polylines in a “stepped” arrangement. I do not know of another specimen with such a pattern among the known belt hooks ornamented with geometric motifs composed of continuous lines.³⁸⁹ A slightly similar, albeit less elaborate and differently made, pattern was found on a belt hook from Brachlewo, grave 146.³⁹⁰ Hinged belt hooks are most often dated to phase A₂, exceptionally to phase A₁ or A₃.³⁹¹ These chronological frames also apply to the specimens from Kleszewo, which were found with brooches of types H and K (grave 68) and J and M-a (grave 200B), allowing them to be confidently dated to phase I and stage IIa of the cemetery’s use. Since these items are very rare in graves with weapons, they have long been considered an element of women’s clothing.³⁹²

Ring-shaped belt hook

From grave 409A, dated to phase I or stage IIa, come an iron ring-shaped belt hook (409A/1) and an iron ring (409/2). The belt hook has a defined catch without dec-

orative protrusions (wings). It corresponds to the form shown in figure 48 in J. Kostrzewski’s monograph.³⁹³ The ring was made from a rod of trapezoidal cross-section. One of its surfaces (the outer one?) is entirely covered with small holes, perhaps made intentionally.³⁹⁴ In the Przeworsk culture, analogous sets, i.e., a belt hook with one, two or three rings, are recorded relatively often, usually in features from phase A₂ and, much less often, phases A₁ and A₃.³⁹⁵ They are considered an element of warriors’ equipment, specifically a sword belt.³⁹⁶ It is assumed that at least some of the specimens discovered in the Przeworsk culture areas were imported from the La Tène culture territory. This remark applies primarily to those specimens found together with imported swords.³⁹⁷ The scarce contents of the Kleszewo grave do not support such an interpretation.

Belt buckles

The Kleszewo cemetery yielded 34 belt buckles³⁹⁸. Eight pieces can be attributed to the Przeworsk culture, the remaining specimens come from the Wielbark culture.

The iron buckles from graves 702 (702/2) and 968 (968/1) are specimens with unipartite, round frames, corresponding to type C 13. Both were found in Przeworsk culture graves; the first one is dated to phase IV, and the second one to phase V of the cemetery’s use. Each buckle has a massive pin of polygonal cross-section, in the case of the buckle from grave 968 – with a metope at the base, with triangular cutouts on the sides. Buckles of the discussed type are often found at Przeworsk culture sites, including in its eastern zone.³⁹⁹ They are a long-lived form, dating from the end of the late pre-Roman period to the younger Roman period.⁴⁰⁰

A large group consists of belt buckles with unipartite, semi-circular frames, type D 1. Five iron specimens were discovered in Przeworsk culture graves from stage Vb (32/3, 132/6, 363/8, 383/5, 516/2); two specimens – one bronze and one iron – come from Wielbark culture graves (356/1, 621/2), dating to phase VI of the

³⁸⁴ R. Wiloch 1995, 17–20; E. Bokinić 2008, 60–73.

³⁸⁵ E. Bokinić 2005, 98–99.

³⁸⁶ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 136.

³⁸⁷ T. Dąbrowska 2008, 110; recently, the possibility of manufacture of belt hooks also in the Przeworsk culture environment has been suggested, based on ornamentation, among others (A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 138).

³⁸⁸ R. Wiloch 1995, 19; E. Bokinić 2008, 61.

³⁸⁹ Cf. R. Wiloch 1995, 19–20.

³⁹⁰ W. Heym 1961, 153, fig. 7:23.

³⁹¹ R. Wiloch 1995, 18; E. Bokinić 2008, 62; M. Grygiel 2018, 190–191.

³⁹² J. Kostrzewski 1919a, 42; R. Wiloch 1995, 26; E. Bokinić 2008, 222–227.

³⁹³ J. Kostrzewski 1919a, 62, fig. 48.

³⁹⁴ The artefact is corroded. It cannot be excluded that the presumed depressions were made while removing the corrosion in the course of conservation treatment.

³⁹⁵ T. Bochnak 2005, 58–59; 2014, 69.

³⁹⁶ J. Kostrzewski 1919a, 62; T. Bochnak 2005, 56–60; 2014, 67–69, list VI.2.1; P. Łuczkiwicz 2006, 158, 169.

³⁹⁷ T. Bochnak 2014, 68–69; cf. also M. Grygiel 2018, 197

³⁹⁸ Belt buckles were classified in accordance with R. Madyda-Legutko’s typology (1987).

³⁹⁹ E.g., Kamieńczyk – 7 pcs. (T. Dąbrowska 1997, 86), Nadkole, site 2 – 5 pcs. (J. Andrzejowski 1998a, 58).

⁴⁰⁰ R. Madyda-Legutko 1987, 19, table 7.

cemetery's functioning. Type-D 1 buckles are the most popular form recorded at Mazovian and Podlachian cemeteries of the Przeworsk culture.⁴⁰¹ They are dated primarily to phase B₂, which is consistent with the chronology of the Przeworsk culture specimens from Kleszewo. They are found much less frequently at Wielbark culture sites in this region. The bronze specimen from grave 356 finds analogies, for example, at the sites at Cecele, graves 183, 255, 399,⁴⁰² and Goździk, grave 10/60.⁴⁰³ Iron specimens are encountered exceptionally, e.g., at Stary Szelków, feature 78.⁴⁰⁴ The small number of buckles of type D 1 at Wielbark culture sites in Mazovia and Podlachia is most likely due to the fact that the period of their greatest popularity fell on phase B₂,⁴⁰⁵ i.e., before the population of this group appeared in the area. This comment also applies to iron specimens, which are found relatively often at Wielbark culture cemeteries in Pomerania and Greater Poland.⁴⁰⁶

The bronze buckle from grave 261 (Przeworsk culture, phase V of the cemetery's use) is a small specimen with a unipartite, almost square frame (261/1), similar to type G 7. It is a form rarely found in central European *Barbaricum*.⁴⁰⁷ Most of the examples come from features dating to phases B₂–C₁.⁴⁰⁸ Two specimens of the type in question from the areas east of the Middle Vistula were discovered at the Wielbark culture cemeteries at Cecele and Krupice.⁴⁰⁹

Two-piece buckles with bipartite, quadrangular frames were found in four graves of the Wielbark culture from phase VI of the cemetery's use (158/4, 355/2, 380/1, 386/1). The specimen from grave 386 is made of iron, the others are bronze. The buckles from graves 355 and 380 can be identified as type D 30, and the ones from graves 158 and 380 – with buckle plates – as type D 29. The frames of all four are roughly trapezoidal, which may be some reference to forms with omega-

shaped frames.⁴¹⁰ Buckles of types D 29 and D 30 are commonly found in *Barbaricum*.⁴¹¹ In the Wielbark culture, they are dated to phases C_{1b}–C₂.⁴¹²

The largest collection of Wielbark culture buckles, with a total of 13 items, consists of bronze specimens of group H, with thickened, oval or round frames. Among them, dominant are the examples of types H 11 and H 12, of which there are nine (411/1, 578/1, 721B/1, 884/7.8, 917/2.3, 950/1, ZL/38). The pins of all of them (if they have been preserved) are thickened or have a metope at the base; in the case of the specimen from grave 721B, the metope is decorated with three transverse grooves. Buckles of types H 11 and H 12 are found in great numbers in central European *Barbaricum* and date mainly to the end of the Roman period and the beginning of the Migration period.⁴¹³ At Wielbark culture cemeteries in Mazovia and Podlachia, they occur in features from phases C₃–D, mostly probably from this first section.⁴¹⁴ At Kleszewo, buckles of types H 11 and H 12 are markers of stage VIIa of the cemetery's use.

Grave 887 yielded a belt buckle of type H 15, with a unipartite, oval and thickened frame, with a separate axis bar for the pin (887/1). This form is relatively rarely recorded at Wielbark culture sites.⁴¹⁵ More territorially distant analogies can be indicated, among others, in the Przeworsk and Chernyakhov cultures.⁴¹⁶ Most Wielbark culture artefacts were discovered without context and are damaged to varying degrees. Therefore, it cannot be ruled out that some of them originally represented

⁴⁰¹ E.g., Kamieńczyk – 35 pcs. (T. Dąbrowska 1997, 88), Nadkole, site 2 – 29 pcs. (J. Andrzejowski 1998a, 58), Oblin – 16 pcs. (K. Czarnecka 2007, 77).

⁴⁰² J. Jaskanis 1996, 105.

⁴⁰³ A. Niewęglowski 1984, 140, fig. 7:12.

⁴⁰⁴ PMA collection, excavations of R. Prochowicz.

⁴⁰⁵ R. Madyda-Legutko 1987, 25.

⁴⁰⁶ Cf. M. Tempelmann-Mączyńska 1985a, 55–57.

⁴⁰⁷ The list of R. Madyda-Legutko (1987, 223) can be supplemented with a specimen from Kolonia Rychłocice, grave 43, dated to subphase B_{2b} (W. Siciński 2019, 69, fig. 47:3 – the buckle was classified as type G 1).

⁴⁰⁸ R. Madyda-Legutko 1987, 47, 223.

⁴⁰⁹ Cecele, grave 321 (Jaskanis 1996, 47, pl. XXXIX/321:1), Krupice, grave 307 (J. Jaskanis 2005, pl. LXXVI/304:4).

⁴¹⁰ Cf. R. Madyda-Legutko 1987, 38–40; 2001; O.V. Petrauskas 2020, 241–244. In particular, this remark applies to specimens considered transitional forms between buckles with a D-shaped and omega-shaped frame, e.g., R. Madyda-Legutko's types E 13 and E 14 (1987, 40), or subtype 2 of type 1 defined by O.V. Petrauskas (2020, 242). The only difference compared to buckles with a D-shaped frame seems to be a slightly smaller curvature of the frame terminals through which the axis bar is passed (cf. O.V. Petrauskas 2020, 242).

⁴¹¹ R. Madyda-Legutko 1987, 32–34, map 24; O.V. Petrauskas 2020, 243–244, map 1.

⁴¹² R. Madyda-Legutko 1987, 32, 33, 40, table 8, J. Andrzejowski, A. Żórawska 2002, 43–44; A. Cieśliński 2010, 69–70. In the Chernyakhov culture, their chronology is broader and covers also early phase C₃ (O.V. Petrauskas 2020, 244).

⁴¹³ R. Madyda-Legutko 1987, 63–64, 227–228, map 47.

⁴¹⁴ M. Woźniak 2015, 313, 315, 323, 325; M. Mączyńska 2019, 56.

⁴¹⁵ E.g., Naryjski Młyn, stray find (A. Cieśliński, A. Rau 2017, 334, fig. 1:10), Starawieś, stray find (W. Radig 1942, 197, pl. IV:27), Stupsk, grave 19/91 (A. Grzymkowski 2015, 60), Sieluń, stray find (R. Prochowicz, T. Rakowski 2013, 205–206, fig. 2:9).

⁴¹⁶ E.g., R. Madyda-Legutko 1987, 65, 228, map 49; E.L. Gorovskij 1988, 42 (series V); O.V. Gopkalo 2011a, 74–75.

other forms, e.g., they were equipped with a buckle plate. Type-H 15 buckles in the Wielbark culture are most often dated to phases C₃-D⁴¹⁷. The Kleszewo specimen, based on the type chronology and stratigraphy of the feature,⁴¹⁸ is dated to stage VIIa of the cemetery's functioning.

The buckle from grave 385 (Fig. 17:1), dated to phase VII of the cemetery's use, is somewhat similar to the one discussed above. Its frame is ornamented with rows of punched points, and the pin has a zoomorphic terminal. The artefact resembles type H 35, characterised by a thickened frame decorated with circular imprints.⁴¹⁹ Its best analogy from the Wielbark culture area is a buckle from Pruszcz Gdański, site 5, grave 26 (Fig. 17:2), dated to phases C₃-D.⁴²⁰ It has an almost identical frame (decoration, cross-section, shape) and a zoomorphic pin terminal. It differs from the Kleszewo specimen only in the presence of a buckle plate. Buckles with thickened frames decorated with rows of punched points are also known from other *Barbaricum* areas, e.g., from the territory of the Dollkeim/Kovrovo culture (Fig. 17:3.4). Most often, they are dated to the end of the Roman period or the early part of the Migration period.⁴²¹

Found in the arable layer of Are 54B (ZL/39) was a small buckle of type H 16 type, with a quadrangular buckle plate decorated with several horizontal grooves near the pin. Specimens of this type are rare in the Wielbark culture.⁴²² A similar item was discovered at the nearby cemetery at Stary Szelków, grave 133.⁴²³ A similar artefact is also known from Pruszcz Gdański, site 5, grave 12A.⁴²⁴ Both assemblages are dated to the end of the Roman period or the beginning of the Migration period. Similar buckles are more often found in the areas neighbouring the Wielbark culture territory, e.g., in the West Balt groups or the Przeworsk culture,⁴²⁵ where

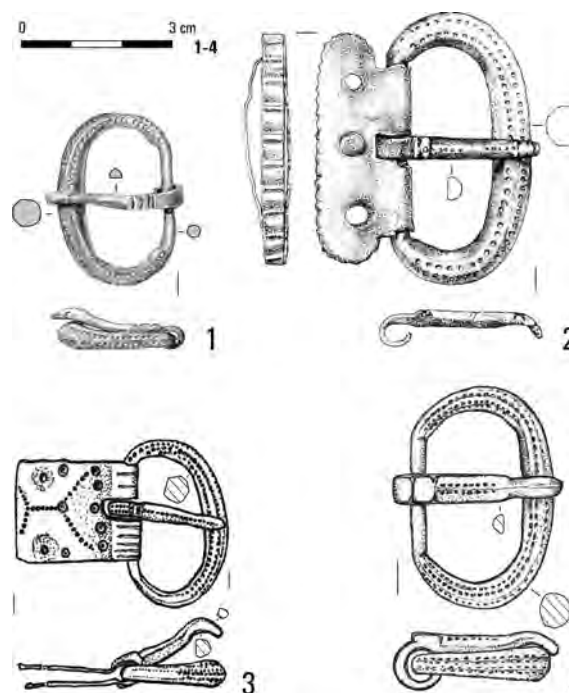


Fig. 17. Buckles with a thickened frame decorated with punched points. 1 – Kleszewo, grave 385; 2 – Pruszcz Gdański, site 5, grave 26; 3 – Okunevo, grave 180; 4 – Okunevo, grave 94. After: M. Pietrzak, L. Cymek, F. Rożnowski 2015 (2); M. Woźniak 2021 (1); O.A. Homáková 2022 (3.4)

they are dated similarly to specimens known from the Wielbark culture.⁴²⁶

The massive buckle with a circular and strongly thickened frame discovered on the surface of the site (ZL/40) corresponds to type H 26. It is a marker of the early Migration period in the central European *Barbaricum* area.⁴²⁷ We also know several examples of this type from Wielbark culture sites in Mazovia and Podlachia.⁴²⁸ The stray find of a wide, triangular pin decorated at the base with three transverse grooves (ZL/44) is probably a fragment of another similar buckle.⁴²⁹ Both artefacts can be associated with the youngest horizon of the cemetery's functioning, i.e., stage VIIb.

A fragment of an unspecified bronze buckle with an oval, thickened frame was also a stray find (ZL/41). Bronze buckle pins of unknown forms were discovered in graves 640, 881, 953 and as stray finds (640/2, 881/1,

⁴¹⁷ A. Cieśliński, A. Rau 2017, 334, with earlier literature; recently, buckles of types H 14–16 have been indicated as one of the markers of phase C₃ in the Wielbark culture – M. Mączyńska 2019, 56.

⁴¹⁸ Grave 887, in which the buckle was found, was most likely disturbed by grave 884, dated to stage VIIa of the cemetery's functioning.

⁴¹⁹ R. Madyda-Legutko 1987, 69 (the type is represented by one specimen, found at Biernatowo).

⁴²⁰ B. Kontny, Z. Ogonowska, M. Pietrzak 2015, 35–37, fig. 2:3.

⁴²¹ E.g., E.L. Gorohovskij 1988, 44, fig. III:52; O.A. Homáková 2022, 56, 104–105, fig. 43:13–17.

⁴²² R. Madyda-Legutko 1987, 65–66.

⁴²³ R. Prochowicz 2013, 305, fig. 3:4.

⁴²⁴ M. Pietrzak, L. Cymek, F. Rożnowski 2015, 22, pl. IX:6.

⁴²⁵ R. Madyda-Legutko 1987, 65–66, map 49.

⁴²⁶ R. Madyda-Legutko 1987, 66; M. Biborski 2010, 139.

⁴²⁷ R. Madyda-Legutko 1987, 67.

⁴²⁸ Recently, M. Woźniak 2019a, 248.

⁴²⁹ Cf. the buckle pins from Święty Gaj (P. Wielowiejski 1998, 115, 116, pl. XIV:9) and Pelplin-Maciejewo/*Maciejewo* (E. Blume 1912, 45, fig. 44).

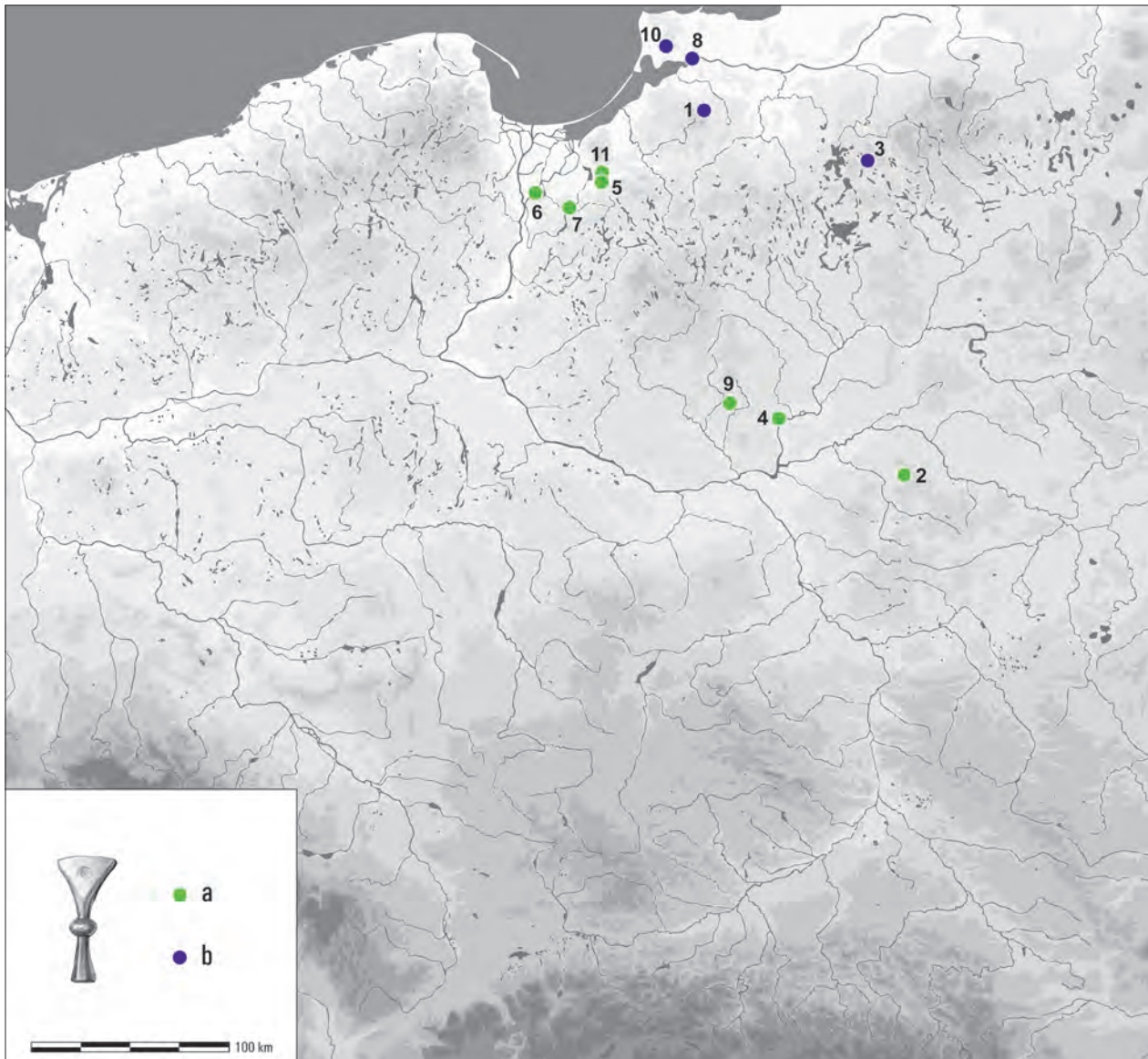


Fig. 18. Distribution of strap-ends of type O 15 and similar forms in the northern part of central European *Barbaricum*.
 1 – Kleszewo; 2 – Elanovka*; 3 – Jartytory; 4 – Jasieniec; 5 – Krosno; 6 – Malbork-Wielbark; 7 – Nowy Targ; 8 – *Rosenau*;
 9 – Rzeczki; 10 – *Warengen*; 11 – Weklice.

* The locality does not exist. It was located between the present-day villages of Pograničnoe and Čapaevo, Bagrationovskij rajon, Kaliningrad Oblast.

953/1, ZL/42.43). They all have quadrangular metopes at their base. Fragments of the above-mentioned artefacts found in graves 640 and 881 are dated to phase VII of the cemetery's use, while the chronology of the remaining objects covers phases VI–VII.

Strap-ends

Strap-ends were found in three Przeworsk culture graves (261/2, 413/1.2, 968/2) and one Wielbark culture feature (359/1). The specimen from grave 261 is

terminated with a ball with a profiled knob, similar to R. Madyda-Legutko's variant 4, type 2, group I.⁴³⁰ Over a dozen such fittings are known from Przeworsk culture sites. They are made of iron or bronze; the former

⁴³⁰ R. Madyda-Legutko 2011, 32, 134, pl. VIII:1–6, map 7; the list may be supplemented with, among others, the finds from Kolonia-Rychłocice, grave 112 (W. Siciński 2019, 77, fig. 70:8) and Zaborowo, site 5, stray find (MSHM collection, excavations of A. Cieśliński and M. Woźniak).

have so far been discovered only in the western part of the Przeworsk culture area; bronze specimens dominate in its eastern zone; however, they are rare finds. Outside the Przeworsk culture territory, similar fittings, called the *Mušov* type, are known, among others, from northern Germany, the Bohemian Basin and, above all, from south-western Slovakia and south-eastern Austria.⁴³¹ In these areas, mainly bronze specimens are encountered. Strap-ends terminated with a ball (group I, type 2) are characteristic of men's clothing, but this is not the rule.⁴³² The territorially closest analogy to the Kleszewo artefact is a fitting from Kołoząb, grave 391.⁴³³ A similar specimen was also found at Sarnia Zwola, grave 12 or 28.⁴³⁴ Strap-ends of this type are most often dated to phase B₂.⁴³⁵ The specimen from Kleszewo also shares this chronology (phase V of the cemetery's use).

The fittings from graves 413 and 968 are specimens with profiled terminals of variant 6, type 1, group I.⁴³⁶ This variant is the most commonly encountered form of strap-ends at Przeworsk culture cemeteries of Mazovia and Podlachia,⁴³⁷ with several dozen recorded examples. Some of them, like the specimen from grave 968 and one from grave 413/2, have the edges of the attachment end decorated with notches.⁴³⁸ Such fittings were typical of women's belts.⁴³⁹ They were attached to the end of the strap, or possibly along the circumference of the belt.⁴⁴⁰ The presence of the discussed fittings at sites of the eastern zone of the Przeworsk culture is interpreted as a manifestation of relations between the people living there and the Wielbark culture population.⁴⁴¹ In the areas of the latter, such items are common. The finds from the Przeworsk culture territory are dated mainly to the developed section of phase B₂.⁴⁴² The specimens from Kleszewo were found in graves from phase V (968) and stage Vb (413) of the cemetery's use.

The only strap-end that can be associated with the Wielbark culture was found in grave 359 from phase VI

of the cemetery's use. It is a specimen with a triangular attachment end, terminated with a slightly flattened ball and a massive octagonal protrusion. It corresponds to type O 15 in the classification of K. Raddatz.⁴⁴³ This form is characteristic of northern Europe. Many such fittings have been discovered at bog sites in Denmark and northern Germany.⁴⁴⁴ These items were found in contexts that indicate that they were very often used to decorate horse tack elements.⁴⁴⁵ In Poland, fittings similar to type O 15 are rare, and almost all known specimens come from the Wielbark culture (Fig. 18 and 19).⁴⁴⁶ Most of them have been recorded at cemeteries located by the Lower Vistula and in the Elbląg Upland, in features dated within phases B₂/C₁-C₂, most often C_{1b}-C₂.⁴⁴⁷ From northern and eastern Mazovia and Podlachia come three fittings similar to type O 15 – the one from Kleszewo, a stray find from Rzeczek, site 3,⁴⁴⁸ and one from Jartypory, grave 269.⁴⁴⁹ The specimens from Poland and the Sambian Peninsula are grave finds (or stray finds from cemeteries), and that they were dress accessories of the people buried there is not in doubt. They were found in the graves of both women⁴⁵⁰ and men.⁴⁵¹

Rectangular belt fittings

Belt mounts in the form of flat, usually quadrangular plates, attached to the strap with rivets, were found in 12 Przeworsk culture graves (32, 115, 118, 132, 133,

⁴³¹ C. von Carnap-Bornheim 2002, 208–209, fig. 11.

⁴³² R. Madyda-Legutko 2011, 37–38.

⁴³³ J. Andrzejowski 2009, pl. 6.17/391:2.

⁴³⁴ Sz. Orzechowski 2007, 61, pl. 4:5.6.

⁴³⁵ R. Madyda-Legutko 2011, 37.

⁴³⁶ R. Madyda-Legutko 2011, 18–19, pl. II:1–13.

⁴³⁷ R. Madyda-Legutko 2011, 20–21, map 3.

⁴³⁸ E.g., Kamieńczyk, grave 132 (T. Dąbrowska 1997, 36, pl. LXX/132:4), Opoka, grave 72 (R. Madyda-Legutko 2011, 19; cf. E. Szarek-Waszkowska 1971, 102, pl. XXXVI:7).

⁴³⁹ R. Madyda-Legutko 2011, 20–21.

⁴⁴⁰ Cf. T. Skorupka 2001, 145, fig. 21; cf. also R. Madyda-Legutko 2011, 29.

⁴⁴¹ J. Andrzejowski 2001a, 75

⁴⁴² R. Madyda-Legutko 2011, 20–21.

⁴⁴³ K. Raddatz 1957, 83, 84, fig. 1:15, pl. 12:21–25.

⁴⁴⁴ E.g., Illerup A (J. Ilkjær 1993, 176, 183–185, 188), Thorsberg (K. Raddatz 1957, 83, pl. 12:21–25).

⁴⁴⁵ J. Ilkjær 1993, 176, 200.

⁴⁴⁶ Cf. R. Madyda-Legutko 2011, 35.

⁴⁴⁷ E.g., Krosno, grave 27 (recently, B. Kontny, M. Natuniewicz-Sekuła 2006, 308, fig. 2:3, with earlier literature), Nowy Targ, grave 412 (E. Fudzińska, P. Fudziński 2013, 112, pl. LXI-II/412:3), Malbork-Wielbark, graves 194, 220a (J. Kleemann 2017, 44, 48, pl. 10/194:2, 11/220a:3), Weklice, graves 86, 173 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 43, 59, pl. XXXVI/86:2, LXX/173:2).

⁴⁴⁸ A. Jarzec 2016, 108, fig. 3:3.

⁴⁴⁹ J. Andrzejowski 2011, 187, fig. 5c.

⁴⁵⁰ E.g., Jartypory, grave 269 (J. Andrzejowski 2011; determined based on the character of the grave goods); Nowy Targ, graves 262, 412 (E. Fudzińska, P. Fudziński 2013, 78, 111; anthropological identification), Weklice, grave 173 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 59; anthropological identification).

⁴⁵¹ E.g., Krosno, grave 27 (M. Natuniewicz-Sekuła, B. Kontny 2006; 2007; determined based on the character of the grave goods); Weklice, grave 86 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 43; anthropological identification).

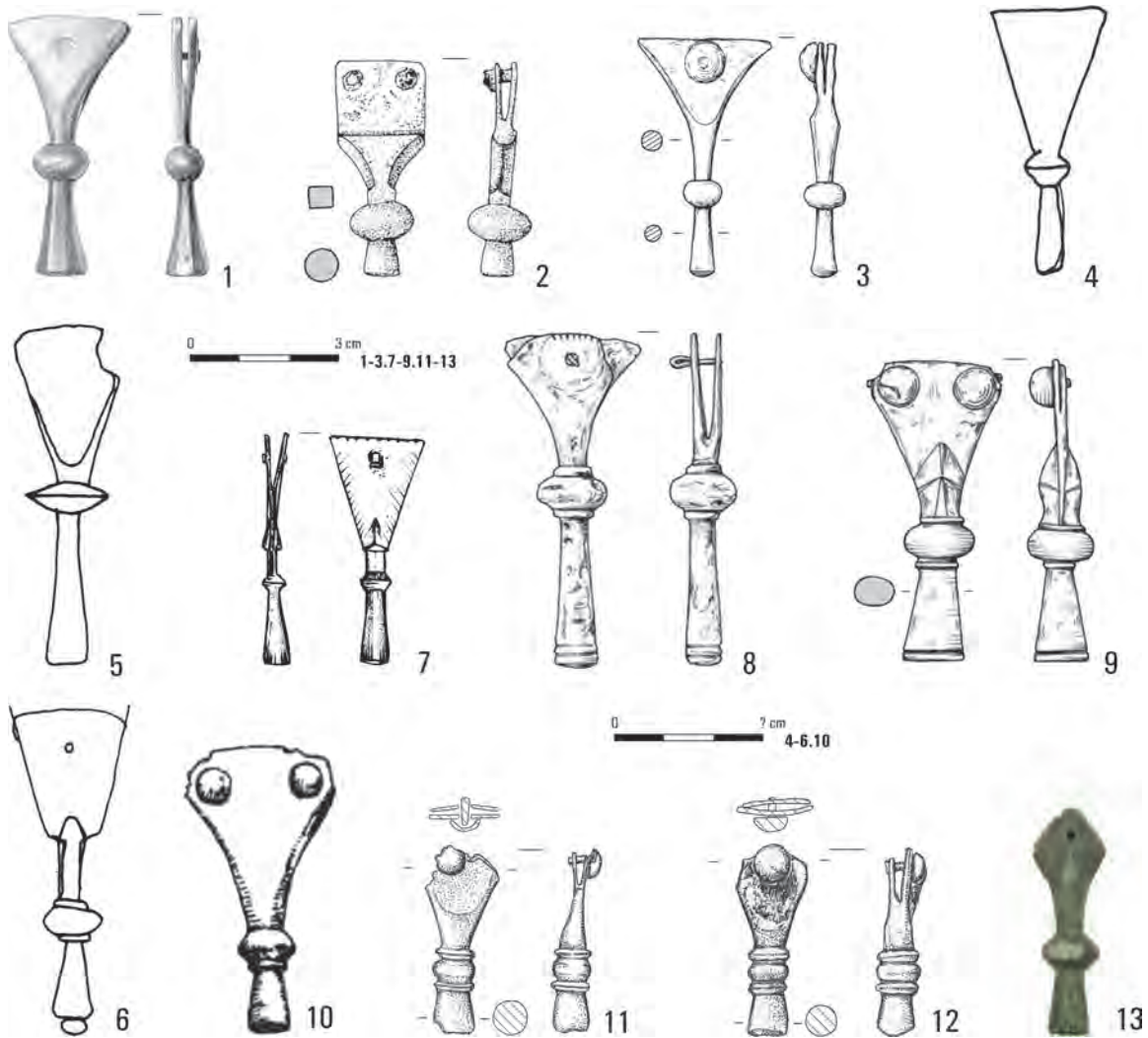


Fig. 19. Strap-ends of type O 15 and similar forms from the Wielbark culture areas (1–9) and the West Balt circle (10–13).

1 – Kleszewo, grave 359; 2 – Jartypory, grave 269; 3 – Krosno, grave 27; 4 – Malbork-Wielbark, grave 220a;
 5 – Malbork-Wielbark, grave 194; 6 – Malbork-Wielbark, grave 229; 7 – Nowy Targ, feature 412; 8 – Weklice, grave 86;
 9 – Weklice, grave 173; 10 – *Rosenau*; 11 – Elanovka, grave 37; 12 – Elanovka, grave 44; 13 – Jasieniec, feature.
 After: W. Gaerte 1924 (10), B. Kontny, M. Natuniewicz-Sekuła 2007 (3), M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011 (8.9),
 J. Andrzejowski 2016 (2), J. Kleemann 2017 (4–6), E. Fudzińska, P. Fudziński 2013 (7), O.A. Homáková 2022 (11.12).
 Photo of the Museum für Vor- und Frühgeschichte in Berlin, Creative Commons 3.0 licence, by-nc-sa (13).

253, 261, 363, 409B, 413, 516, 968) and three Wielbark culture features (158, 359, 414).

The largest group consists of narrow, rectangular plates affixed with two rivets (32/5, 115/1, 118/4.5, 132/13–5.17–19, 133/1, 261/3, 359/2, 409B/4.5, 413/3.4, 414/1). In Przeworsk culture graves, they were most often recorded in two or three copies (graves 118, 133, 409B, 413) and, exceptionally, in six copies (grave 132); Wielbark culture graves yielded only one example each (359, 414). The specimen from grave 115 is made of iron, the others are bronze. Some of them are decorated with a row of punched circles (133/1) or lines

carved along the edges (118/4, 132/13–15, 409B/5). In the group discussed, the specimen from grave 32 stands out – its central part has an approximately ellipsoidal shape, and both ends are formed into square plates with rivets in the centre. The outer edges of both these plates are notched. This specimen finds its close analogy in a fitting from Kamieńczyk, grave 68.⁴⁵² “Plain” rectangular belt fittings are commonly found at sites from the Roman period.⁴⁵³ East of the Middle Vistula,

⁴⁵² T. Dąbrowska 1997, 24, pl. XXXV/68:7.

⁴⁵³ R. Madyda-Legutko 1977, 388, 391.

they were sometimes part of elaborate belts worn by women. The finds from inhumation graves of the Wielbark culture indicate that such fittings were attached both to the waist part and to the so-called front part of the belt (freely hanging part of the strap between the buckle and strap-end).⁴⁵⁴

Three specimens (32/4, 132/16 and 253/2) are large, approx. square mounts made from sheet bronze, attached with four rivets. All are dated to stage Vb of the cemetery's use. The specimens from graves 32 and 132 are decorated along the edges and diagonals with rows of embossed protrusions. In the central part of the fitting from grave 132, there is also a large circular bulge surrounded by knobs, in which it resembles miniature shields.⁴⁵⁵ Large, quadrangular fittings find numerous analogies at other cemeteries of the eastern zone of the Przeworsk culture;⁴⁵⁶ some of them are decorated with rows of embossed nodules.⁴⁵⁷ The specimens from graves 32 and 132 were elements of elaborate belts typical of women's clothing.

Small fittings composed of two rectangular plates connected with a pair of rivets (150/4, 968/3) can likely also be interpreted as belt mounts. One was found in a grave of the Przeworsk culture from phase V of the cemetery's use, the other comes from a grave of the Wielbark culture from phase VI. The use of a second plate instead of small rivet washers probably allowed a more permanent attachment of the mounted objects. Therefore, it seems that these items had a primarily utilitarian function.

The rivet with a quadrangular head and a very short shaft found in grave 253 (253/3) may also have been used as a belt decoration.

Ring-shaped fittings

Seven bronze belt fittings in the form of a massive open ring from which extend two rectangular sheets, serving as sides of an attachment plate, were recovered from three Przeworsk culture graves (32/6.7, 132/7–9, 363/7) from stage Vb of the cemetery's use and as a stray find (ZL/54). In the case of the finds from grave 132, a profiled ring was threaded through the fitting.⁴⁵⁸ The sides

of the attachment plates were joined with one (132/7–9) or two rivets (32/6.7). In the better-preserved examples, the top plates (32, 132) were decorated with a row of small notches or grooves along the edge. The fittings from graves 132 and 363 also have rings ornamented with diagonal lines. Suspensions of this type, especially those with a threaded ring, are a characteristic element of women's belts in the eastern zone of the Przeworsk culture and in the Wielbark culture. It is believed that they were used to suspend small items, e.g. a casket key.⁴⁵⁹

Link connectors

Three bronze link connectors were found in grave 132 (132/10–12). Each consists of two small attachment plates in the form of the above-mentioned ring-shaped fittings, which are connected by a ring. The sides of the attachment plates, joined with two rivets, are ornamented with a groove along the edge, and there are diagonal notches on the rings. Connectors of this type are found quite often in the eastern zone of the Przeworsk culture and in the Wielbark culture.⁴⁶⁰ They were part of women's clothing.⁴⁶¹ In the Przeworsk culture, they are found in cremation graves, which makes it difficult to determine their function. Specimens from Wielbark culture inhumation graves are usually discovered in contexts indicating their connection with the so-called front part of the belt (Fig. 20:A.B.2).⁴⁶² They probably linked individual elements of the belt, which in this part had a segmented structure. I assume that the fittings from Kleszewo were used in the same way (Fig. 20:1).

Other belt fittings

Grave 402 from phase I of the cemetery's use yielded a belt fitting composed of an iron strip bent in half, passed through a bronze ring (402/3). Such items are quite rare at cemeteries from the late pre-Roman period. Similar specimens, but made entirely of iron, were found in the graves of warriors at Dobrzankowo⁴⁶³ and Błonie,⁴⁶⁴ and three bronze specimens come from

⁴⁵⁴ E.g., Lubowidz, graves 109, 176, 192 (R. Wołagiewicz 1995, 22, 26, 28, pl. XVII/109, XXI/176, XXIII/192).

⁴⁵⁵ Cf. J. Andrzejowski 2000.

⁴⁵⁶ Recently, J. Andrzejowski 2014, 22–24.

⁴⁵⁷ E.g., Nadkole, site 2, grave 80A (J. Andrzejowski 1998a, 35, pl. LII/80A:6), Dzierzgowo, stray find (M. Piotrowski, A. Szela 2001, 165, 168, fig. 2:10).

⁴⁵⁸ These artefacts may be identified as variant 1 of attachment plates with a suspended ring, distinguished R. Madyda-Legutko (2016, 87–91).

⁴⁵⁹ R. Madyda-Legutko 2016, 87–88.

⁴⁶⁰ R. Madyda-Legutko 1984, 105; 2011, 27; J. Andrzejowski 1998a, 59–60.

⁴⁶¹ R. Madyda-Legutko 2011, 111.

⁴⁶² E.g., Lubowidz, grave 109 (R. Wołagiewicz 1995, 22, pl. XVII/109), Odry, barrow 9 (J. Kostrzewski 1928, 72, fig. 5), Pruszcz Gdański, site 10, grave 79 (M. Pietrzak 1997, 20, pl. XXIII/79).

⁴⁶³ J. Okulicz 1971, 152, fig. 41:g.

⁴⁶⁴ R. Mycielska, Z. Woźniak 1998, 48, pl. XLVIII/A:3.

Ciecierzyn, grave 121.⁴⁶⁵ The fittings from Kleszewo are distinguished by two openwork appliqués riveted to the strip: a round one with three crossbars and a small disc inside, and an approximately rectangular one with six holes in two rows. The presence of a double-edged sword in the Kleszewo grave suggests that the fitting could have been part of the belt that was used to carry it.

The openwork ornamentation of the fitting is unusual for the Przeworsk culture. The round appliqué finds its closest stylistic analogies in the areas of the La Tène culture, where the technique of openwork decoration was widespread. For example, small rings, most often interpreted as pendants (German: *Radanhänger*),⁴⁶⁶ have a similar shape. What distinguishes them from the plate from Kleszewo is the larger number of arms, of which there are no less than four. The motif of an openwork ring with four, or more, arms appears on the fittings of scabbards of Celtic swords made in the *opus interrasile* technique, forming part of their rich ornamentation.⁴⁶⁷ However, these last artefacts are of later chronology than the fitting from Kleszewo, as they come from the end of the La Tène/pre-Roman period and the beginning of the Roman period.⁴⁶⁸ The Kleszewo “rosette” with its three arms may resemble a triskelion/triquetra, which often appears in Celtic art. Such an ornamental motif can be seen, for example, on an openwork fitting of a Celtic sword from Sanzkow in Mecklenburg.⁴⁶⁹

It is also difficult for me to point out direct parallels for the rectangular appliqué. The most similar seem to be iron plates with a checkered pattern (German: *Gittermuster*), attached to the mouths of scabbards of late La Tène swords.⁴⁷⁰ However, they are much larger and much more elaborate than the piece from Kleszewo, and, above all, they have a later chronology. They are found across wide European areas, from the Rhine to the Upper Dniester, mainly in the Middle Elbe basin and in Poland. They are basically absent in the areas of Celtic settlement. Hence, it is assumed that they were made outside its zone.⁴⁷¹ Some researchers see them as an imitation of contemporary La Tène mounts of the *opus interrasile* type, while others attribute them with a local origin, perhaps resulting from a specific fashion of decorating the mouths of sword scabbards with open-

work fittings.⁴⁷² Among iron fittings of sword scabbards, a specimen found at the cemetery at Lamadelaine, in the area of Treveri settlement, deserves special attention (Fig. 21).⁴⁷³ Its main ornamental motif is composed of fifteen almost quadrangular holes in three columns. The horizontal crossbars are approximately S-shaped, and, at their junction with the vertical ones, there are small circular plates with a recess in which enamel was supposed to be placed. The form of the openwork resembles that known from the Kleszewo appliqué.⁴⁷⁴ The grave from Lamadelaine is dated to subphase LT D2a as per the chronology developed for the Treveri areas. Therefore, it is not much younger than the Kleszewo grave, perhaps even contemporaneous.⁴⁷⁵ The similarity between the two items may, of course, be coincidental. However, iron sword fittings prove that the idea of making openwork decorations existed among non-Celtic inhabitants of *Barbaricum*. The same is also indicated by the catchplates of brooches decorated using this technique.⁴⁷⁶

The above-mentioned items are stylistically closest to the Kleszewo openwork. However, these are quite distant analogies and do not provide clear grounds for determining the provenance of the artefact in question. The appliqués on the fittings from Kleszewo are characterised by a very simple form, and their manufacture was certainly within the reach of a “Przeworsk” blacksmith. On the other hand, the foreign origin of the artefact is indicated by the lack of analogies in the local environment⁴⁷⁷ and, indirectly, by the bronze from which the ring was made. The local Przeworsk culture community of the late pre-Roman period basically did not use copper alloys to make objects. The direction of

⁴⁶⁵ G. Martyniak, R. Pastwiński, S. Pazda 1997, 29, pl. CXXI/121:2–4.

⁴⁶⁶ Cf. D. van Endert 1991, 15–17, pl. 5; D. Božič 1998, 143–144, fig. 3.

⁴⁶⁷ K. Czarnecka 2016, 97, fig. 7:1.2.4.5.

⁴⁶⁸ K. Czarnecka 2016, 110.

⁴⁶⁹ O. Kunkel 1936; H.J. Eggers, P.F. Stary 2001, 30, pl. 100:2.

⁴⁷⁰ Recently, K. Czarnecka 2016, 123–128, with older literature.

⁴⁷¹ Cf. T. Bochnak 2005, 49–51; 2014, 100.

⁴⁷² E.g., A. Böhme-Schönberger 1998, 238; P. Łuczkiwicz 2006, 198; K. Czarnecka 2016, 121.

⁴⁷³ N. and J. Metzler-Zens, P. Méniel 1999, 30–31, fig. 21, 329. Lamadelaine is the French name of the Luxembourg town of Rolleng, whose administrative limits enclose the cemetery. As the site has been introduced to the scientific circulation under its French name, I will refer to it by this name in the publication.

⁴⁷⁴ The state of preservation of the artefact does not allow unambiguous determination whether the crossbars were curved intentionally or as a result of secondary deformation of the object.

⁴⁷⁵ Phase I of use of the Kleszewo cemetery, to which the grave with a sword is dated, is correlated with phase A₂ of the late pre-Roman period (cf. Subchapter 3.1). Said phase in the Przeworsk culture is dated from approx. mid-2nd century up to the end of the first half of the 1st century BCE (recently, T. Bochnak 2014, 21–22). Subphase LT D2a is dated to roughly 80–55 BCE (cf. S. Rieckhoff 2007, 420–421, fig. 1a.b).

⁴⁷⁶ Recently, A. Maciałowicz 2017, 75–89, with earlier literature.

⁴⁷⁷ Cf. the footnote above.

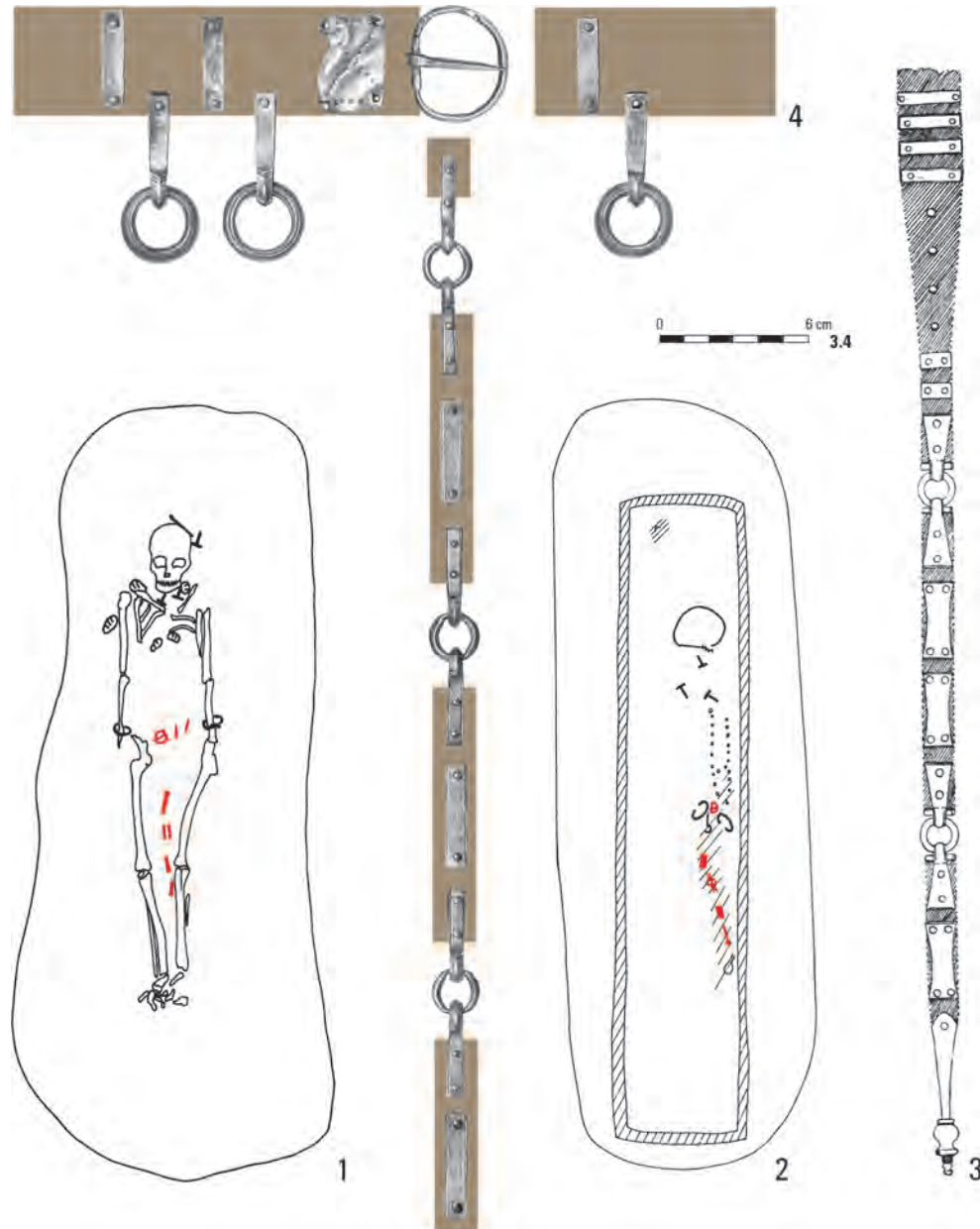


Fig. 20. Arrangement of belt elements in the Wielbark culture graves from Lubowidz, grave 109 (A), and Pruszcz Gdański, site 10, grave 79 (B), and reconstruction of the belts from Kleszewo, grave 132 (1), and Odry, barrow 9 (2).

After: J. Kostrzewski 1928 (2), R. Wołagiewicz 1995 (A), M. Pietrzak 1997 (B). Drawn by P. Holub, M. Woźniak (1)

possible influences is suggested by the sword in an iron scabbard discovered in the same grave. It is assumed that all metal sword scabbards (and, therefore, the swords inside them) from the late pre-Roman period discovered in Poland are of Celtic make.⁴⁷⁸ If this view is correct, it is very possible that the discussed fitting, which could have been part of a sword belt, should also be associated with this direction of relations.

⁴⁷⁸ T. Bochnak 2005, 45; 2014, 74–75, 80–88; P. Łuczkiwicz 2006, 184–185.

From grave 968 from stage Vb of the cemetery's use comes an iron fitting made from a rectangular strip bent into the shape of the letter "H" (968/4). It probably played a role similar to the above-mentioned fittings composed of two plates joined with rivets, i.e., it connected two fragments of the strap. Such fittings are not common in the Przeworsk culture areas.⁴⁷⁹ Most often, they are dated from phase B₂ to phase C₁.

⁴⁷⁹ E.g., Chmielów Piaskowy, grave 10 (K. Godłowski, T. Wichman 1998, 19, 70, pl. XI/10:7), Nadkole, site 2, grave 112 (J. An-

The iron buckle made from a strip folded into a quadrangle (43/2), discovered in a Przeworsk culture grave from stage Vb of the cemetery's use, can be interpreted as a belt loop. It is smaller (narrower) than similar braces that reinforce the walls of wooden containers (see Subchapter 2.3.7). The connection of such fittings with belts is confirmed by the finds from bog sites⁴⁸⁰

drzejowski 1998a, 42, 87, pl. LXV/122:7), Oblin, graves 51, 222 (K. Czarnecka 2007, 23, 54, pl. LIII/51:4, CXCI/222:11), Rostki, circle 6, grave 1 (J. Okulicz 1965, pl. 88/2:4).

⁴⁸⁰ J. Ickjær 1993, 209–211, 232, fig. 87, 88.

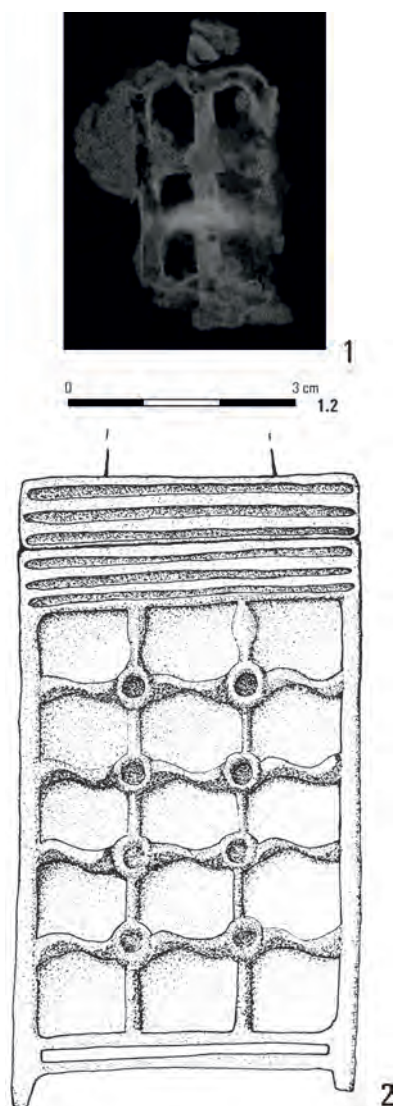


Fig. 21. Openwork belt mount from Kleszewo (1) and sword scabbard fitting from Lamadelaine, grave 3. After: N. and J. Metzler-Zens, P. Méniel 1999 (2). Photo by W. Weker (1.)

and inhumation graves, e.g., of the Wielbark culture.⁴⁸¹ It is possible that the similar fitting (362/1), discovered in a Wielbark culture grave (?), had a similar function. It is true that it is quite flat, but it is not known whether its current form is not a result of the deformation of the object.

2.1.3. PINS

The Kleszewo site yielded eight or nine pins (51/2, 118/3?, 138/1, 224/3.4, 383/7, 409B/1, 702/3, ZL/49). All are made of metal.

The iron specimens from graves 51 and 224 are simple forms with roughly spherical heads (51/2, 224/3.4). The pin from grave 51 is dated to phases I–IIa, and the specimens from grave 224 – to stage IIa of the cemetery's functioning. The better-preserved specimens resemble type 48 in the classification of pins from the Roman period by B. Beckmann.⁴⁸² Such items, as well as other types of pins, are rarely found at Przeworsk culture sites from the late pre-Roman period.⁴⁸³ Similar specimens have been recorded, among others, at Warszawa-Wilanów, grave 10;⁴⁸⁴ Kołoząb, site 3, grave 393;⁴⁸⁵ and Oblin, grave 56.⁴⁸⁶

Similar to those mentioned above is the iron pin from grave 138 (138/1). The feature is tentatively dated to the early Roman period (phases III–V of the cemetery's use). The pin had a spherical or hemispherical head, the preserved part measured approx. 8 cm. Pins from B. Beckmann's group III, which this specimen belongs to, are hardly ever recorded at Przeworsk culture sites from the Roman period. A specimen resembling the one from Kleszewo was found in grave 17 at Ciełowice Duże.⁴⁸⁷ A pin from grave 19 at Sobocisko⁴⁸⁸ in Lower Silesia was also similar. Both differ from the Kleszewo artefact in much longer shafts, which measured about 20 cm. Small pins with hemispherical heads and of a similar size to the artefact in question are quite common in the Elbe basin and, in the case of Poland, in the northern part of the Wielbark culture territory and in the Bogaczewo culture area.⁴⁸⁹ Most are bronze

⁴⁸¹ E.g., Gronowo, barrow 22, grave 3 (H. Machajewski 2013, 30, pl. XXXVII:2).

⁴⁸² B. Beckmann 1966, 23–24, pl. II.

⁴⁸³ Cf. J. Kostrzewski 1919a, 79–83; T. Dąbrowska 2008, 34–35.

⁴⁸⁴ J. Marciniak 1957, 19, pl. XII:10.

⁴⁸⁵ T. Dąbrowska 2008, 146–147.

⁴⁸⁶ K. Czarnecka 2007, 24, pl. LXI/56:7.

⁴⁸⁷ M. Dziegielewska, M. Kulczyńska 2008, 15, pl. XIII/17:1.

⁴⁸⁸ K. Ibragimow 2009, 117, fig. 39:b.

⁴⁸⁹ B. Beckmann 1966, 24–25, map 12; A. Juga-Szymańska 2014, 114–115, 196.

specimens; iron copies are found exceptionally. Pins of B. Beckmann's group III,⁴⁹⁰ which can be associated with the Roman period, discovered in Poland, are dated within phases B₁-C₂, mainly B₂/C₁-C_{1a}.⁴⁹¹

From grave 702, dated to phase IV of the cemetery's functioning, comes a pin with a large, spherical head, with grooved discs at the top and next to the shaft, and with a notched collar at the mid-height (Fig. 22:1). The pin is unusual, and I have not been able to find its direct analogy. Formally, it can be assigned to the very heterogeneous subgroup IVb defined by B. Beckmann, which encompasses a variety of pins with a profiled head without a hole and a segment with an S-shaped profile.⁴⁹² Similar heads – large and spherical – can also be found in Roman pins,⁴⁹³ but none of the specimens known to me had discs at the top and base of the head. This manner of decoration can usually be found in Balt pins, especially those of the so-called classic type I and, to a lesser extent, of types L and *Nikutowo* defined by A. Juga-Szymańska⁴⁹⁴ (Fig. 22:2–6). Their heads, however, differ from those of the Kleszewo pin in shape – they have a hole in the centre (types I and L) or a loop at the top (*Nikutowo* type). These pins are also chronologically younger than the Kleszewo artefact, as they are all dated to the end of the early and the beginning of the younger Roman period.⁴⁹⁵ I know of only one Przeworsk culture pin decorated in the middle of the head

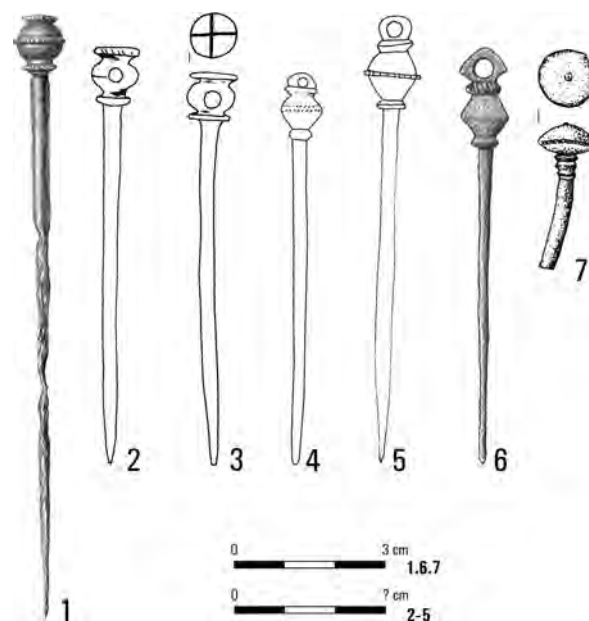


Fig. 22. Kleszewo pin (1) and stylistically similar specimens: 2 – East Prussia; 3 – Stręgiel II, feature 27; 4 – Sychówko, feature 65; 5 – Janowo, feature 320; 6 – Babięta, stray find; 7 – Oblin, grave 96. After: K. Czarnecka 2007 (7), A. Juga-Szymańska 2014 (2–6), M. Woźniak 2021 (1)

⁴⁹⁰ B. Beckmann 1966, 23–25.

⁴⁹¹ B. Beckmann 1966, 24–25; A. Juga-Szymańska 2014, 114. Cf., e.g., Kamienica Szlachecka, feature 23 / grave 12 (M. Tuszyńska 2020, 21), Wekllice, graves III, 24, 127, 200, 261, 273, 275, 314, 465 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 25, 30, 45, 50, 64, 77, 79, 80, 88, 115).

⁴⁹² B. Beckmann 1966, 28. B. Beckmann's article (1966), despite its publication 60 years ago, is still the only compilation study of Roman period pins from central European *Barbaricum*. Therefore, in this book, I refer to the classification he proposed. However, an enormous influx of new material means that his work is now largely outdated, especially in terms of the findings regarding chronology and distribution of individual forms. For certain, a new comprehensive study is needed for the finds from Poland, whose number has increased over a dozen times since the publication of B. Beckmann's work. For example, he was not aware of a single early Roman pin from central Poland, Mazovia, Podlachia, Kielce and Lublin regions, and Lesser Poland (B. Beckmann 1966, pl. 6), when, in fact, at least several dozen specimens have been found there (cf. J. Andrzejowski 2001a, 74, fig. 15).

⁴⁹³ Cf. E. Riha' type 16 (1990, 104–106, pl. 47–50).

⁴⁹⁴ A. Juga-Szymańska 2014, 85, 101, 106.

⁴⁹⁵ A. Juga-Szymańska 2014, 86, 101, 111.

with a circumferential row of beading; it was found in grave 96 at Oblin⁴⁹⁶ (Fig. 22:7). It is dated to phase B₁.

In addition to the original shape of the head, this specimen is also distinguished by its two-part construction. Its shaft was forged in iron, while the head was cast in bronze. Such a construction is unusual for pins from the Roman period (both barbarian and Roman specimens), which are usually one-piece objects.⁴⁹⁷ In Poland, pins with iron shafts and bronze heads are found at sites of the Lusatian culture, the Pomeranian and Cloche Grave circle, and the Jastorf culture.⁴⁹⁸ Their chronology (from the Hallstatt period to the beginning of the late Pre-Roman period) significantly predates that of the Kleszewo assemblage. Pomeranian-Cloche Grave and Jastorf pins differ from the discussed artefact in the shape of the head and, sometimes, also of the shaft. This fact, together with the lack of bimetallic pins at Przeworsk culture sites from the late pre-Roman period,⁴⁹⁹ means

⁴⁹⁶ K. Czarnecka 2008, 33, pl. CIV/96:1.

⁴⁹⁷ Cf. B. Beckmann 1966; A. Juga-Szymańska 2014.

⁴⁹⁸ J. Podgórska-Czopek, S. Czopek 1991, 98; M. Grygiel 2018, 162–167, 169, 171–176; B. Kaczyński 2020, 239–240; all with earlier literature.

⁴⁹⁹ A fragment of an object from Warszawa-Wilanów, grave 79, is interpreted as a remnant of a pin with an iron shaft and bronze



Fig. 23. Head of the Kleszewo pin (a) and poppy head before juice collection (b). Photo by M. Woźniak (1), Vespasian/Alamy Stock Photo (2).

that the analysed specimen cannot be interpreted as a specific adaptation of stylistic patterns characteristic of the above-mentioned cultural units. The similarity of construction between the Kleszewo pin and artefacts of Pomeranian-Cloche Grave or Jastorf origin is probably accidental.

To conclude the discussion on the Kleszewo pin, it is worth noting that its head resembles a poppy fruit. The circular elements at the top and base of the head look like the crown covering the seed pod and the thickening at its transition to the stem. In this light, the notched collar may mimic a row of droplets flowing out of a cut poppy head during juice collection (Fig. 23).⁵⁰⁰

It is, therefore, possible that the form of the head is linked to the poppy's symbolism. In the Mediterranean world, the juice of the poppy was widely used in medicine and rituals; its pain-relieving, sleep-inducing, sedative and intoxicating properties were well known. Depictions of the poppy (poppy heads) can be found in Greek and Roman art, and descriptions of the use and effects of the juice – in ancient literature.⁵⁰¹ The poppy, which was, for example, an attribute of Demeter/Ceres, symbolised fertility, on the one hand, and sleep and death, on the other.⁵⁰² In the areas beyond the borders of the Roman Empire, sources on

head (J. Marciniak 1957, 84, 144, pl. LXXI:8).

⁵⁰⁰ From a work of Dioscorides, a Greek pharmacologist and botanist from the 1st century CE, titled *Materia Medica*, we know that, in antiquity, poppy juice was obtained by squeezing it out of poppy-heads and leaves using a press, or by collecting droplets flowing out of cuts made in the seed pod (T.A. Osbaldeston, R.P.A. Wood 2000, 608–609). The later method is still used in present times.

⁵⁰¹ J. Scarborough 1995; L.D. Kapoor 1995, 4–7; M. Julyan, M. Dirksen 2012.

⁵⁰² B. Stanley Spaeth 1996, 128.

the poppy are, unfortunately, much more scarce. They are limited to archaeobotanical material that testifies to the use, and, therefore, probably the cultivation, of the poppy by barbarians.⁵⁰³ It is usually assumed it was used as an oil plant. Given its medicinal and narcotic properties, however, it seems unlikely that it was used exclusively as food.

A possible remnant of a two-piece pin is also the artefact from grave 118 (118/3), dated to stage Vb of the cemetery's use. It consists of a bronze shaft, at the end of which is set an almost spherical head, with two moulded discs at the base. I am not aware of its analogies. If the functional classification of the object is correct, the pin should be assigned to B. Beckmann's subgroup IVb.⁵⁰⁴

The pins from graves 383 (383/7), 409B (409/1) and a stray find (ZL/49) are specimens with rather slender and profiled heads, of B. Beckmann's group IV.⁵⁰⁵ All are made of bronze. The specimens from graves 383 and 409B can be assigned to subgroup IVa, comprising pins with a head with one segment of S-shaped (concave-convex) profile.⁵⁰⁶ The pin from grave 383 slightly resembles type 50, while the pin from grave 409B resembles type 64. The head of the stray find is composed of several rings of different diameters but lacks⁵⁰⁷ the S-shaped segment; therefore, the specimen should be assigned to subgroup IVb. The pins found in graves are dated to stage V (grave 409B) and, tentatively, to stage Vb (grave 383) of the cemetery's functioning. Group-IV pins, mainly those of subgroup IVa, have been recorded at several Przeworsk culture sites located east of the Middle Vistula.⁵⁰⁸ The oldest specimens were discovered with material characteristic of the younger section of phase B₁,⁵⁰⁹ while most examples are dated to phase B₂.⁵¹⁰

Determining the function of the Kleszewo pins is difficult. They were all discovered in cremation graves,

⁵⁰³ M. Lityńska-Zajac, K. Wasylkowa 2005, 129–131; K. Pieta 2010, 368; J. Rodzińska-Nowak 2012, 101.

⁵⁰⁴ B. Beckmann 1966, 28.

⁵⁰⁵ B. Beckmann 1966, 26–30.

⁵⁰⁶ B. Beckmann 1966, 26, pl. II:56–73.

⁵⁰⁷ The artefact is heavily melted, so it cannot be excluded that the middle ring had an S-shaped profile; however, this possibility seems less likely.

⁵⁰⁸ Brudnice – 3 pcs. (A. Szela 2021, 80), Kamieńczyk – 1 pc. (T. Dąbrowska 1997, 51), Nadkole, site 2 – 5 pcs. (J. Andrzejowski 1998a, 62), Niedanowo – 2 pcs. (W. Ziemińska-Odojowa 1999a, 114), Kolonia Nieszawa – 1 pc. (M. Stasiak-Cyran 2016, 76), Tomasz – 1 pc. (R. Prochowicz 2017b, 343).

⁵⁰⁹ Kamieńczyk, grave 244 (T. Dąbrowska 1997, 51).

⁵¹⁰ E.g., Brudnice (A. Szela 2021, 84), Nadkole, site 2 (J. Andrzejowski 1998a, 107–108).

which does not allow observations based on their position in relation to the body of the deceased. Pins from central European *Barbaricum* are most commonly interpreted as a dress accessory or as an object used to pin up hair.⁵¹¹ East of the Middle Vistula, metal pins are found quite frequently,⁵¹² mainly in women's graves.⁵¹³

2.1.4. FABRICS⁵¹⁴

Textile fragments were found in three inhumation graves of the Wielbark culture. These are small scraps of linen fabrics in plain weave (629/6, 884/266) and a few, probably woollen, threads (184/6). The linen textiles were part of a garment, possibly a shroud. The threads from grave 184 are remains of a string on which beads and pendants were hung. The artefacts from Kleszewo are typical examples of fabrics from the Roman period.⁵¹⁵

2.2. DECORATIONS

2.2.1. BRACELETS

The cemetery yielded at least 19 bracelets (3/1, 62/1, 118/2, 129/1, 132/4.5, 191/1, 282/3.4, 284/2, 354/3.4, 360/1, 383/3.4, 521B/2, 702/4, ZL/45.46). All are made of bronze and can be attributed to the Przeworsk culture.

The chronologically earliest bracelet was found in grave 3. It is dated to phase I or stage IIa of the cemetery's functioning. The specimen has a thin, wire-like body, which is clearly widened and profiled in the central (?) part (Fig. 24:1). The sides of the more massive part are decorated with a band of diagonal incisions. Similar bracelets are known from several Przeworsk

culture cemeteries located in the eastern part of the territory of this cultural unit. The morphologically closest artefacts, albeit made of iron, were discovered at Karczewiec, grave 117⁵¹⁶ (Fig. 24:2), and Błonie, graves 214 and 225⁵¹⁷ (Fig. 24:3.4). These finds are dated to phases A₁-A₂ or A₂.⁵¹⁸ A bronze specimen is known from Czarsk, grave 108.⁵¹⁹ However, its bold part is not profiled, unlike the above-mentioned specimens. This bracelet is also much younger, as it dates to the beginning of the early Roman period. The small number of analogies in the Przeworsk culture area and the lack of parallels outside its territory make it difficult to indicate the place of manufacture of the Kleszewo artefact. Its foreign origin is supported by the raw material from which it was made. Most of the bronze objects discovered at Mazovian-Podlachian sites of the Przeworsk culture from phases A₁-A₂ are imports. T. Dąbrowska⁵²⁰ pointed out the similarity of the specimens from Karczewiec and Błonie to Celtic forms from the Middle Danube region and to bracelets from Dacian sites and the Poieniști-Lukașevca culture. However, these are not direct parallels. The feature that all forms have in common is the thickening of a part of the body, while they differ in the way the body was made or in its shape, e.g., the widest part of bracelets from the Poieniști-Lukașevca culture area was made by hammering a fragment of the body flat and then rolling it into a tube.⁵²¹

The largest group of bracelets, with 16 examples found (whole or in fragments) consists of specimens with rod-like bodies. Two specimens each were recorded in four graves (graves 132, 282, 354, 383), while the others contained a single piece (graves 62, 129, 191, 360, 521B, 702). Two more fragments were discovered on the surface of the site (ZL/46.47). The individual specimens differ in the shape of their terminals, which are circular (129/1, 521B/2, 383/4, 702/4), oval or almost oval (62/1, 282/4?, 354/3.4), or polygonal (132/4.5, 191/1, 282/3, 360/1, 383/3, ZL/46.47) in cross-section. Some are decorated with rows of points (132/4.5, 282/4, 360/1, ZL/46.47). The oldest rod bracelets from Kleszewo are dated to phase IV of the cemetery's use (graves 521B and 702). The others were found in features from phase

⁵¹¹ B. Beckmann 1996, 8; cf. also A. Jurga-Szymańska 2014, 204–205.

⁵¹² J. Andrzejowski 1998a, 62; 2001a, 74, fig. 15.

⁵¹³ E.g., at Brudnice, seven out of eight graves with metal pins can be identified, based on anthropological analyses or grave goods' characteristics, as burials of women (A. Szela 2021, 29–30, 31, 39, 52–53, 67–68, 70–71), while at Nadkole, site 2, all five specimens came from women's graves (J. Andrzejowski 1998a, 62). At Niedanowo, out of five graves with pins, four features can be interpreted as female burials (W. Ziemińska-Odojowa 1999a, 25–26, 47, 53, 55, 79).

⁵¹⁴ Textile analysis was performed by prof. dr hab. Jerzy Maik (Institute of Archaeology and Ethnology, Polish Academy of Sciences).

⁵¹⁵ Cf. J. Maik 2012, 17–54.

⁵¹⁶ T. Dąbrowska 1973, 454, pl. XXX:23.

⁵¹⁷ R. Mycielska, Z. Woźniak 1988, 103, 106, pl. CLXXXI/B:3, CLXXXVIII/B:2. The body of the artefact from grave 225 is solid in cross-section – information from dr Andrzej Maciałowicz (WA UW).

⁵¹⁸ T. Dąbrowska 2005, 80, 87.

⁵¹⁹ PMA collection; excavations of Katarzyna Watemborska-Rakowska (PMA).

⁵²⁰ Cf. T. Dąbrowska 2005, 83, 85; 2008, 34.

⁵²¹ M. Babeș 1993, 106, pl. 7/52:l, 8/68:g.

V, mostly stage Vb. This corresponds to the situation recorded at other Mazovian-Podlachian sites of the Przeworsk culture, where, in phases B_{1b}–B₂, rod bracelets were a typical element of women's dress.⁵²²

Fragments of bracelets with profiled terminals were discovered in graves 118 and 284. The body of the specimen from grave 284 (284/2) ends in a massive, biconical knob with a small ring at the base.⁵²³ The specimen from grave 118 is topped by a plano-convex, profiled thickening, and the body near the terminals is decorated with several rows of punched points (118/2). The two specimens, slightly different from each other, correspond closely to the *Kamieńczyk* type.⁵²⁴ This form is characteristic of the eastern zone of the Przeworsk culture and almost unheard of in other areas (Fig. 25). It is thought to have been inspired by bracelets with ball terminals, made by the Wielbark culture people at the beginning of the Roman period.⁵²⁵ *Kamieńczyk*-type bracelets are dated to the end of phase B₁ and, most often, to phase B₂, usually its early section.⁵²⁶ The finds from Kleszewo are associated with phase V of the cemetery's development: the specimen from grave 284 – tentatively, with its oldest section (Va stage), the specimen from grave 118 – with stage Vb.

A fragment of a snake-headed bracelet of the Pomeranian variant (ZL/45) was found on the surface of the site. The body of the artefact is made from a massive strip of triangular cross-section and decorated along the back with two rows of punched points. The base and head of the artefact are ornamented in a similar way. The bracelet corresponds to variant IIB defined by T. Wójcik.⁵²⁷ Several such specimens have been recorded in Mazovia and Podlachia (Fig. 26). Most of them can be attributed to the Przeworsk culture, while none were found in a context that would clearly indicate the Wielbark culture. It is presumed that these are, at least in part, local imitations of Wielbark forms.⁵²⁸ Bracelets of variant IIB are dated within phases B_{2b}–B₂/C₁.⁵²⁹ The find from Kleszewo should also be associated with a similar period (stage Vb or Vc of the cemetery's use).

A fraction of a bracelet may also be the fragment of a polygonal rod, terminated with a disc, which was

found in grave 607 (27:1). The rod is decorated with rows of stamped “eyes” and angles. A similar cross-section and ornament (circles and “arrows”) can be found on the body of a bracelet from Lubowidz, grave 22 (Fig. 27:2), which T. Wójcik⁵³⁰ distinguished as the model specimen of variant Ia of Pomeranian snake-

⁵³⁰ T. Wójcik 1982, 45–47, pl. I:11; R. Wołagiewicz 1995, pl. VII/22:3.



Fig. 24. Bracelet from grave 3 at Kleszewo (1) and its closest analogies: 2 – Karczewiec, grave 117; 3 – Błonie, grave 214; 4 – Błonie, grave 225. After: T. Dąbrowska 1973 (2), R. Mycielska, Z. Woźniak 1988 (3.4), M. Woźniak 2021 (1).

⁵²² J. Andrzejowski 1994b, 319–320, fig. 3, 4.

⁵²³ A similar ring was probably placed on the other end of the terminal.

⁵²⁴ T. Dąbrowska 1981a, 48.

⁵²⁵ J. Andrzejowski 1994b, 320; cf., e.g., E. Blume 1912, 60–61, fig. 71, 72; R. Wołagiewicz 1995, 27, pl. XXII/185:3.

⁵²⁶ J. Andrzejowski 1994b, 320–321, fig. 5; 2001a, 72–73, fig. 13.

⁵²⁷ T. Wójcik 1982, 50–51.

⁵²⁸ J. Andrzejowski 1994b, 321–322.

⁵²⁹ T. Wójcik 1982, 50–51; J. Andrzejowski 1994b, 321.

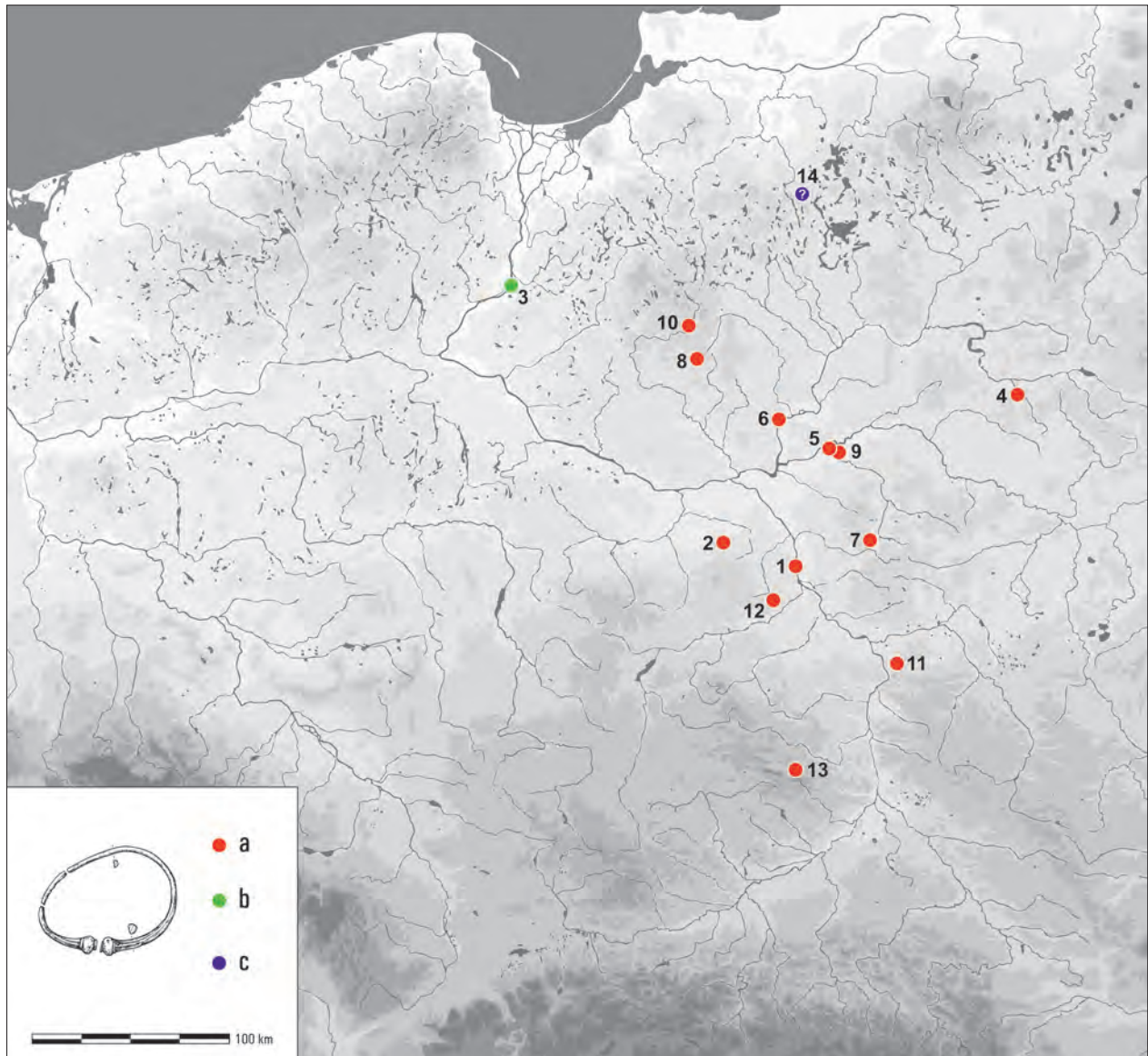


Fig. 25. Distribution of *Kamieńczyk*-type bracelets and similar forms. 1 – Kleszewo; 2 – Grodzisk Mazowiecki; 3 – Grudziądz-Rządź; 4 – Hryniewicze Duże; 5 – Kamieńczyk; 6 – Kołacz; 7 – Modła; 8 – Nadkole, site 2; 9 – Niedanowo; 10 – Opoka; 11 – Pólko; 12 – Sarnia Zwola; 13 – Wyszembork. After: J. Andrzejowski 2001b, with additions

headed bracelets. Rows of “eyes” and/or triangle-like patterns are, moreover, found on the bodies of other specimens of type I.⁵³¹ This form is characteristic of the Wielbark culture people, primarily those inhabiting the areas along the Lower Vistula and Łeba rivers. Isolated specimens are known from Scandinavia, Ger-

many, Czechia and Slovakia.⁵³² To date, two bracelets of this form have been recorded in the Przeworsk culture area. Both finds come from Mazovia – Kamieńczyk, grave 64, and Niedanowo, grave 31 – and are dated to subphase B_{2a}.⁵³³ The fragmentary state of preservation of the Kleszewo artefact makes it necessary to consider the possibility of a different functional classification of the object, e.g., as a strap-end. However, this seems

⁵³¹ J. Strobin 1995, 245; e.g., Babi Dół, grave 22 (M. Mączyńska, I. Jakubczyk, A. Urbaniak 2021, 28, pl. XXXVII/22:1), Różyny, feature 148 (M. Tuszyńska, A. Strobin, J. Strobin 2016, 42, fig. 90), Zohor, grave 5 (L. Kraskovská 1959, 123–124; fig. 63; J. Rajtar 2013, 131–137, fig. 2, 3).

⁵³² Recently, V. Beliavets, M.J. Przybyła, S. Voroniatov 2018, 166, 179–180, fig. 4.

⁵³³ T. Dąbrowska 1997, 23, pl. XXXII/64:3; W. Ziemińska-Odojowa 1999a, 17, XII/31:3.

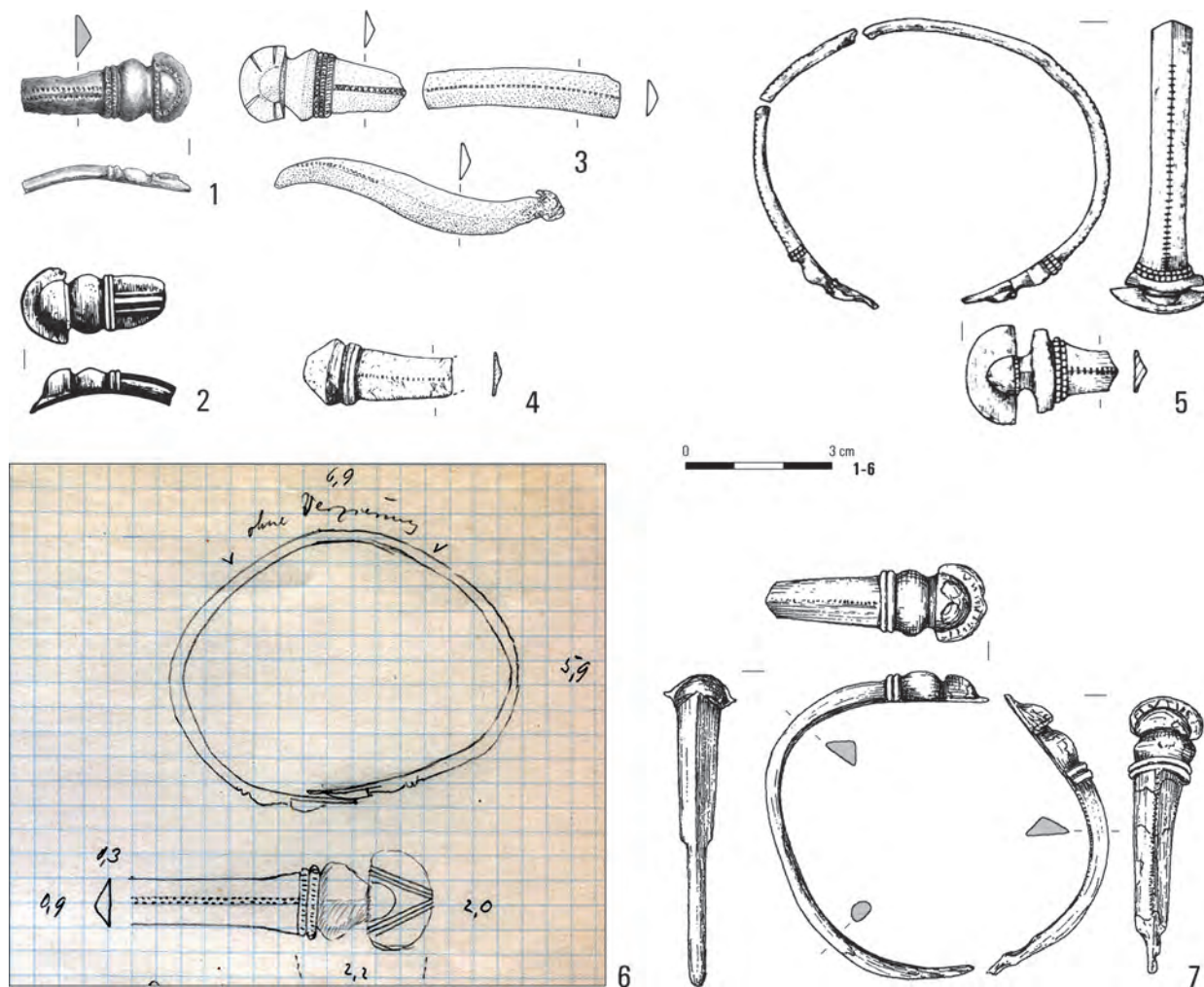


Fig. 26. Snake-headed bracelets of type II from northern and eastern Mazovia and Podlachia.

1 – Kleszewo, stray find; 2 – Kamieńczyk, grave 81; 3 – Tuchlin, grave 6; 4 – Nadkole, site 2, grave 106; 5 – Kołacz, grave 2;
6 – Kołoząb, site 3, grave 408; 7 – Turza Mała, stray find.

After: Ł. Okuliczowa 1965 (3), T. Dąbrowska 1997 (2), J. Andrzejowski 1998a (4), T. Dąbrowska 2002 (5), J. Andrzejowski 2009 (6),
M. Woźniak 2021 (1), H. Jankuhn, *Archive* (7).

less likely to me. The “eyes” it is decorated with are a common ornamental motif in the metalwork of the Przeworsk culture and are recorded on early Roman brooches, as well as rod and *Kamieńczyk*-type bracelets, among others. On the other hand, V-shaped imprints – commonly found in northern Europe⁵³⁴ – are rarely recorded east of the Middle Vistula.⁵³⁵ If the interpretation of the Kleszewo artefact as a type-I snake-headed bracelet is correct, it is most likely an import from the Wielbark culture area.

⁵³⁴ K. Andersson 1995, 183, fig. 201:28.

⁵³⁵ E.g., a casket key Garwolin, grave 50 (Niewęglowski 1991, 46, fig. 30:c – there, the object was identified as a bracelet).

Fragments of bronze rods that may be remains of bracelets were discovered in graves 15 (15/3-5), 306 (306/1), 331 (331/2), 738 (738/1), 740 (740/1) and as a stray find (ZL/48). The oldest among them are the specimens from graves 306 and 331, dated to phases I–II (?) and II–III of the cemetery’s use, respectively. The specimen from grave 740 is dated to phases IV–V, and the artefact from grave 738 – to phase V. Precise dating of the fragments from grave 15 and the one found without context is not possible.

From the shared top level of graves 614, 615 and 627 come fragments of two (?)⁵³⁶ bronze objects, made from

⁵³⁶ As suggested by the different chemical composition of the artefacts (cf. Appendix 3).

a rod of round cross-section, with three longitudinal, pseudo-corded cylinders. The state of preservation of the artefacts makes it difficult to reconstruct their original shape and dimensions. The characteristic ornament allows us to associate them with hoop ornaments described as bracelets/arm-rings of the *Şilmleul Silvaniei* type.⁵³⁷ This artefact group is rather diverse in terms of ornamentation and dimensions; such items are considered to be Dacian imitations of Celtic bracelets.⁵³⁸ Specimens discovered outside the zone of Dacian settlement are interpreted as a manifestation of contacts between the inhabitants of Transylvania and the populations of other parts of *Barbaricum*.⁵³⁹ However, it should be noted that the number of non-Dacian specimens far exceeds those recorded in their presumed native territory.⁵⁴⁰ Very numerous finds from the lands north of the Carpathians are concentrated in the areas crossed by the main travel routes used at the end of the pre-Roman period and the beginning of the early Roman period, i.e., in the Tyniec group territory, at Przeworsk culture sites in central Poland, Kuyavia and Mazovia, and Oksywie and Wielbark culture sites in Pomerania.⁵⁴¹ The *Şilmleul Silvaniei* decorations in the Dacian areas are mostly dated to the 1st century BCE.⁵⁴² Polish specimens are mainly found together with material from the early Roman period.⁵⁴³ The Kleszewo artefacts were found in graves from phases IIb–III of the cemetery's use, so they can also be dated to phase A₃. Due to their state of preservation, it is impossible to determine their function. Based on their diameter, the ornaments in question are most often regarded as bracelets or arm-rings.⁵⁴⁴ Finds of smaller dimensions could have been used as pendants.⁵⁴⁵ A small specimen from grave 271 at Czersk,⁵⁴⁶ with a loop, was probably used in this way. It is very possible that the decorations of the *Şilmleul Silvaniei* type from Kleszewo, which were accompanied by, among other things, glass beads and *knotenrings*, were also used in this way.



Fig. 27. Snake-headed bracelet from Lubowidz, grave 22 (1), and the fragment of a probably similar form from Kleszewo, grave 607 (2). After: T. Wójcik 1982 (1).

Photo by M. Woźniak (2)

2.2.2. S-SHAPED FASTENER

From grave 398, dated to phase V of the cemetery's functioning, comes an iron S-shaped clasp (398/1). It is made from a relatively thin wire of almost quadrangular cross-section. The end of the clasp is hooked. A similarly shaped but slimmer bronze object comes from grave 702 (702/5), from phase IV of the cemetery's use. However, its functional classification as a fastener is uncertain. The object in question was accompanied by several wires bent in different directions, which were part of an unspecified ornament. It cannot be ruled out that the alleged clasp was also part of this decoration. Assuming that the two objects in question are S-shaped fasteners, they should be assigned to type A defined by A. von Müller.⁵⁴⁷ The specimen from grave 398 resembles subtype A4 distinguished by K.M. Patalan.⁵⁴⁸

S-shaped clasps are found across extensive areas of central European *Barbaricum*, from the Rhine to the Vistula basin.⁵⁴⁹ The oldest finds from Poland date to the late Pre-Roman period, the youngest – to the Migration period; most were recorded in features from phases B₂–C_{1a}.⁵⁵⁰ Specimens made of non-ferrous met-

⁵³⁷ M. Rudnicki 2012; cf. A. Rustoiu 1996, 95, 97.

⁵³⁸ C. Plantos 2005, 80; M. Rudnicki 2012, 474, 475.

⁵³⁹ M. Rudnicki 2012, 474–476; J. Andrzejowski, A. Maciałowicz 2017, 205, fig. 20.

⁵⁴⁰ J. Andrzejowski, A. Maciałowicz 2017, 205

⁵⁴¹ J. Andrzejowski, A. Maciałowicz 2017, 207–211.

⁵⁴² C. Plantos 2005, 78–79.

⁵⁴³ M. Rudnicki 2012, 476; J. Andrzejowski, A. Maciałowicz 2017, 208.

⁵⁴⁴ Recently, J. Andrzejowski, A. Maciałowicz 2017, 212.

⁵⁴⁵ J. Andrzejowski, A. Maciałowicz 2017, 213

⁵⁴⁶ K. Watemborska-Rakowska 2017.

⁵⁴⁷ A. von Müller 1957, 30–31.

⁵⁴⁸ K.M. Patalan 2022, 34.

⁵⁴⁹ Recently, K.M. Patalan 2022.

⁵⁵⁰ R. Wołągiewicz 1993, 24–25, diagram 1:1.39.42.59; J. Andrzejowski 1997, 110–111; T. Skorupka 2001, 153–154; A. Ciesliński

als are most numerous and commonly found at Wielbark culture sites. In the Przeworsk culture, S-shaped fasteners, usually of type A, are recorded relatively rarely, and most finds come from its eastern zone.⁵⁵¹ Iron specimens are also more frequently recorded in this region. Specimens almost identical to those from Kleszewo – made of bronze, iron and, exceptionally, silver – have been found at several northern and eastern Mazovian cemeteries of the Przeworsk culture, where they are dated within phases B_{1b}–B₂.⁵⁵² Determining the function they served in the costume of the Przeworsk culture inhabitants of Mazovia and Podlachia is difficult, as they were all found in cremation graves. This makes it impossible to draw conclusions on the basis of their location in relation to the skeleton. The finds from the areas where inhumation was practised on a larger scale (e.g., Pomerania, Scandinavia) indicate that they were necklace parts, acting as a clasp and ornament at the same time.⁵⁵³ Such an interpretation can probably also be adopted for the Kleszewo specimens. East of the Middle Vistula, S-shaped fasteners are most often found in graves of women or those with a female grave-good model,⁵⁵⁴ but deviations from this pattern are also recorded, e.g., at Kleszewo and Brudnice, they were found in graves of children, at Modła – in a grave with spurs.⁵⁵⁵

2.2.3. BEADS AND METAL PENDANTS

2.2.3.1. Knotenrings

Four graves from the end of the late pre-Roman period and the beginning of the Roman period contained bronze rings decorated along the rim with groups of knobs; they are known as knobbed rings or by their

German name – *knotenrings* (48/2.3, 200B/8, 614/1, 615/2–5, 614,615/1). Two of them (48/2, 200B/8) have been preserved in their entirety (or almost in their entirety), the rest in smaller or larger fragments. In total, seven to nine specimens were recorded at the site.⁵⁵⁶ Individual rings differ in the massiveness of the rim, and the size and density of the knobs. The specimens from graves 48 and 200B can be assigned to subtype IA in the classification of M. Dębiec and M. Karwowski, developed for knobbed rings from the so-called Boii zone of the La Tène culture.⁵⁵⁷ This subtype consists of artefacts in which the distance between the groups of knobs is greater than the size of the knobs themselves. The two better-preserved rings from grave 615 (615/2.3), characterised by very densely spaced knobs, correspond to subtype IIB.⁵⁵⁸ The classification of the remaining pieces is impossible due to their heavy melting.

Knotenrings are widespread in the La Tène culture, where they are dated to the late La Tène period.⁵⁵⁹ They are less common outside the Celtic settlement zone, e.g., in the Elbe, Oder and Vistula basins, in the areas inhabited by the Dacians, and in the Black Sea zone.⁵⁶⁰ The finds from the northern part of central European *Barbaricum* are usually interpreted as Celtic imports.⁵⁶¹ The specimens from Kleszewo find many analogies at La Tène culture sites in Bohemia and Moravia.⁵⁶² It may be in these areas that we should look for places where they were made.

Depending on the context of discovery, knobbed rings are assigned various functions, e.g., decoration, dress accessory, element of horse tack, the so-called commodity money, amulet.⁵⁶³ Specimens discovered in Poland, which are chronologically closest to the Kleszewo specimens, are most often interpreted as components of necklaces. This function was prob-

2010, 82; K.M. Patalan 2022, 69–96.

⁵⁵¹ J. Andrzejowski 1997, 109–113, fig. 8; 1998a, 64; K.M. Patalan 2022, @@@@.

⁵⁵² Brudnice, grave 27 (A. Szela 2021, 81, pl. XXI/27:7), Kamieńczyk, grave 381 (T. Dąbrowska 1997, 75, pl. CLXXVI/381:6), Nadkole, site 2, graves 26, 56, 113 (J. Andrzejowski 1998a, 64, pl. XXII/26:3; XLI/56:9; LXVIII/113:12; LXXXVI/141B:13), Starawieś, grave 4 (W. Radig 1942, 183, fig. 9:e), Modła, grave 271 (J. Andrzejowski 2009, 212, pl. 3.137/271:4).

⁵⁵³ Recently, K.M. Patalan 2022, @@@@. The function of S-shaped fasteners with two riveted attachment plates, which are found almost exclusively in the eastern zone of the Przeworsk culture (cf. J. Andrzejowski 1997, 109, fig. 8), is unclear. In their case, the fastened elements were likely permanently joined together.

⁵⁵⁴ J. Andrzejowski 1997, 112.

⁵⁵⁵ Brudnice, grave 113 (A. Szela 2021, 51), Modła, grave 271 (J. Andrzejowski 2009, 212, pl. 3.137/271).

⁵⁵⁶ Determination of the total number of *knotenrings* found at the cemetery is difficult due to the heavy melting of the specimens from graves 614 and 615. Both features contained eight fragments of such rings, from originally four to six specimens.

⁵⁵⁷ M. Dębiec, M. Karwowski 2016, 117; cf. also 2014, 670.

⁵⁵⁸ M. Dębiec, M. Karwowski 2016, 121–122; cf. also 2014, 667, 670.

⁵⁵⁹ T. Bochnak 2014, 59; M. Dębiec, M. Karwowski 2014, 667; 2016, 115; both with older literature.

⁵⁶⁰ M. Mączyńska 2011, 119, list 33; A. Juga-Szymańska, P. Szymański 2013, 78; M. Dębiec, M. Karwowski 2016, 130–132.

⁵⁶¹ E. von Endert 1991, 21–22; B. Balke 1999, 66; E. Bokinić 2008, 85; T. Bochnak 2014, 55, 58; A. Juga-Szymańska, P. Szymański 2013, 78.

⁵⁶² M. Dębiec, M. Karwowski 2016, 117, 122, fig. 2–5.

⁵⁶³ T. Bochnak 2014, 60–62; M. Dębiec, M. Karwowski 2016, 133; with older literature.

ably also fulfilled by the artefacts from the discussed cemetery, accompanied by varying numbers of glass beads. *Knotenrings* discovered in Poland are found in the graves of women or children; no specimen has been recorded in a feature that could be identified as a male burial on the basis of grave goods.⁵⁶⁴

2.2.3.2. *Triangular pendant*

A bronze pendant with a triangular body, made from a rhomboid sheet folded in half, was discovered in grave 607 (607/3). The suspension loop, now partially preserved, was created by twisting together the wire-like ends of both parts. The specimen is decorated along the edges and in the centre with points pressed from the inside. Pendants of this type are typical of the Przeworsk culture people inhabiting the areas east of the Middle Vistula; outside this region, they are rarely found (Fig. 28). Of the nine⁵⁶⁵ specimens known to me, all were discovered in features that can be dated to phase B₂ (this also applies to the Kleszewo specimen, which is dated to phase V of the cemetery's functioning). Five of the pendants were recorded in the graves of adult women (Cieblowice Duże, Nadkole, Kamieńczyk – 3 pcs.); other features contained the remains of two people – a woman and a man (Garwolin) – or the preserved osteological material did not provide the basis for determining the sex of the deceased (Kleszewo). In the remaining cases, anthropological analysis was not performed (Grodzisk Mazowiecki), or its possible results are not known to me (Gródek, Wysokie Mazowiecki County). None of the graves contained items considered archaeological markers of male burials, e.g., weapons or specialist tools. The pendants in question can, therefore, be considered typically feminine decorations. The shape of suspension loops and the decoration of the body with points indicate that these ornaments are related to contemporaneous band pendants (see below).

2.2.3.3. *Banded pendants*

Six banded pendants were discovered at Kleszewo. A pair each was found in graves 34 and 132 (34/2.3, 132/21.22), the remaining two – in grave 413 (413/5)

⁵⁶⁴ T. Bochnak 2014, 55.

⁵⁶⁵ Cieblowice Duże, grave 14 (M. Dzięgielewska, M. Kulczyńska 2008, 15, pl. XI/14:7), Garwolin, grave 77 (A. Niewęglowski 1991, 62, fig. 43:h), Grodzisk Mazowiecki, grave 21 (B. Barankiewicz 1959, 202, pl. VI:10), Gródek, Wysokie Mazowieckie County, feature 65 (information from dr hab. J. Andrzejowski [PMA]), Kamieńczyk, graves 55 and 99 (T. Dąbrowska 1997, pl. XX-VI/55:8; L/99:6.7), Nadkole, site 2, grave 114 (J. Andrzejowski 1998a, 42, pl. CXIII/114:11), Tuchlin, grave 15 (Ł. Okuliczowa 1965, 378, fig. 13:d) and Kleszewo, grave 607.

and as a stray find (ZL/50). The specimens found in graves are dated to stage Vb. The holders of all specimens are composed of bronze strips, sometimes decorated with punched points. Thus, they can be identified as the eastern variant defined by K. Stanek,⁵⁶⁶ typical of this part of *Barbaricum*. The catches of the pendants from graves 34 and 413 and one from grave 132 (132/21) have the form of a spiral made out of rolled strip ends, which is a distinctive feature of type I of the eastern variant. The other two specimens, whose catches have not been preserved, were probably of the same type.⁵⁶⁷ At Przeworsk culture sites located east of the Middle Vistula, specimens with differently shaped catches do not usually occur.⁵⁶⁸ The holders of one of the specimens from grave 132 (132/22) and the stray find were cut from one sheet fragment (variant IC); the holder of the pendant from grave 413 is composed of two parts connected with a rivet (variant IA). All the better-preserved examples had a glass core; in two cases, it was blue and red, and in one case – almost colourless. The colour of the glass of the remaining finds could not be determined, because they were severely burnt.

Banded pendants have also been discovered at other sites in the eastern zone of the Przeworsk culture.⁵⁶⁹ The largest quantity was found at Kamieńczyk (13 pcs.); at other sites, their number is limited to one or, exceptionally, two examples. Each feature usually contained from one to three specimens. All precisely dated pendants come from phase B₂. The specimens that have been classified represent type I, considered character-

⁵⁶⁶ K. Stanek 1999.

⁵⁶⁷ The stray find (ZL/50) has an atypical construction. Two of its strips are perforated, with wire remains in the holes, at the transition between the holder and catch. Perhaps this is a result of a repair, i.e., a broken-off strip was tied to another one to keep the stability of the structure and prevent the glass core from falling out. However, as the catch is incomplete, it is not possible to reconstruct its original shape. Moreover, it cannot be ruled out that the current construction results from the object's burning and deformation in the fire of a funeral pyre.

⁵⁶⁸ Cf. K. Stanek 1999, 345–348.

⁵⁶⁹ Kamieńczyk, graves 63, 68, 105, 126, 201b, 209 (T. Dąbrowska 1997, 85–86), Modła, grave 85 (J. Andrzejowski 2009, 113, pl. 3.35/85:6), Niecieplin, grave XX (R. Kozłowska 1958, 348, pl. CXI:10), Purzyce-Trojany, stray find (K. Stanek 1999, 344), Oblin, grave 127 (K. Czarnecka 2007, 38, pl. CXXIII/127:3), Stupsk, grave 3/87 (A. Grzymkowski 1996, 176; K. Stanek 1999, 344) and – perhaps – Gródek, Otwock County, stray find (K. Stanek 1999, 348; cf. R. Jakimowicz 1935, 252, 256, fig. 30). The dating and cultural attribution of the glass balls from Redzyńskie are unclear (L. Dudrewicz 1882, 70; T. Liana 1961, 218, pl. II:12; K. Stanek 1999, 349).

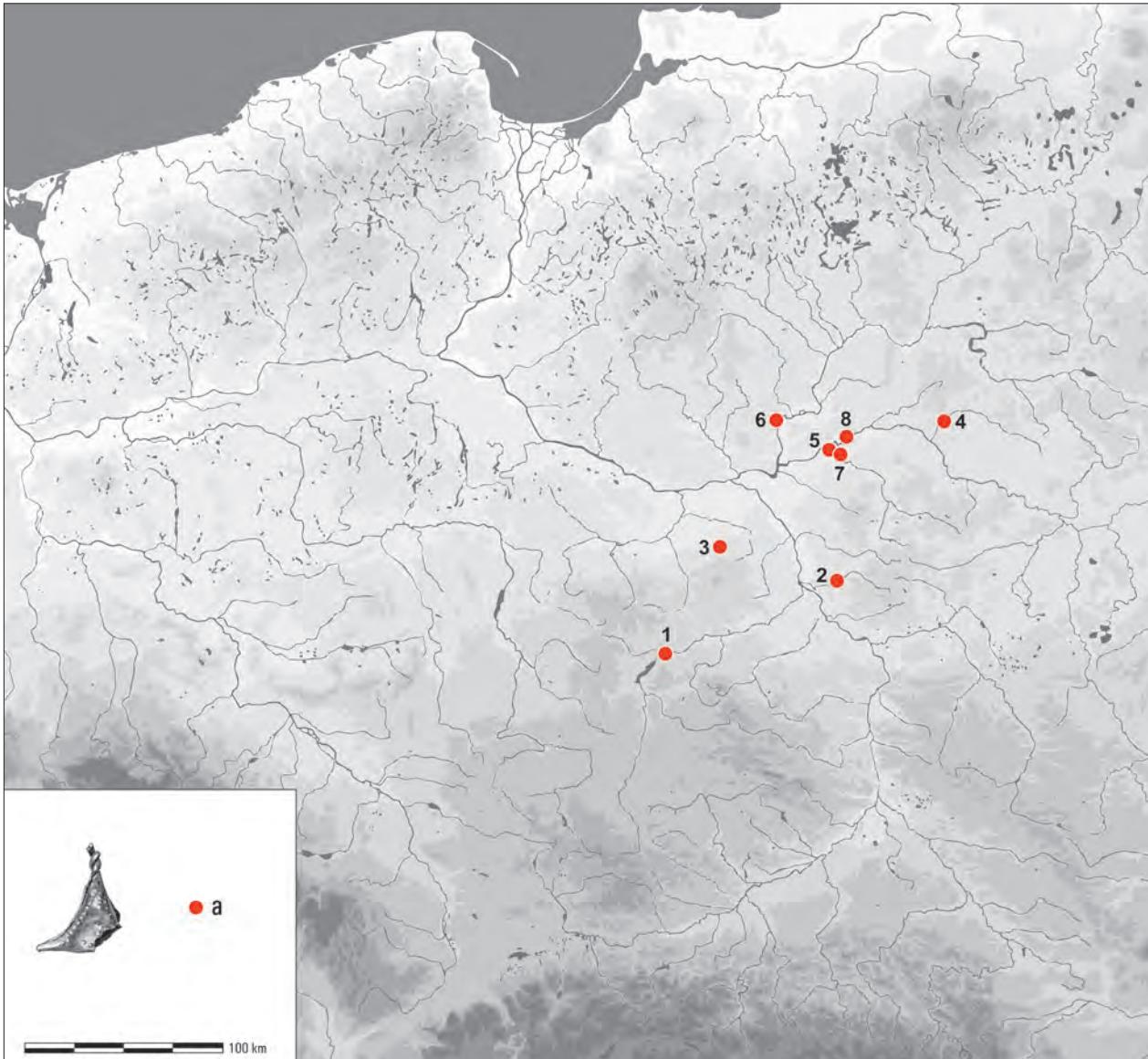


Fig. 28. Distribution of bronze pendants made from sheet bronze in the northern part of central European *Barbaricum*.
 1 – Kleszewo; 2 – Cieblowice Duże; 3 – Garwolin; 4 – Grodzisk Mazowiecki; 5 – Gródek, Wysokie Mazowieckie County;
 6 – Kamieńczyk; 7 – Nadkole, site 2; 8 – Tuchlin. After: J. Andrzejowski 2001b

istic of the Przeworsk culture.⁵⁷⁰ They are usually small, several centimetres high, and were probably necklace components. Their holders contained a lump of glass⁵⁷¹ or a stone.⁵⁷² Banded pendants are most often recorded

in graves of women⁵⁷³ and, sometimes, children.⁵⁷⁴ No specimen comes from a feature that, on the basis of anthropological analyses or the nature of grave goods, could be identified as a man's burial.

2.2.3.4. *Bucket pendants*

Bucket pendants were found in Przeworsk culture graves dated to stage Vb (413/6) or, more broadly, to phase V of the cemetery's use (605/1). Both are made of iron. The specimen from grave 413, with a slen-

⁵⁷⁰ K. Stanek 1999, 336.

⁵⁷¹ E.g., Kamieńczyk, grave 201b (T. Dąbrowska 1997, 48), Kleszewo, graves 34, 132 and stray find (ZL/50).

⁵⁷² E.g., Kamieńczyk, grave 201b (T. Dąbrowska 1997, 48), Stupsk, grave 3/87 (A. Grzymkowski 1996, 176), Oblin, grave 127 (K. Czarnecka 2007, 38).

⁵⁷³ K. Stanek 1999, 339.

⁵⁷⁴ Kleszewo, grave 34.

der, cylindrical body can be assigned to P. Kaczanowski's variant I/1,⁵⁷⁵ I. Beilke-Voigt's variant A II,⁵⁷⁶ or A. Kokowski's subtype IA1.⁵⁷⁷ The pendant from grave 413, with the body profiled near the suspension loop, is closest to P. Kaczanowski's variant I/2 and I. Beilke-Voigt's variant H III.⁵⁷⁸

Bucket pendants are one of the most popular decorations in the Przeworsk culture;⁵⁷⁹ they are also found in large numbers in other *Barbaricum* areas.⁵⁸⁰ The oldest finds from the Przeworsk culture territory come from the end of the late pre-Roman period, the youngest – from the beginning of the Migration period.⁵⁸¹ At Przeworsk culture sites located east of the Middle Vistula, they are most often found in features from phase B₂.⁵⁸² All bucket pendants found at Mazovian-Podlachian sites of the Przeworsk culture are made of iron, which corresponds to the situation recorded also in other areas of this culture.⁵⁸³ As in other regions,⁵⁸⁴ in Mazovia and Podlachia, these decorations were worn by both women⁵⁸⁵ and men.⁵⁸⁶

2.2.3.5. Capsule pendants

An ellipsoidal iron object, composed of two almost hemispherical sheets (Fig. 29:1), was found in grave 51 dated to phase I or stage IIa. Its function is unclear. Several very similar specimens are known from the cemetery at Błonie (Fig. 29:2–6). Most of them are equipped with wire suspension loops, which is why they are in-

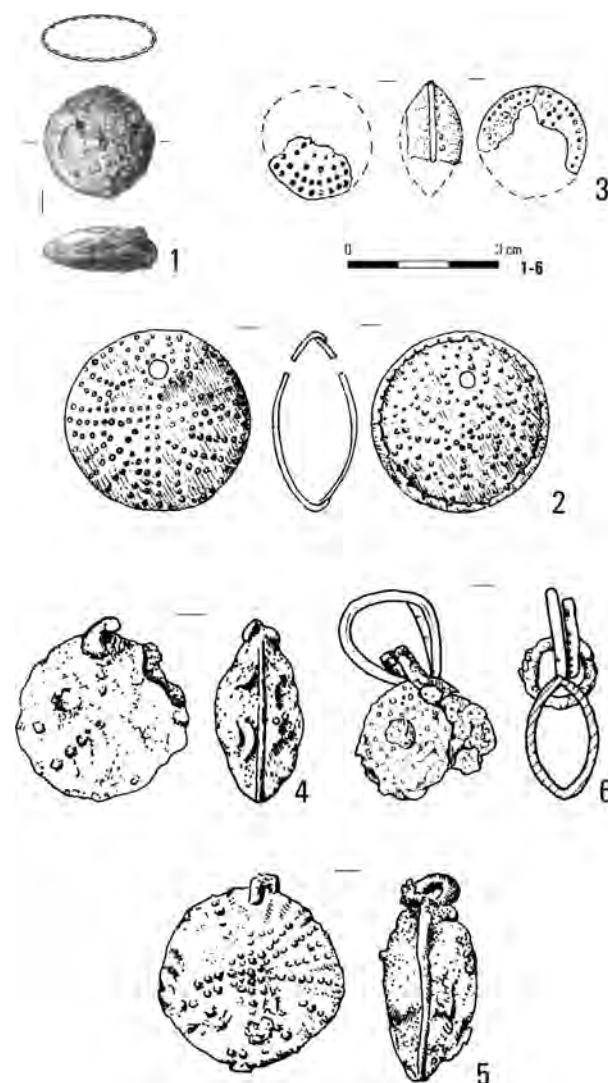


Fig. 29. Capsule pendants from Kleszewo and Błonie.
1 – Kleszewo, grave 51; 2,3 – Błonie, grave 197;
4,5 – Błonie, grave 226; 6 – Błonie, grave 128.
After: R. Mycielska, Z. Woźniak 1988 (2–6),
M. Woźniak 2021 (1).

⁵⁷⁵ P. Kaczanowski 1987, 67.

⁵⁷⁶ I. Beilke-Voigt 1998, 52, fig. 58.

⁵⁷⁷ A. Kokowski 2019, 33.

⁵⁷⁸ P. Kaczanowski 1987, 67; I. Beilke-Voigt 1998, 55, fig. 58.

⁵⁷⁹ K. Godłowski 1977, 43; P. Kaczanowski 1987, 62; I. Beilke-Voigt 1998, 63–72; J. Andrzejowski, A. Żórawska 2002, 45; A. Kokowski 2019, 37–39, fig. 43–46.

⁵⁸⁰ I. Beilke-Voigt 1998, 63–71, maps 11–17; O.V. Gopkalo 2008, 64–65, map 30; A.A. Stoánova 2016, 130–132; É. Istvanovič, V. Kulčar 2017; A. Kokowski 2019, 27–48.

⁵⁸¹ P. Kaczanowski 1987, 66–72; J. Andrzejowski, A. Żórawska 2002, 45.

⁵⁸² E.g., Kamieńczyk, grave 236 (T. Dąbrowska 1997, 53, pl. CX-VII/236:1), Modła, grave 270 (J. Andrzejowski 2009, 211, pl. 3.140/270:14.15), Nadkole, site 2, graves 44B and 142 (J. Andrzejowski 1998a, 66, pl. XXXIV/44B:9, LXXXVI/142:9).

⁵⁸³ J. Andrzejowski, A. Żórawska 2002, 45; A. Kokowski 2019, 35–36, 39, table 2, fig. 45.

⁵⁸⁴ K. Godłowski 1977, 43.

⁵⁸⁵ E.g., Kleszewo, grave 413; Nadkole, site 2, graves 44B, 142 (J. Andrzejowski 1998a, 66).

⁵⁸⁶ E.g., Starawieś, grave 15 (W. Radig 1942, 189, fig. 15:g), Kamieńczyk, grave 236 (T. Dąbrowska 1997, 53, pl. CX-VII/236:1).

terpreted as pendants.⁵⁸⁷ It is possible that the specimen from Kleszewo also served a similar function, although, in its case, the lack of a suspension loop (and a hole for it) does not allow its clear interpretation. A more distant analogy, in terms of territory and design, can be found at the oppidum at Hrazany in Czechia, in an object fastened along the shorter axis with a rivet. However, the author of the study did not classify the function of said artefact.⁵⁸⁸

⁵⁸⁷ R. Mycielska, Z. Woźniak 1988, 75, 97, 106–107, pl. CXII/B:1, CLXX/D:2.3, CXC/B:1.2; T. Bochnak 2014, 62–64.

⁵⁸⁸ L. Jansová 1986, 123.

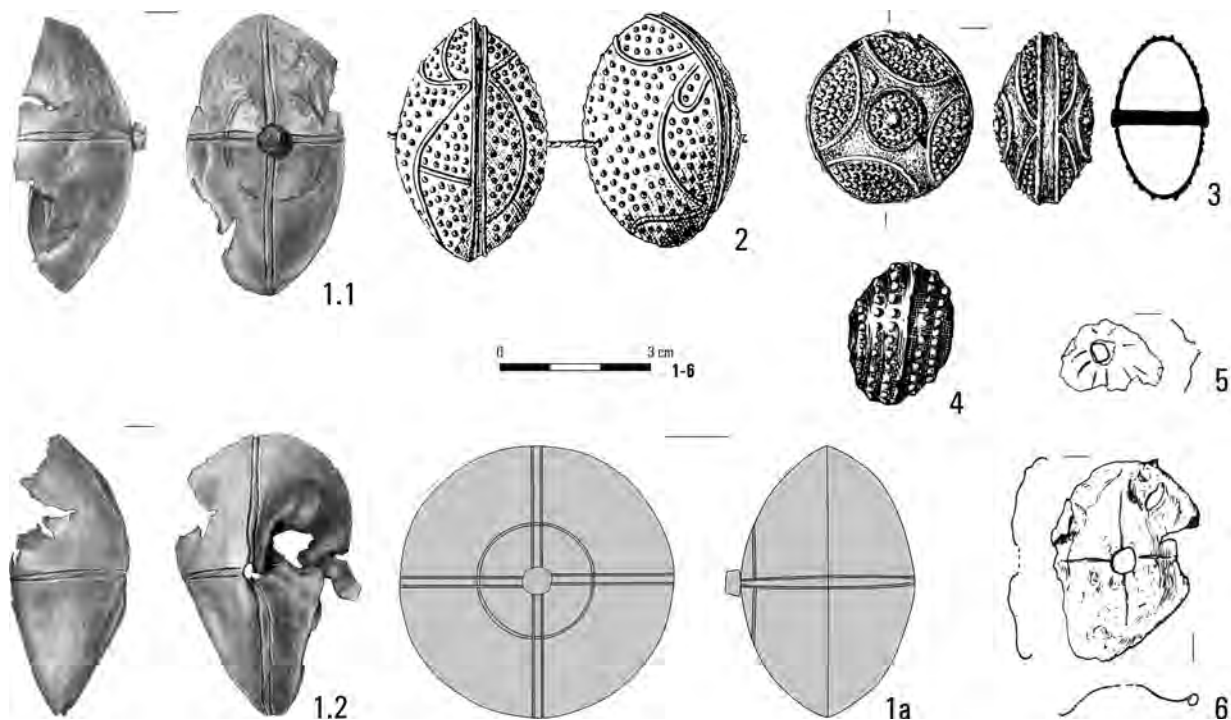


Fig. 30. Capsule pendants and bronze sheet beads. 1 – Kleszewo, grave 132; 2 – Kamieńczyk, grave 145; 3 – Nadkole, site 2, grave 114; 4 – Skowarcz, inhumation grave discovered in 1938; 5 – Třebusice, grave 712; 6 – Gródek, Otwock County, stray find. After: R. Jakimowicz 1935 (6), R. Schindler 1938 (4), T. Dąbrowska 1997 (2), J. Andrzejowski 1998a (3), E. Droberjar 2011 (5), M. Woźniak (2021).

A specimen of a similar shape to the one discussed above, albeit much larger, was discovered in grave 132 (Fig. 30:1). The object is made of bronze, and both parts are perforated in the centre and decorated with engraved ornaments. In one of the parts, there is a fragment of a massive rivet. The role of this element is unclear. Presumably, it fastened both parts of the body together, as is the case with a similar find from Třebusice in Czechia (Fig. 30:5).⁵⁸⁹ Objects similar in shape to the artefact discussed are known from various parts of central European *Barbaricum* (Fig. 30). The closest, in terms of territory and morphology, and similarly decorated specimens were found at Kamieńczyk and, probably, Nadkole, site 2 (Fig. 30:2,3).⁵⁹⁰ Both are fragmentarily preserved and deformed, rendering full reconstruction of their shape impossible. Two completely preserved knobs of this type were discovered at the Wielbark cemetery at Skowarcz (Fig. 30:4); they were necklace components.⁵⁹¹ Another example, mentioned above, comes from Třebusice. The bodies of these

last three items are covered with small nodules pressed from the inside. The specimen from Třebusice, which was originally equipped with a suspension loop,⁵⁹² belongs to a specific group of capsule pendants with convex walls, characteristic primarily of the north-western zone of the Baltic Sea and the Elbe basin.⁵⁹³ These pendants are characterised by a bi- or tripartite design. Their suspension loops extend from the walls, and, in the case of some tripartite specimens, from a ring-shaped part in the middle. The Kleszewo artefact did not have a loop, and I did not find any traces of it on the finds from Kamieńczyk and Nadkole, site 2, but those specimens are more poorly preserved. The knobs from Skowarcz also lacked suspension loops.⁵⁹⁴ However, the morphological similarity of the artefacts in question to capsule pendants is significant. On the other hand, the lack of loops makes them similar to Scandinavian sheet beads.⁵⁹⁵ An object that resembles the latter artefacts is also known from Mazovia. It was discovered at the

⁵⁸⁹ E. Droberjar 2011, 28, fig. 2:6.

⁵⁹⁰ T. Dąbrowska 1997, 38, pl. LXXVII/145:4; J. Andrzejowski 1998a, 42, pl. LXX/114:12.

⁵⁹¹ R. Schindler 1938, 50, fig. 3 and 5.

⁵⁹² E. Droberjar 2011, 28.

⁵⁹³ Recently, J. Schuster 2018a, 77–83.

⁵⁹⁴ Cf. J. Schuster 2018a, 80–81.

⁵⁹⁵ Cf. L. Heidenmann Lutz 2010, 202–205; B.M. Rasmussen 2010, 235–237.

Przeworsk cemetery at Gródek, Otwock County (Fig. 30:6).⁵⁹⁶ These beads are much smaller than the Kleszewo artefact; they are also more spherical. Nevertheless, the above-mentioned artefacts, morphologically close to the specimen from Kleszewo, indicate that the latter was a necklace component.⁵⁹⁷

The Kleszewo artefact is dated to stage Vb, the specimens from Kamieńczyk and Nadkole – to subphases B_{2b} and B_{2a}, respectively.⁵⁹⁸ This corresponds to the chronology of both large capsule pendants with convex walls decorated with nodules as well as sheet beads.⁵⁹⁹ The specimens from Kleszewo, Kamieńczyk and Skowarcz were discovered in features with female grave goods. In the case of the first two graves, the sex determination has been confirmed by the results of anthropological analyses. The finds from Kleszewo, Kamieńczyk and Nadkole site 2, seem to be a local form of decoration, created under the influence of stylistic patterns coming from the Baltic areas.

Grave 383 yielded the body of a small disc-shaped capsule pendant (Fig. 31). The front and back parts of the artefact are in the form of a round disc. Both were made by coiling notched silver wire. The side walls to which the front and back parts were soldered are also made of notched silver wire. A small rivet is embedded in a hole in the centre of the front wall of the body.⁶⁰⁰ The specimen from Kleszewo corresponds to B. Beckmann's type I of capsule pendants.⁶⁰¹ Due to the raw material of which it was made, the item is unique in the Przeworsk culture (Fig. 32). Previously, only one example made of silver was known from its area – it was discovered at Kamieńczyk.⁶⁰² Other capsule pendants recorded in the Przeworsk culture territory are made of iron or bronze.⁶⁰³ Silver specimens are found in greater numbers in the Wielbark culture area, and several speci-



Fig. 31. Silver capsule pendant from grave 383 and an outline of its body structure.

Photo by M. Woźniak. Drawn by P. Holub.

mens are also known from the Elbe basin, the Jutland Peninsula and the Danish islands; isolated finds come from Gotland, Sambia and Hungary.⁶⁰⁴ Most⁶⁰⁵ of them differ from the Kleszewo specimen in the way they were made. Their bodies are formed from sheets,⁶⁰⁶ or only the front part is made out of coiled wire.⁶⁰⁷

Capsule pendants are dated to the entire Roman period and early Migration period.⁶⁰⁸ Specimens made of precious metals are most often recorded in features from subphases B_{2b}–C_{1a}.⁶⁰⁹ These items are considered decorations typical of women's clothing.⁶¹⁰

The distribution of silver capsule pendants in *Barbaricum* suggests that the Kleszewo specimen is an import from the north, e.g., from the Wielbark culture areas by the Lower Vistula, where its closest territorial and morphological analogies come from. However, the local provenance of the artefact cannot be ruled out. Przeworsk craftsmen commonly used silver wire – notched or plain – for decorative purposes. Silver

⁵⁹⁶ R. Jakimowicz 1935, 256, fig. 31; J. Andrzejowski 2001b, 70, fig. 10:a.

⁵⁹⁷ In Scandinavia, sheet beads were parts of necklaces or were used as hair adornments (L. Heidenmann Lutz 2010, 202–205; B.M. Rasmussen 2010, 235–237).

⁵⁹⁸ T. Dąbrowska 1997, 38; J. Andrzejowski 1998a, 42.

⁵⁹⁹ B.M. Rasmussen 2010, 235–237; J. Schuster 2018a, 77–81.

⁶⁰⁰ Due to the poor state of preservation of the artefact, it is difficult to determine its function. It could have been decorative and/or structural, e.g., it masked a hole reinforced the pendant's structure. It is possible that the rivet was originally longer and was used to join together the front and back parts of the body.

⁶⁰¹ B. Beckmann 1973, @.

⁶⁰² T. Dąbrowska 1997, 30, pl. LII/105:5.

⁶⁰³ C. von Carnap-Bornheim 2002, 191–195, 261–268, fig. 2; J. Schuster 2013, 165, fig. 15.

⁶⁰⁴ K. Raddatz 1996, 250; C. von Carnap-Bornheim 2002, 261–268, fig. 2; J. Schuster 2013, 165, fig. 15.

⁶⁰⁵ In many cases, the published descriptions and illustrations do not allow determining structural details of the pendants.

⁶⁰⁶ Cf., e.g., Kowalewko, graves 168 and 170 (T. Skorupka 2004, 159, pl. 51/168:7.8, 52/170:7.8), Weklice, graves 25, 250, 413, (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 30, 74, 107, pl. VII/25:9.10; C/250:7; CLXXXVI/413:6.7).

⁶⁰⁷ E.g., Kamieńczyk, grave 105 (T. Dąbrowska 1997, 30, pl. LI-II/105:5), Małe Czyste, grave 57 (E. Bokiniec 2020, 67, 105, pl. XXIV/57B:7), Rogowo, site 23, feature 680 / grave 147 (M. Wiśniewski, L. Kotlewski 2013, 91 and information from dr Ewa Bokiniec [District Museum in Toruń]).

⁶⁰⁸ B. Beckmann 1973, 13–14; C. von Carnap-Bornheim 2002, 191

⁶⁰⁹ C. von Carnap-Bornheim 2002, 261–268; A. Cieśliński 2010, 84; J. Schuster 2013, 165.

⁶¹⁰ K. Raddatz 1996, 249, 252; C. von Carnap-Bornheim 2002, 189–193.

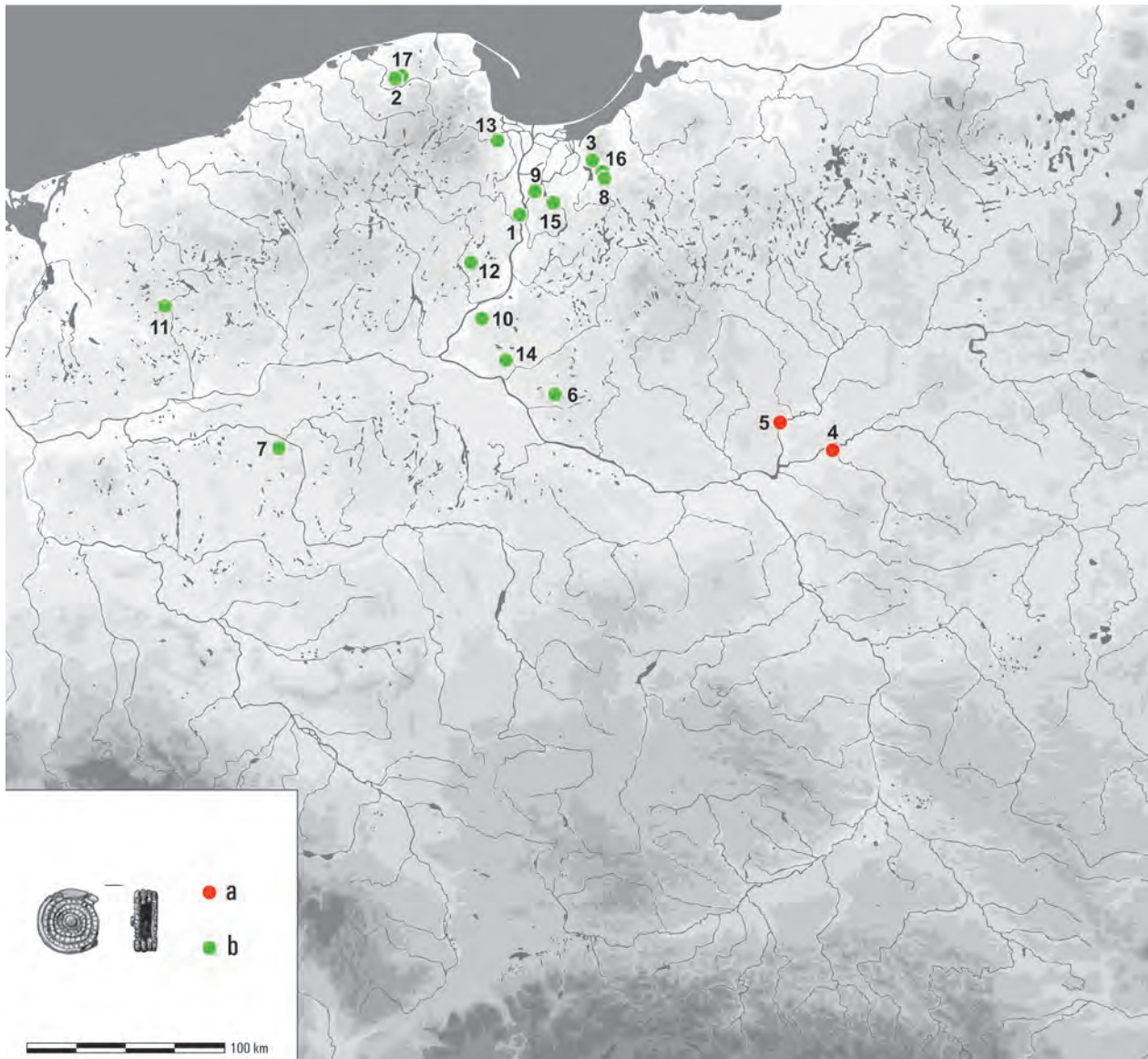


Fig. 32. Distribution of silver capsule pendants in the northern part of central European *Barbaricum*.

1 – Kleszewo; 2 – Ciepłe; 3 – Czarnówko; 4 – Elbląg; 5 – Kamieńczyk; 6 – Kołat-Rybniki; 7 – Kowalewko; 8 – Krosno; 9 – Malbork-Wielbark; 10 – Małe Czyste; 11 – Nowy Łowicz; 12 – Osie; 13 – Pruszcz Gdański, site 7; 14 – Rogowo; 15 – Stary Targ; 16 – Weklice; 17 – Wilkowo Nowomiejskie.

inlays were especially popular in the case of brooches and, sometimes, other objects, such as weapons. Indeed, a brooch ornamented in such a way was found in the same grave as the object in question. It seems that making such a simple decoration as a capsule pendant was within the skills of a local craftsman. Apart from the attempt at determining the place of manufacture of the pendant, its presence in northern Mazovia fits quite well into the picture, emerging from the analysis of archaeological sources, of close relations between the people of the eastern zone of the Przeworsk culture and the Wielbark culture, manifested, among others, by the

use of similar elements of clothing and decorations by both populations.⁶¹¹

2.2.3.6. *Axe pendants*

Five axe pendants were discovered at the cemetery. Four silver ones were found in graves 184 (184/3–5) and 884 (884/13). All of them are threaded on silver wire rings with terminals wound around the rim.⁶¹² A partially pre-

⁶¹¹ J. Andrzejowski 2001b.

⁶¹² Type 15 in the classification of Roman period rings by Ch. Beckmann (1969, 33–34).

served bronze specimen was a stray find (ZL/52). Based on the chronology of this category of decorations (see below), this last item should also be associated with the Wielbark culture (phase VI–VII of the cemetery’s functioning). The silver pendants resemble A. Kokowski’s type 4, which is characterised by a fan-shaped outline of the “blade”. Due to its state of preservation, classification of the bronze specimen is difficult, but it seems to be closest to types 2 and 3.⁶¹³ Axe pendants are relatively frequently recorded at Wielbark culture sites (Fig. 33); quite numerous finds are also known from the Chernyakhov and Sântana de Mureş cultures, Elbe culture circle, Tisza Sarmatians and Crimea. On the other hand, they are rarely found at Przeworsk culture sites and in the West Balt cultural circle.⁶¹⁴ All finds from northern and eastern Mazovia and Podlachia that have specific cultural attribution can be assigned to the Wielbark culture, e.g., ten specimens from Niedanowo⁶¹⁵ or isolated examples from Brulino-Piwki and Majdan.⁶¹⁶ The chronology of axe pendants in the Wielbark culture falls within subphases C₂–D.⁶¹⁷ This timeframe also applies to the specimens from Kleszewo, which were found in features dated to phase VI (grave 184) and stage VIIa (grave 884) of the cemetery’s use. In the Wielbark culture, the decorations in question are found in graves of women, less frequently – of men and children.⁶¹⁸

2.2.3.7. Conical pendants

Grave 884, dated to stage VIIa of the cemetery’s functioning, contained six conical pendants⁶¹⁹ made from a silver sheet (884/17–22). The artefacts have no parallels in the Wielbark culture. Similar finds come from the eponymous cemetery of the Masłomęcz group, graves 133, 158, 200,⁶²⁰ the settlement of the Przeworsk cul-

ture at Jakuszowice,⁶²¹ and the cemetery of the Sântana de Mureş culture at Dănceni, grave 292.⁶²² A. Kokowski attributed the graves in which conical pendants were found to Sarmatians or, more precisely, to Sarmatian women. He based this interpretation on the character, atypical for the local population, of the decorations and dress accessories of the buried women, such as bells, pendants made of snail shells, and belts fastened without the use of buckles (Fig. 34).⁶²³ However, the same cannot be said of the contents of the graves from Dănceni and Kleszewo, which are typical of the groups belonging to the so-called Gothic cultural circle. On the other hand, I am not aware of any conical pendants found at the sites of groups associated with the Sarmatians.⁶²⁴ Hence, I believe that a “Germanic” origin of these ornaments is equally likely. The finds from Masłomęcz are dated to early phase C₂. The specimen from Dănceni, discovered together with an Almgren-168 brooch, comes from phase C₂ or C₃ (see the discussion on Almgren-168 fibulae in Subchapter 2.1.1). Conical pendants can be linked to women’s dress, as indicated by the results of anthropological analyses or by the accompanying grave goods.

2.2.3.8. Rings with perforated protrusions

In grave 386, there were two (one whole and a fragment of another) bronze rings with small, rounded protrusions along the outer rim (386/2.3.). In each protrusion, there is a circular hole. Both artefacts were found in a concentration of glass beads, in the central-western part of an inhumation grave pit. The location of this concentration – assuming a single burial⁶²⁵ – suggests that it was originally at the hips of the buried person. Therefore, the rings, together with the beads, could have been hung on the belt and functioned as ornaments, or they could have been kept in a pouch of organic material that was attached to the belt. Nor can it be ruled out that it was a small necklace, deposited in the pit as a grave offering. The context of the discovery of the rings in question indicates that they served as pendants.

⁶¹³ A. Kokowski 1998, 100, fig. 1; cf. also A.A. Stoånova 2005, 50–51.

⁶¹⁴ A. Kokowski 1998; 2009; A.A. Stoånova 2005, 50–51, fig. 3, 4; M. Florek 2008; O.V. Gopkalo 2008, 63, map 29; V.G. Belevce 2016; B. Niezabitowska-Wiśniewska 2021, 312.

⁶¹⁵ W. Ziemińska-Odojowa 1999a, 130.

⁶¹⁶ A. Kempisty 1968, 414, fig. 12:i; M. Natuniewicz-Sekuła, M. Sekuła 2018, 514–515, fig. 2.

⁶¹⁷ E.g., M. Kurzyńska 2013, 52; M. Natuniewicz-Sekuła, M. Sekuła 2018, 517; B. Niezabitowska-Wiśniewska 2021, 312; cf. M. Mączyńska 2019, 56.

⁶¹⁸ Kleszewo, graves 184, 884, Niedanowo, graves 518, 609 (W. Ziemińska-Odojowa 1999a, 90, 104), Węgrowo, grave 15 (M. Kurzyńska 2013, 21–23).

⁶¹⁹ A. Kokowski (1995, 47) described these decorations as umbrella-shaped pendants.

⁶²⁰ Recently, M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 173, 175, 178, pl. A28/133,

A29/158, A30/200.

⁶²¹ K. Godłowski 1988, 27, fig. 5:3.

⁶²² I.A. Rafalovič 1986, 89, pl. XLVI/292:3; cf. O.V. Gopkalo 2008, 65.

⁶²³ A. Kokowski 1995, 46–47; 2003a, 280–282.

⁶²⁴ Cf. O.V. Gopkalo 2008, 65; A.A. Stoånova 2016; É. Ištvanovič, V. Kulčar 2017, 51.

⁶²⁵ Human bones, including a tooth, were found only in the northern part of the pit, near a concentration of amber beads.

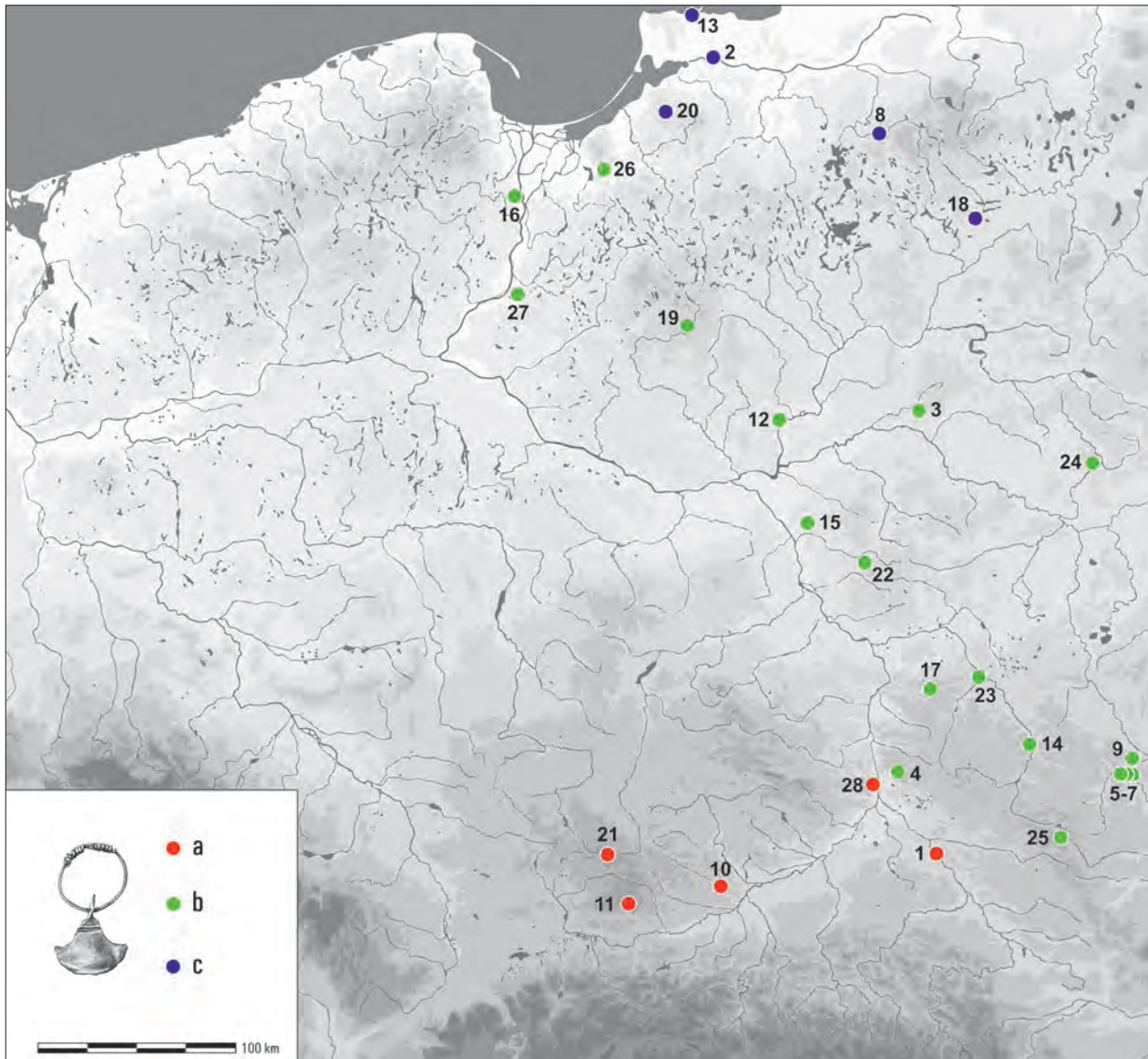


Fig. 33. Distribution of axe pendants in the northern part of central European *Barbaricum*.

1 – Kleszewo; 2 – Bieliny; 3 – Bolšoe Isakovo; 4 – Brulino-Piwki; 5 – Gościeradów; 6 – Gródek, Hrubieszów County, site 1C; 7 – Gródek, Hrubieszów County, site 6; 8 – Gródek, Hrubieszów County, site 29; 9 – Grunajki; 10 – Husynne; 11 – Jakuszowice; 12 – Jerzmanowice; 13 – Kovrovo; 14 – Krasnystaw; 15 – Majdan; 16 – Mały Garc; 17 – Moszna; 18 – Netta; 19 – Niedanowo; 20 – former *Otten*; 21 – Podzamcze; 22 – Redzyńskie; 23 – Spiczyn; 24 – Stupičava; 25 – Ulów; 26 – Weklice; 27 – Węgrowo; 28 – Zawichost. After: A. Kokowski 1996; 2009; M. Natuniewicz-Sekuła 2018; with additions.

Decorations of this type date all the way back to the Hallstatt period.⁶²⁶ The oldest one discovered in Poland comes from Cybulin and is associated with the Pomeranian culture.⁶²⁷ Other pendants are of later chronology and were recorded at several sites of the Przeworsk, Ok-

sywie and Wielbark cultures.⁶²⁸ Individual specimens differ in the number of protrusions and the degree to which they are defined in relation to the rim (Fig. 35). The projections have the shape of almost complete circles or perforated protrusions, rounded to varying degrees; their number varies from three to nine. The oldest pendants, dated to the late Pre-Roman period,

⁶²⁶ M. Andrałójć 1992, 175; K. Raddatz 1996, 254–259; R. Blankenfeldt 2015, 211–213.

⁶²⁷ O. Kunkel 1931, fig. 23.

⁶²⁸ K. Raddatz 1996, 255–258; R. Blankenfeldt 2015, 211–213; A. Ruta, A. Strobin 2015, 315–317.

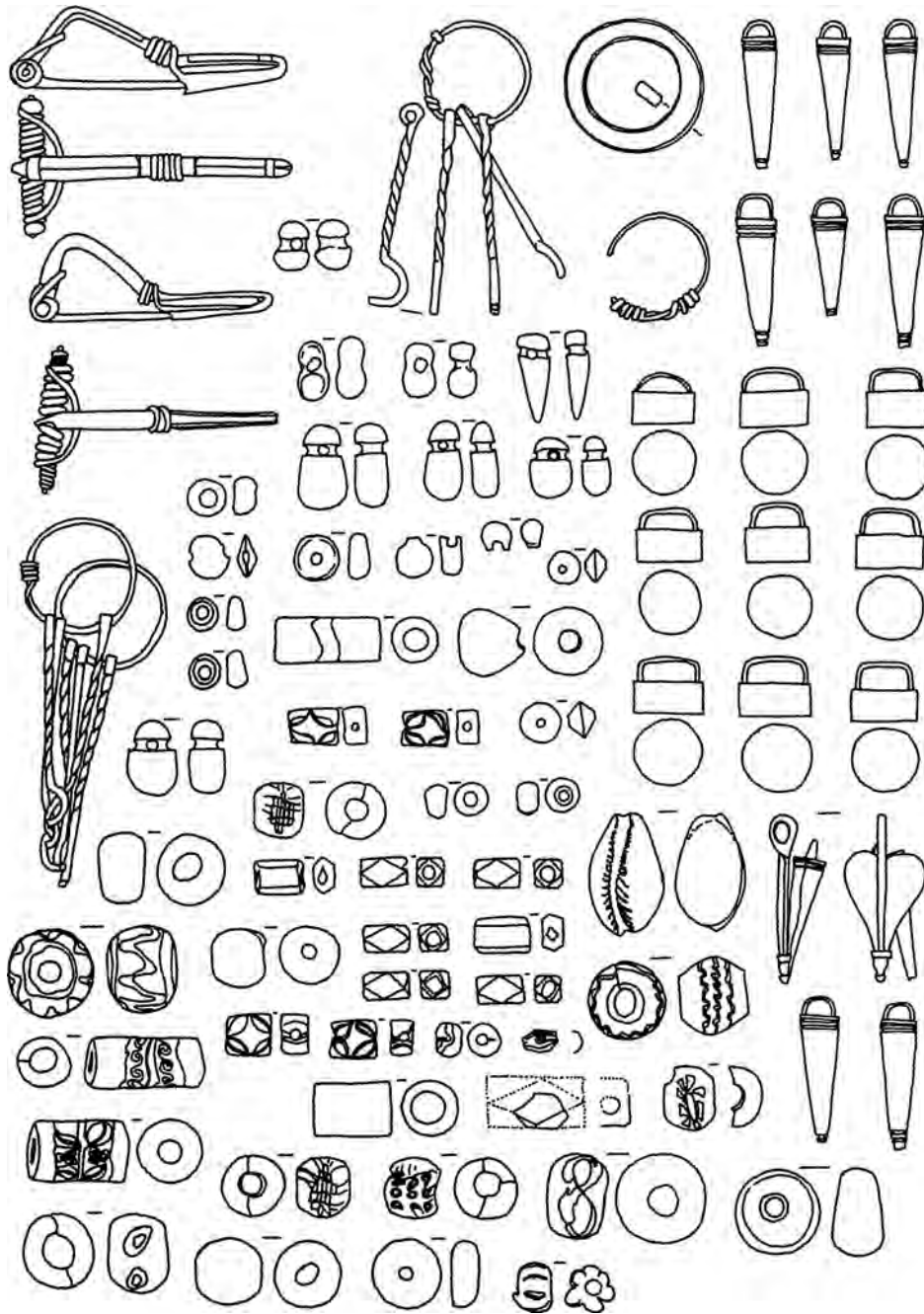


Fig. 34. Contents of grave 133 from Masłomęcz. After: A. Kokowski 2005.

come from Oksywie culture cemeteries on the Lower Vistula River (35:4.5),⁶²⁹ the youngest – from the sites of the Wielbark culture at Kleszewo and Weklice (Fig. 35:1.2).⁶³⁰ The ring from Weklice (35:2) is also the most

⁶²⁹ E.g., Podwiesiek, grave 214 (E. Bokiniec 2005, 46, pl. LXXVII/214:3), Pruszcz Gdański, site 10, grave 127A (M. Pietrzak 1997, 26).

⁶³⁰ M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 101, pl. CLXXI/388:1.

similar to the Kleszewo one. Outside Poland, pendants similar to the specimens from grave 386 were found at the Sambian cemetery at Povarovka (35:6.7).⁶³¹ The rings from inhumation graves of the Oksywie and Wielbark cultures were most often found at the pelvis or in the middle part of the pit,⁶³² suggesting their

⁶³¹ K. Raddatz 1996, 257–258, fig. 6:17, 7:4.

⁶³² Gdańsk, site 104, grave 1 (A. Ruta, A. Strobin 2015, 305, fig. 3), Pruszcz Gdański, site 10, grave 127A (M. Pietrzak 1997, 26),

connection to the belt. The ornaments in question are sometimes interpreted as amulets.⁶³³ They are found in graves with a female grave-good model⁶³⁴ or in features whose furnishings do not indicate the sex of the buried person. No weapons or specialised tools were recorded in any of the graves.

2.2.3.9. Cylindrical pendant

A bronze pendant in the form of a profiled cylinder with a suspension loop on a stem was discovered on the surface of the cemetery (ZL/51). I know of no analogies for this object. It is also possible that the artefact is unrelated to the Przeworsk-Wielbark cemetery.

2.2.3.10. Wire pendants

Rings made from a bronze or silver wire with the terminals wrapped around the rim were discovered in seven graves of the Wielbark culture (graves 158, 177?, 184, 258, 524, 534, 884) and on the surface of the site (ZL/53.108?). They differ in size and, above all, in the absence or presence of a spiral disc. The specimens without a disc (184/3–6, 884/13.17–22.24–29, ZL/53) correspond to type 15, those with a disc (158/7, 524/2, 534/1?.2?, 884/14–16.30) – to type 16 in Ch. Beckmann's classification of rings.⁶³⁵ The remaining rings (158/5.6, 177/1, 258/2, 884/23, ZL/108) could not be more precisely classified due to their fragmentary state of preservation or severe deformation. Rings with a spiral disc most often functioned as pendants. Rings of type 15 mostly served as pendants or were threaded through beads. The objects in question are commonly found in central European *Barbaricum* during the Roman period⁶³⁶ and are also known from the Danube and Rhine provinces of the Roman Empire.⁶³⁷ At Wielbark culture sites, they first appear at the beginning of the younger Roman period and are found up to the early Migration period.

2.2.3.11. Other pendants (?)

From grave 41 comes a small iron object made out of two trapezoidal sheets that were joined by hammering the edges of one part over the edges of the other (41/1). I am not aware of any analogy for this artefact. In shape,

Kleszewo, grave 386.

⁶³³ K. Czarnecka 2007, 79; R. Blankenfeldt 2015, 212.

⁶³⁴ According to the anthropological determination, a man was probably buried in grave 124. However, the casket elements found in the feature indicate that it likely was a woman's grave (cf. K. Czarnecka 2007, 37–38).

⁶³⁵ Ch. Beckmann 1969, 33–34.

⁶³⁶ Ch. Beckmann 1969, 33–34; K. Czarnecka 1989.

⁶³⁷ E. Riha 1990, 42, 74; K. Pieta 2019, 273.

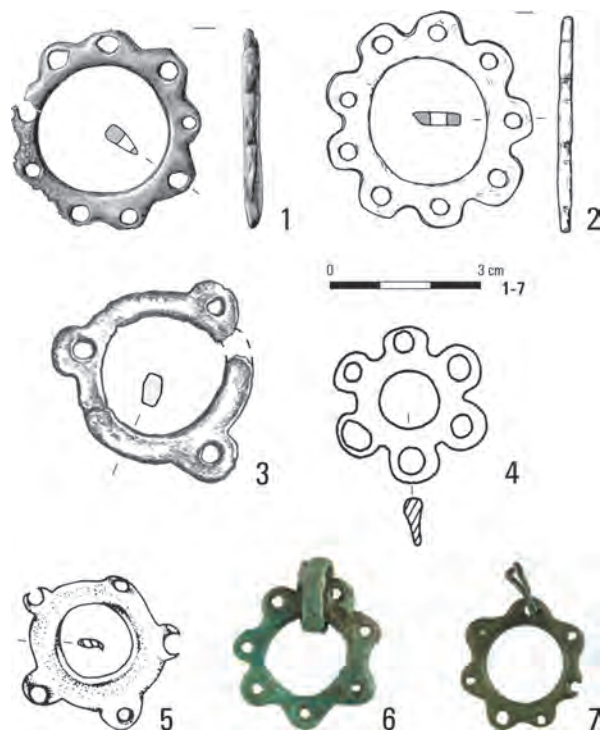


Fig. 35. Rings with perforated protrusions from the Oksywie, Wielbark and Dollkeim/Kovrovo culture areas.

1 – Kleszewo, graves 386; 2 – Weklice, feature 388;

3 – Gdańsk, site 104, grave 1; 4 – Pruszcz Gdański, site 10, grave 127A; 5 – Podwiesk, grave 214; 6 – Povarovka, unnumbered feature; 7 – Povarovka, stray find (?).

After: M. Pietrzak 1997 (4), E. Bokinić 2005 (5),

M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011 (2),

A. Ruta, A. Strobin 2015 (3), M. Woźniak 2021 (1).

Photo of the Museum für Vor- und Frühgeschichte in Berlin, Creative Commons 3.0 Licence, by-nc-sa (6.7)

it somewhat resembles a pendant from grave 172 at Błonie.⁶³⁸ The latter, however, is a one-piece specimen with a wire suspension loop, which made it easier to determine its function. The artefact from Kleszewo has no loop and no trace of its attachment. Hence, its identification as a pendant is uncertain. The object, based on the accompanying vessels of the first ceramic phase, is dated to phases I–IIa of the cemetery's use. The specimen from Błonie, discovered together with analogous pottery, can also be dated in the same way.

Grave 48, dated to phase III of the cemetery's functioning, contained an iron needle formed into a ring (48/5). The artefact may have been intentionally deformed during the burial ceremony. However, it is pos-

⁶³⁸ R. Mycińska, Z. Woźniak 1988, 89, pl. CLI/B:1.

sible that its shape results from a change in the object's utilitarian function, i.e., turning a needle into a pendant.

In two inhumation graves of the Wielbark culture (386/4, 720/3) and one cremation grave of the Przeworsk culture (413/7), rectangular sheets rolled into tubes were discovered. The specimens from the Wielbark graves were found in clusters of pendants and beads, indicating that they were necklace parts. In the case of the find from the Przeworsk culture grave, such an interpretation is less certain but also plausible.

Grave 386 yielded a hexagonal (?) plate with holes in the centre and corners (386/5). According to the excavation journal, the latter contained wire rings (presumably artefacts 386/6.7.9). The object served as a pendant, as indicated by its location among other pendants and beads found in the grave. The silver wire loop from grave 720 (720/2), recorded in the same context as the aforementioned plate, probably served the same function.

2.2.3.12. Metal decorations (?) of undetermined function

Over a dozen fragments of a presumed bronze wire ornament were found in grave 702 (702/6), dated to phase IV of the cemetery's use. It was made by twisting two wires together, which were then coiled into a "spring". Reconstructing the original shape of this object is impossible. Nor do I know of any analogy for an artefact made in this way.

A fragment of a silver ornament in the shape of a spring with two attached wires was discovered in "grave" 832 (832/1). As with the object discussed above, it is impossible to reconstruct the original shape of this artefact. In design, it most resembles filigree beads. Such decorations are most commonly found in the Wielbark culture areas and, outside Poland, in northern Germany and Scandinavia.⁶³⁹ From the Przeworsk culture area, we know of four finds of this type. Two specimens were discovered at Nadkole, site 2,⁶⁴⁰ and another two – at Łajski.⁶⁴¹ They are dated to subphases B_{2a} and B_{2b}, respectively. Small silver spirals with wires, reminiscent of the Kleszewo artefact, sometimes adorn other objects, e.g., S-shaped fasteners and pins.⁶⁴² Filigree beads and objects ornamented with similar details are dated to the early and younger Roman period, mainly phases B₂–C₁.

⁶³⁹ J. Schuster 2010, 134–139, list 12.

⁶⁴⁰ J. Andrzejowski 1998a, 43, pl. LXX/114:24.

⁶⁴¹ MSHM collection.

⁶⁴² M.J. Przybyła 2014, 7, fig. 1:1,2,4; K. Patalan 2017, 323–325, fig. 3. An S-shaped clasp with an element in the shape of a filigree bead, set in the centre of the body, is known, among others, from Wielbark culture grave 424 at Niedanowo (W. Ziemińska-Odojowa 1999a, 79, pl. CLVII/424:5).

It seems that the piece of a bronze object in the form of an open ring (118/7), found in grave 118 dated to stage Vb of the cemetery's use, may also be a pendant fragment. If this interpretation is correct, its shape would most likely resemble the crescent-shaped specimens found in two Wielbark graves at Niedanowo.⁶⁴³

It is possible that necklace components were also small rings of bronze or iron wire and iron spirals, which were found in eight graves (15/1, 101/4, 386/8.9, 413/8, 637/1, 708/6, 720/4, 832/5.9). The artefacts from graves 386 and 720 were found in clusters of beads and pendants. A similar function of the specimens from graves 101, 413, 637, 708 and 832 is suggested by the other grave goods found in these features.

In grave 104, dated to stage Vb of the cemetery's use, there was a small hemispherical "bead", profiled at the base (104/5). The function of this object is unclear. The artefact may have been used as a decoration, or it may have been part of another object, e.g., the head of a rivet or pin. The furnishings of the burial (brooches, casket elements, a spindle whorl, pottery) do not contain objects that facilitate the interpretation of the item in question.

2.2.4. GLASS BEADS AND PENDANTS

Glass decorations were found in 91 graves and as stray finds on the surface of the site. They form a large assemblage, consisting of 510 beads and around 235 bead fragments in the form of pieces of coloured or colourless glass. Nearly 490 beads have been identified with respect to their typology. Most of them are forms with numerous analogies at other sites of the Przeworsk and Wielbark cultures, repeatedly discussed in the literature on the subject, e.g., specimens of M. Tempelmann-Maczyńska's group I.⁶⁴⁴

PRZEWORSK CULTURE (PHASES I–III OF THE CEMETERY'S USE)

The largest group of the Kleszewo beads from the late pre-Roman period and the initial phase of the Roman period consists of large ring-shaped specimens (German: *Ringperlen*), which were found in four or five graves (48, 401, 614, 615, 615, 832). All are fragmentarily preserved. Most pieces (48/7–9, 401/3, 614.615/3,

⁶⁴³ W. Ziemińska-Odojowa 1999a, 37, 97, pl. XLVII/171:3, CCI/557:3.

⁶⁴⁴ M. Tempelmann-Maczyńska 1985b, 18, 166–169. Further on, typological determinations of beads that follow M. Tempelmann-Maczyńska's division are preceded by the abbreviation TM.

615/10.11) are decorated with narrow, usually spiral bands, which allows them to be assigned to T.E. Haevernick's group 23.⁶⁴⁵ Their bodies are made of colourless, green-yellow, light brown, purple or greenish glass, typical of this group of ornaments.⁶⁴⁶ Such beads were made by the people of the La Tène culture. They are frequently encountered in Czechia and Moravia, as well as in France, Germany, Austria and Switzerland, among others.⁶⁴⁷ In their native areas, they are most often dated to the late La Tène period, usually its older section.⁶⁴⁸ In Poland, outside the Celtic settlement zone, they have been discovered at several sites of the Przeworsk and Oksywie cultures, in features from phases A₂–B₁.⁶⁴⁹ The beads from Kleszewo were found in graves dated to phases IIb–III of the cemetery's use.

Two ring-shaped beads (615/9, 832/10) are ornamented with intersecting bands, which allows them to be assigned to T.E. Haevernick's group 25.⁶⁵⁰ In both cases, the decorative motifs – circumferential and transverse – are made of glass of different colours: white and brown/purple, and green and purple, respectively. Apart from colour, the main feature that differentiates these two pieces is the nature of the glass mass used to make their bodies. The bead from grave 615 is made of homogeneous brown glass. This raw material was commonly used in La Tène glassmaking.⁶⁵¹ However, brown beads of group 25 with a two-colour ornament are rare.⁶⁵² The best analogy for the Kleszewo artefact is a bead from the oppidum at Stradonice.⁶⁵³ The core of the specimen from “grave” 832 was made of many layers of opaque and transparent (?), grey-green glass. It is covered by a thin layer of yellow glass paste. Similarly made⁶⁵⁴ specimens constitute a small percentage of all the *Ringperlen*.⁶⁵⁵ Physicochemical tests have shown that their cores are made of heterogeneous glass of var-

ied composition.⁶⁵⁶ Presumably, the raw material used to make them was recycled glass. The manufacture of such beads may have been driven by economic factors, i.e., its goal was to replace homogeneous, high-quality glass with inferior, but perhaps cheaper or more easily available, “recovered” raw material,⁶⁵⁷ while maintaining the aesthetic values of the final product.

Ring-shaped beads decorated with intersecting bands, group 25, made of both homogeneous and heterogeneous glass, are characteristic primarily of the late La Tène period.⁶⁵⁸ They are found at La Tène culture sites in Moravia, Czechia, southern Germany, Switzerland and Austria.⁶⁵⁹ Several dozen specimens are known from Poland. They have been discovered at Przeworsk and Oksywie culture cemeteries, as well as at settlements of the Púchov culture and Tynec group.⁶⁶⁰ The finds from the areas of the first two groups were discovered in features from phases A₂ and A₃. The beads from Kleszewo come from graves dating to phases I–IIa (grave 832) and IIb–III (grave 615) of the cemetery's use.

The chronology of the *Ringperlen* of groups 23 and 25 from Kleszewo, most of which come from features from the developed or late section of subphase A₃ and the beginning of the Roman period, confirms the longer use of this category of ornaments in the Przeworsk culture environment than in their native areas.⁶⁶¹

Celtic imports also include two small blue glass beads discovered in the top level of graves 614 and 615 (614.615/3) and in grave 704 (704/3). Both are similar to R. Gebhard's type VIb.⁶⁶² This form is widespread in the Celtic territory and is dated to the entire La Tène period.⁶⁶³ Such beads are rare in the Przeworsk culture.⁶⁶⁴ The specimens from Kleszewo come from graves dated to phases II–III of the cemetery's use.

From “grave” 832, dated to phases I–IIa, come two small flat beads with triangular bodies (832/11.12). Both are made of transparent blue glass and decorated in the corners with spiral “eyes” made of white thread.

⁶⁴⁵ T.E. Haevernick 1960, 69–70.

⁶⁴⁶ Cf. R. Gebhard 1989, 171–173; M.A. Zepezauer 1993, 30–31.

⁶⁴⁷ T.E. Haevernick 1960, 245–257; N. Venclová 1990, 140–141; M. A. Zepezauer 1993, 99–101; M. Karwowski 2004, 42–43.

⁶⁴⁸ R. Gebhard 1989, 178; M.A. Zepezauer 1993, 96–97, fig. 8; 1997, 56, fig. 2.

⁶⁴⁹ T. Bochnak 2014, 51, fig. 17.

⁶⁵⁰ T.E. Haevernick 1960, 71; in the print version of the Catalogue, the bead was mistakenly assigned to group 23.

⁶⁵¹ R. Gebhard 1989, 168–169; M.A. Zepezauer 1993, 57–58.

⁶⁵² T.E. Haevernick 1960, 262; N. Venclová 1990, 142; M.A. Zepezauer 1993, 60.

⁶⁵³ N. Venclová 1990, 305, pl. 46:14.

⁶⁵⁴ I.e., using the overlay technique (German: Überfangtechnik – cf. R. Gebhard 1989, 173, 179).

⁶⁵⁵ R. Gebhard 1989, 173; N. Venclová, R. Kozáková, Š. Křížová 2020, 199–201.

⁶⁵⁶ Š. Křížová, N. Venclová, T. Vaculovič, V. Dilingerová 2020, 6, 10; N. Venclová, R. Kozáková, Š. Křížová 2020.

⁶⁵⁷ N. Venclová, R. Kozáková, Š. Křížová 2020, 204.

⁶⁵⁸ R. Gebhard 1989, 178; N. Venclová 1990, 142; M.-A. Zepezauer 1993, 96–97, fig. 8; 1997, 56, fig. 2.

⁶⁵⁹ T.E. Haevernick 1960, 261–263; N. Venclová 1990, 142; M.-A. Zepezauer 1993, 99–101; M. Karwowski 2004, 44.

⁶⁶⁰ M. Karwowski 1997, 59–60, 63; T. Bochnak 2014, 51, 249.

⁶⁶¹ Cf. T. Bochnak 2014, 51–52.

⁶⁶² R. Gebhard 1989, 172.

⁶⁶³ R. Gebhard 1989, 172, 177; N. Venclová 1990, 47, 49–50; 2016, 25; M. Karwowski 1997, 56; K. Dzięgielewski, T. Purowski 2011, 93.

⁶⁶⁴ T. Bochnak 2014, 53.

Beads ornamented in this way (German: *Spiralaugeperlen*) are found in the areas of the La Tène culture and beyond, therefore, it is difficult to indicate the place of their manufacture. Some researchers consider them to be Celtic items, others point to the possibility of their production in other regions.⁶⁶⁵ In central Europe, the largest number of beads with spiral “eyes” has been recorded in south-western Germany (Rhineland, Hesse) and the Alpine zone (Switzerland, southern Austria); less numerous examples come from northern Germany and Moravia.⁶⁶⁶ Specimens with triangular bodies (M.A. Zepezauer’s type II.1⁶⁶⁷ or N. Venclová’s types 412 and 413⁶⁶⁸) are recorded relatively rarely,⁶⁶⁹ while specimens with a less or more rounded or quadrangular shape predominate.⁶⁷⁰ In Poland, there are several known examples of *Spiralaugeperlen*,⁶⁷¹ including those with triangular bodies.⁶⁷² In central Europe, beads with spiral “eyes” are mainly dated to the middle and late La Tène period, with triangular specimens more often placed in the latter period.⁶⁷³ The finds from Poland come from features from phases A₂ and A₃.⁶⁷⁴

Grave 697 from phase II yielded a small bead of yellowish-greenish glass (697/1). Originally, it was most likely colourless. The current colour of the artefact seems to be secondary, probably resulting from the influence of high temperature and post-depositional processes. Small beads with rounded bodies (spherical, barrel-shaped and similar) made of colourless glass, dating to the La Tène period, are quite rare in central Europe.⁶⁷⁵ They appear there in greater numbers only during the Roman period.⁶⁷⁶ In the Black Sea zone, roughly spherical forms made of colourless glass were

present throughout the Iron Age.⁶⁷⁷ The nondescript form and wide distribution make it impossible to indicate the place where the Kleszewo artefact was made.

Grave 314, dated tentatively to phases I–IIa of the cemetery’s use, contained a melted segmented bead of dark blue, almost black glass (314/1). I know of no analogy for it among the forms from the La Tène/pre-Roman period. The most similar are beads of type TM 97 (see below) of a significantly later chronology, i.e., phases B₂/C₁–D.⁶⁷⁸ According to the excavation journal, the bead from grave 314 was buried at a depth of approx. 25 cm below the top level of the feature, which does not provide grounds for stipulating that the find came from a secondary context, e.g., due to the displacement of the artefact by a plough. Near grave 314, there are no features that could be associated with the Wielbark culture.⁶⁷⁹

Bead remains in the form of smaller or larger lumps of glass – colourless, white, yellow-green, blue, brown, violet/purple, or of undetermined colour – were recorded in 19 features from phases I–III of the cemetery’s functioning (Table 4).

I determined that two beads (500/3, 706/4) found in graves from phases I–III of the cemetery’s use were later additions. They have been discussed in more detail in the section on the Wielbark culture beads.

PRZEWORSK CULTURE

(PHASES IV–V OF THE CEMETERY’S USE)

The largest group of beads discovered in Przeworsk culture graves from the early Roman period consists of melon specimens, made of the so-called Egyptian faience (type TM 171⁶⁸⁰). They were found in three graves (132/24–29, 146/5.6, 148/2), dating to phase V (graves 146 and 148), or possibly stage Vb, of the cemetery’s functioning (grave 132), and on the surface of the site (ZL/ 106.107). All the better-preserved specimens have traces of turquoise-blue glaze on their surfaces. Type-TM 171 beads are very common in almost all of Europe.⁶⁸¹ Dominant in central European *Barbaricum*,

⁶⁶⁵ N. Venclová 1990, 67; M. Babeş 1993, 112; M.-A. Zepezauer 1993, 73; T. Bochnak 2014, 54; I. Eichfeld 2018, 36–37.

⁶⁶⁶ N. Venclová 1990, 67–68; M.-A. Zepezauer 1993, 73, map 19.

⁶⁶⁷ M.-A. Zepezauer 1993, 63–71.

⁶⁶⁸ N. Venclová 1990, 67.

⁶⁶⁹ J. Meduna 1961, 52–53, pl. 12:3–5; N. Venclová 1990, 67–68; M.-A. Zepezauer 1993, 185; A. Danielisová 2010, 58, P4/Pl. 3:6.

⁶⁷⁰ M.-A. Zepezauer 1993, 63–71.

⁶⁷¹ Recently, T. Bochnak 2014, 54.

⁶⁷² Gola, grave 14 (M. Grygiel, R. Grygiel, M. Stasiak 2019, 279–280), Kamieńczyk, grave 101 (T. Dąbrowska 1997, pl. LIV/101:5), Kleszewo, “grave” 832 (2 pcs.), Podwiesk, grave 319 (E. Bokinić 2005, 100, pl. CX/319:4).

⁶⁷³ N. Venclová 1990, 67, M.-A. Zepezauer 1993, 71–73, 96–97, fig. 8.

⁶⁷⁴ M. Karwowski 1997, 57; T. Bochnak 2014, 54.

⁶⁷⁵ Cf. R. Gebhard 1989, 171; N. Venclová 1990, 45–54; 2016, 27; M.-A. Zepezauer 1993, 74–75.

⁶⁷⁶ Cf. type TM 1 (M. Tempelmann-Mączyńska 1985b, 18, pl. 1:1).

⁶⁷⁷ Cf. E.M. Alekseeva’s type 17 (1978, 65).

⁶⁷⁸ M. Tempelmann-Mączyńska 1985b, 33–34.

⁶⁷⁹ There are no grounds to assign this grave to the Wielbark culture. The grave goods consist of numerous Przeworsk culture potsherds; unfortunately, only two of them are relevant for an attempt at dating the feature. These are fragments of vessels with thickened rim, typical of the first ceramic phase.

⁶⁸⁰ M. Tempelmann-Mączyńska 1985b, 20, 39, pl. 3:171.

⁶⁸¹ E.M. Alekseeva 1975, 33–34; M. Tempelmann-Mączyńska 1985b, 110, table 39; E. Riha 1990, 80–82; M. Erdrich, H.-U. Voß 1997, 84, fig. 9; T. Stawiarska 2007; A. Kokowski 2017; 2019, @@.

Table 4. Compilation of nondescript lumps of glass from Przeworsk culture graves.

Glass colour	Dating		
	Phases I–III	pPhases IV–V	Phases I–V
colourless	22/2, 407/4, 583/2	132/34	–
white	70/2	–	–
blue	48/10.11, 200B/8, 283/4, 614.615/6, 627/2	62/3, 132/34, 146/7, 429/7, 527/2, 702/15	409A.409B/4, 832/15
blue with white threads	–	251/1	–
yellow-green	615/13	–	–
green or greenish	306/2, 704/4, 1044D2/1	34/4, 129/3, 132/34, 146/7, 148/3, 262/4, 413/17	–
green with red and blue bands	–	132/33	–
green with a blue thread	–	493/1	–
willow-green	–	34/4	–
brown	48/12, 613/1, 615/15	–	–
violet/purple	614/2, 615/14	100/3	–
pink	–	969/7	–
red	–	132/34	–
red and (now) grey	–	516/5	–
red and green	–	702/16	–
red-green-colourless with yellow and white bands	–	–	832/16
dark with a light band	–	100/2	–
undetermined	101/8, 200B/11, 305/1, 450/1, 615/16, 637/4, 1019/4	100/4, 527/2	–

from where at least 720 examples are known, are turquoise-blue specimens; green beads are slightly less frequently recorded, while white and red ones are rare.⁶⁸² As they are so widespread, it is difficult to determine where they were made. The most frequently suggested are Middle Eastern, mainly Egyptian,⁶⁸³ centres, where the tradition of making faience items dates back to the Bronze Age.⁶⁸⁴ Moreover, several workshops operating during the Greco-Roman period, producing silica vessels, figurines and decorations, have been discovered

in the Nile region.⁶⁸⁵ The possibility that faience melon beads were also manufactured in western Europe is indicated by the discoveries made within the Roman fleet camp in Cologne.⁶⁸⁶ In the Roman state areas, the artefacts in question are found mainly with material from the 1st–2nd century CE.⁶⁸⁷ They were parts of the outfit, and sometimes - especially large specimens - decorations of the horse's harness.⁶⁸⁸ In barbarian Europe, these beads occur in features dating to phases B₁–C₂, and B₂–

⁶⁸² A. Kokowski 2017, 143; 2019, @@.

⁶⁸³ E. Riha 1990, 80.

⁶⁸⁴ P.T. Nicholson 2013, 15–20.

⁶⁸⁵ P.T. Nicholson 2013; F. Welc 2013.

⁶⁸⁶ C. Höpken 2003.

⁶⁸⁷ E. Riha 1990, 80.

⁶⁸⁸ C. Höpken 2003, 353–354.

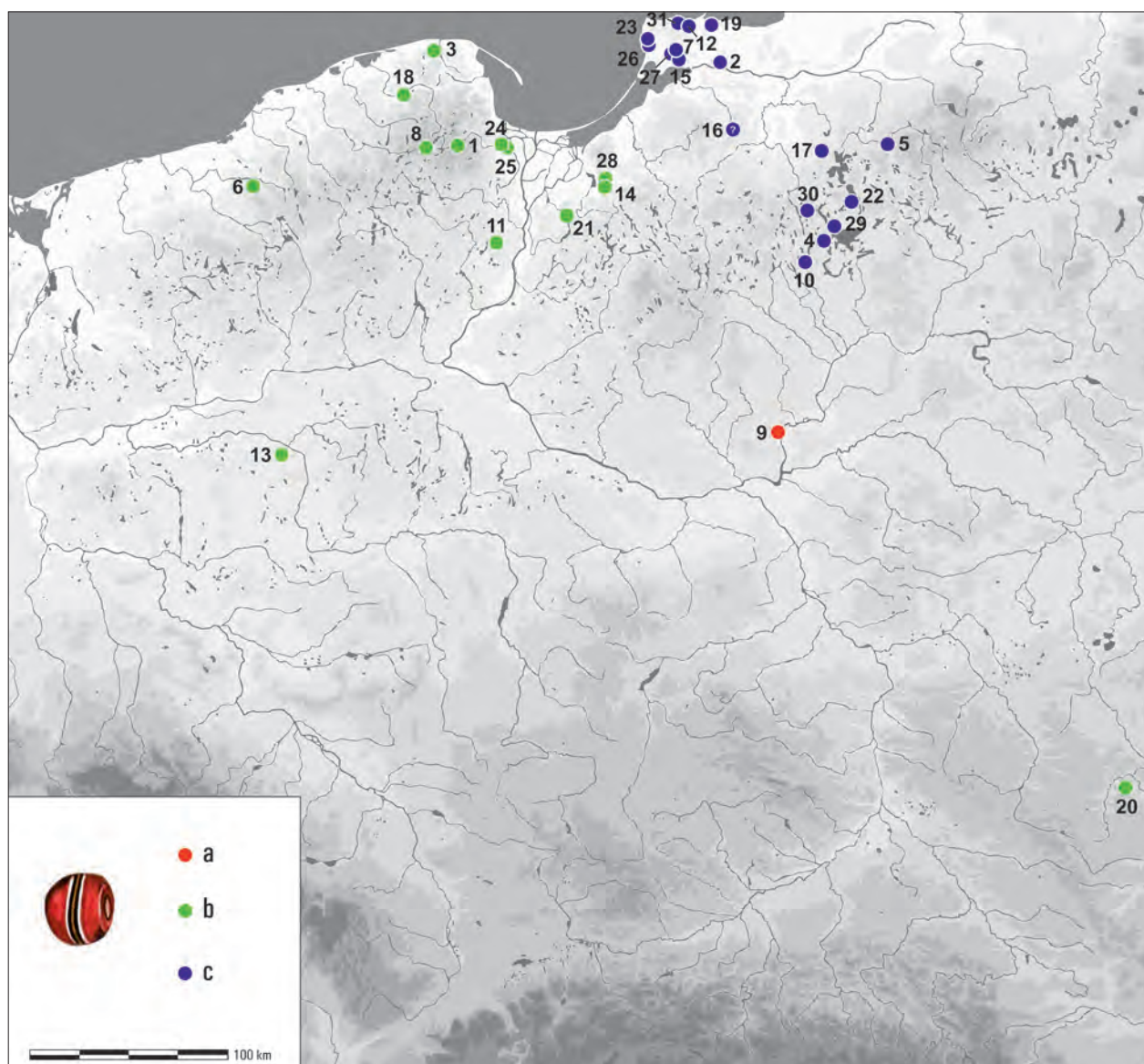


Fig. 36. Distribution of beads of types TM 287a–b in the northern part of central European *Barbaricum*.

- 1 – Kleszewo; 2 – Babi Dół-Borczy; 3 – Bolšoe Isakovo; 4 – Brzyń; 5 – Gąsior; 6 – Grunajki; 7 – Grzybnica; 8 – Hrustal'noe; 9 – Kamienica Szlachecka; 10 – Koczek; 11 – Kościelna Jania; 12 – Kovrovo; 13 – Kowalewko; 14 – Krosno; 15 – *Lehndorf*; 16 – Lejdy; 17 – Leśniewo; 18 – Lubowidz; 19 – Lugovskoe; 20 – Masłomęcz; 21 – Nowy Targ; 22 – Paprotki Kolonia; 23 – Povarovka; 24 – Pruszcz Gdański, site 7; 25 – Pruszcz Gdański, site 10; 26 – Putilovo; 27 – *Warengen*; 28 – Weklice; 29 – Woźnice; 30 – Wyszembork; 31 – Zaostrovo

C_{1a} in particular.⁶⁸⁹ The specimens from Kleszewo, like other finds from the *Barbaricum* area, were used as an element of clothing.

From graves 62 and 472 come ring-shaped (plano-spherical) beads of blue glass. One of them (472/1), made of dark glass, corresponds to subtype TM 30a, and the other one (62/2) – slightly more massive – resembles type TM 30. Similar beads are commonly re-

corded across barbarian Europe, where they are dated to almost the entire Roman period and the early Migration period.⁶⁹⁰ In northern and eastern Mazovia and Podlachia, including Kleszewo, such beads are found mainly in graves of the Wielbark culture (see below).

⁶⁸⁹ M. Tempelmann-Maczyńska 1985b, 41.

⁶⁹⁰ M. Tempelmann-Maczyńska 1985b, 18, 29, 38, table 2, pl. 1:30, 24.

Only a few specimens that can be attributed to the Przeworsk culture have been recorded in this zone.⁶⁹¹

Grave 132 contained a miniature disc-shaped bead of blue glass (132/30), type TM 46.⁶⁹² Its good condition indicates that it was not part of the necklace that decorated the deceased's body during cremation. The remaining beads and pendants discovered in the grave were melted and defragmented. The artefact in question should, therefore, be probably treated as a burial gift. Beads of type TM 46 are rare in *Barbaricum* and date to phases B₂–D.⁶⁹³ The specimen from Kleszewo is the only find of this type from the eastern zone of the Przeworsk culture. It comes from a grave dated to stage Vb of the cemetery's functioning.

In grave 413 from stage Vb of the cemetery's use, there was a small, segmented bead of blue glass, subtype TM 91b (413/15). This form is known from many sites of central European *Barbaricum*. It first appeared in phase B₂ and became popular in the younger Roman period.⁶⁹⁴ To date, there have been no similar beads recorded in the eastern zone of the Przeworsk culture.

Grave 413 also contained a small specimen of opaque red glass, decorated in the central part with circumferential, white, black and yellow bands (413/14). It corresponds to subtype TM 287b.⁶⁹⁵ In Poland, red beads with multi-coloured horizontal lines, representing various variants of type TM 287, are recorded almost exclusively in the northern part of the country, in the Wielbark and Bogaczevo culture areas; in the Przeworsk culture, such beads are very rare (Fig. 36). Most specimens come from graves dated to phases B₂–C_{1a}. Close analogies to the Kleszewo bead include the specimens from Brzyno, grave 12,⁶⁹⁶ Kowalewko, graves 34, 61, 312, 376,⁶⁹⁷ and Lubowidz, graves 12, 129, 268.⁶⁹⁸

A bead from grave 158 (158/43) was identified as type TM 290. It is made of green glass; therefore, it is closest to subtype TM 290a.⁶⁹⁹ Such beads are found sporadically. Isolated specimens are known from Po-

land⁷⁰⁰ and the Sambia Peninsula.⁷⁰¹ Those finds are dated to phase B₂, much earlier than grave 158, which is associated with phase VI of the cemetery's use. The bead in question is partly melted, which suggests that it was not part of the burial furnishings, as it was an inhumation grave. The bead probably got into the grave pit accidentally while it was being filled up. Assuming the dating of type TM 290 as the early Roman period, the bead from grave 158 should be associated with the Przeworsk culture horizon of the site's occupation.

Multi-colour lumps of glass, which are the remains of melted beads⁷⁰² whose form could not be determined, were found in 14 graves of the Przeworsk culture from phases IV–V of the cemetery's use (Table 4).

WIELBARK CULTURE

(PHASES VI–VII OF THE CEMETERY'S USE)

About 440 beads whose form could be determined were discovered in Wielbark culture graves. At least ten beads that were stray finds or were found in the fills of medieval graves should also be associated with this culture. The Wielbark culture beads constitute almost 90% of all glass decorations discovered at Kleszewo. Such a high percentage is due to the presence of inhumation graves at the cemetery, in which the remains of elaborate necklaces were recorded (e.g., grave 884 yielded over 230 glass beads).

Barrel-shaped, spherical and, sometimes, slightly cylindrical specimens of group TM I⁷⁰³ are most represented at the cemetery (Table 5). They were registered in 15 features and as stray finds, numbering 265 or 267 pieces⁷⁰⁴ in total. Most are small specimens made of transparent blue glass, type TM 18, of which there are 179 examples. They were found in six graves, with as many as 166 pieces discovered in grave 884. The second largest group consists of beads made of opaque red glass, type TM 12, with 26 examples found in five graves, including 19 specimens in grave 884. Medium-sized beads of transparent blue glass were discovered in four graves. Three are made of dark glass (subtype TM 2a), and 11–13 are made of light glass (subtype TM 2b). Type TM 20 is represented by ten small green

⁶⁹¹ E.g., Niedanowo, grave 148 (W. Ziemińska-Odojowa 1999a, 34, pl. XLII/148:5).

⁶⁹² M. Tempelmann-Mączyńska 1985b, 18, pl. 1:46.

⁶⁹³ M. Tempelmann-Mączyńska 1985b, 31, pl. 27.

⁶⁹⁴ M. Tempelmann-Mączyńska 1985b, 19, 33, pl. 2:91b, 31.

⁶⁹⁵ M. Tempelmann-Mączyńska 1985b, 21, 55, pl. 7:287b, 49.

⁶⁹⁶ A. Strobina 2021, 22, pl. XII/12:1.

⁶⁹⁷ T. Skorupka 2001, 157–159, table 10.

⁶⁹⁸ R. Wołagiewicz 1995, 14, 24, 33, pl. IV/12:10, XIX/129:3, XXIX/268:23.24.

⁶⁹⁹ Tempelmann-Mączyńska 1985b, 21, 55, pl. 7, 50.

⁷⁰⁰ Lubowidz, grave 12 (M. Tempelmann-Mączyńska 1985b, 292; R. Wołagiewicz 1995, 14, pl. IV/12:10).

⁷⁰¹ A. Chylińska-Früboes 2020, 153, pl. 397:5–10.

⁷⁰² In the case of graves 34 and 132, some lumps may also come from melted cores of banded pendants.

⁷⁰³ M. Tempelmann-Mączyńska 1985b, 18, pl. 1:1–28.

⁷⁰⁴ A double-layered bead, found in the top level of grave 597 (597/5), was omitted from the study. The analysis of the glass mass showed that it was likely a modern item (cf. Appendix 4).

Table 5. Compilation of beads of groups TM I–II from Wielbark culture graves and features

Type	Artefact no.	No. of pcs..	Type	Artefact no.	No. of pcs..
TM 1	385/4	1	TM 22	915/2	1
TM 2	386/10, 708/8–10.19? [*] 883/4–11, 884/70.71	14 or 16	TM 23	720/16–19	4
TM 3	385/5, 919/3	2	TM 30	708/13.14, 720/22, 808/4, 883/13.15, 919/5, 884/42–49	15
TM 4	386/12, 640/7	2	TM 31	884/69	1
TM 6	385/6.7, 386/13	3	TM 32	883/16, 884/93	2
TM 7	884/76.77, 919/4	3	TM 34	385/11, 916A/2	2
TM 8	386/14, 884/28.29.72–75, 916/3	8	TM 35	640/8	1
TM 9	385/9	1	TM 36	708/11.12	2
TM 10	884/86–90	5	TM 37	385/12–15	4
TM 11	158/41, 386/21.22, ZL/95	4	TM 40	385/16–18, 386/18–20, 719/1, 883/14, 884/91.92	10
TM 12	385/10, 386/11?.15–17, 883/12, 884/50–68, 916/2	25 or 26	TM 41	954/2	1
TM 13	887/4	1	TM 42	158/42	1
TM 18	619/1 ^{**} , 640/9, 641/2, 720/15, 750/2–9, 884/96–261	179	TM II (G II/16)	600/2	1
TM 19	720/20.21	2	Similar to TM 8 and 36	385/8	1
TM 20	720/5–14	10			

* Pod nr 708/19 kryją się dwa nadtopione i przywarte do siebie paciorki beczułkowate, typu TM 2, ewentualnie jeden egzemplarz segmentowy, typu TM 91 (zob. omówienie paciorków grupy TM X).

** Są to dwa okazy, stopione i złączone w jedną bryłkę.

glass beads discovered in grave 720, and type TM 8 – by eight slightly larger specimens of the same colour recovered from grave 884. Type TM 10 (opaque orange glass) is represented by five specimens from grave 884. The remaining specimens of group I, numbering from one to four pieces each, correspond to types TM 1, 3, 4, 6, 7, 9, 11, 13, 19, 22 and 23.

Group TM I is represented by a large, almost spherical bead of black glass (ZL/96). The item most resembles type TM 11,⁷⁰⁵ although it is significantly larger.

The red bead from grave 386 (386/11) from phase VI (?) of the cemetery's use has bands of black glass near the holes. In terms of morphology, it resembles type TM 12. I am not aware of direct parallels for this item.

Beads of group TM I are decorations commonly found throughout barbarian Europe during the Ro-

man period, especially in its younger section, and in the early Migration period. Almost all specimens recorded at Kleszewo find analogies at other Mazovian-Podlachian cemeteries of the Wielbark culture. Their dating is consistent with the chronology of individual types established by M. Tempelmann-Mączyńska.⁷⁰⁶

Ring-shaped (plano-spherical) beads of group TM II, numbering 41 pieces in total, were discovered in 12 graves (Table 5). Blue glass specimens of type TM 30 dominate, with 15 pieces found. The second largest group (10 pcs.) consists of specimens made of black glass, type TM 40. The remaining beads of group TM II discovered at Kleszewo (types TM 31, 32, 34–37, 41, 42) are represented by one or two copies each. Beads of group TM II are widespread throughout central

⁷⁰⁵ M. Tempelmann-Mączyńska 1985b, 19, pl. 1

⁷⁰⁶ M. Tempelmann-Mączyńska 1985b, 27–29, 166–169, pl. 21–23.

European *Barbaricum* and are likewise frequently encountered in the Wielbark culture. They date mainly to phases B₂/C₁-D.⁷⁰⁷

The small ring-shaped specimen made of transparent pink glass, discovered in grave 600 (600/2), can also be assigned to group TM II. It is closest to type II/16 in the classification of beads from the areas of the Chernyakhov culture, penned by O.V. Gopkalo.⁷⁰⁸ The Kleszewo artefact comes from a grave associated with phases VI-VII of the cemetery's functioning. The rare type G II/16 is also dated imprecisely – to no earlier than the last third of the 3rd century CE.

In a grave (385/8) from phase VI (?) of the cemetery's use, there was a small bead of green glass, similar to types TM 8 and 36. Its dating corresponds to the chronology of both these types (see above).

Group TM III (flat beads) is represented by three specimens: blue (type TM 47) from grave 708 (708/15), purple (type TM 48) from grave 883 (883/17) and red (type TM 54), discovered in grave 600 (600/1). The first two are dated to phase VII, the last one - to phases VI-VII of the cemetery's use. Beads of group TM III are found very often in the Wielbark culture areas, especially in Pomerania and Greater Poland, which is due to the sizeable percentage of inhumation graves at local cemeteries. Among them, the most common are specimens made of opaque, orange or black glass, with hundreds of recorded examples.⁷⁰⁹ The variants recorded at Kleszewo are not as frequently found, especially east of the Middle Vistula. The chronology of beads of types TM 47 and 48 in the Wielbark culture falls on phases B₂-D; specimens of type TM 54 are dated mainly to the younger Roman period.⁷¹⁰

Group TM IV is represented by three tiny biconical beads of dark blue glass, type TM 57, discovered in grave 708 (708/16-18). This form is commonly found in *Barbaricum*; many such beads have also been discovered at Wielbark culture cemeteries in Mazovia and Podlachia. Type TM 57 is dated from subphase B₂

to the early Migration period.⁷¹¹ The specimens from Kleszewo come from a grave associated with phase VII of the cemetery's use.

A biconical bead made of colourless glass (ZL/104) was found on the surface of the cemetery. It is similar to type TM 56⁷¹² and also resembles specimens of type G XII/9.⁷¹³ I am not aware of its direct analogies from the Wielbark culture areas. The few biconical beads made of colourless glass discovered there are noticeably smaller.⁷¹⁴ Dimensions similar to the Kleszewo piece (over 1 cm in diameter) are characteristic of specimens from Ukraine, e.g., Černeliv-Rus'kij, grave 117, or Kaborga IV, grave 2.⁷¹⁵ In the Chernyakhov culture territory, these artefacts are dated from the developed phase of the younger Roman period to the beginning of the Migration period.⁷¹⁶

Segmented beads of group TM X were discovered in eight graves. The most numerous specimens are made of purple glass – type TM 95 (385/19, 720/23-25), and blue glass – type TM 91 (578/5, 640/10, 676/1, 708/19?⁷¹⁷). Black glass beads, type TM 97, were found in grave 386 (386/24.25), and a green specimen of type TM 92 came from grave 918 (918/1). The segmented beads from Kleszewo find many analogies in the Wielbark culture area, where they are most often found in features from phases C_{1b}-D.⁷¹⁸ This chronology also applies to the Kleszewo specimens, which are dated to phases VI and VII of the cemetery's use.

Grave 385 from phase VII of the cemetery's use contained a segmented melon bead of purple glass (385/20). It corresponds to type TM 103. Beads of this form, of assorted colours, are found quite rarely in the *Barbaricum* area. Most of the ones I know of have been recorded in Poland, while isolated copies come from Germany and Ukraine.⁷¹⁹ The closest analogies to the specimen from Kleszewo are two beads from Niedanowo, grave 534.⁷²⁰

⁷⁰⁷ M. Tempelmann-Mączyńska 1985b, 18, 29-31, table 8, pl. 26.

⁷⁰⁸ O.V. Gopkalo 2008, 20, pl. I, map 5. Further on, beads classified following the division by O.V. Gopkalo are preceded by the abbreviation G before the type number.

⁷⁰⁹ The high number of finds is due to the fact that one grave could often yield several dozen pieces. Cf. J. Schuster 2018b, 84; A. Misteuicz, A. Maciałowicz, M. Woźniak 2021, 146-147.

⁷¹⁰ Cf. M. Tempelmann-Mączyńska 1985b, 18, 31, 171, pl. 27. The list of beads of types TM 47 found in Mazovia and Podlachia may be supplemented with the few finds from Modła, grave 146 (J. Andrzejowski 2006, 23, fig. 9:7) and Stary Szelków, stray find – information from Radosław Prochowicz (PMA).

⁷¹¹ M. Tempelmann-Mączyńska 1985b, 171, pl. 1:57, 28; T. Skorupka 2001, 156.

⁷¹² M. Tempelmann-Mączyńska 1985b, 18, pl. 1:56.

⁷¹³ O.V. Gopkalo 2008, 31, pl. II/XII:9.

⁷¹⁴ E.g., Malbork, Zagórna St, grave 6 (M. Pietrzak 1965, 165, pl. II:8).

⁷¹⁵ B.V. Magomedov 1979, 26, pl. IV:4; I.P. Gereta 2013, 50, fig. 71:8.

⁷¹⁶ O.V. Gopkalo 2008, 31.

⁷¹⁷ It cannot be ruled out that these are fused beads of type TM 2 (cf. footnote @@ in the table).

⁷¹⁸ M. Tempelmann-Mączyńska 1985b, 18, 33-35, 173, table 8, pl. 2:91.92.95.97, 31.

⁷¹⁹ M. Tempelmann-Mączyńska 1985b, 18, 33-35, 173, table 8, pl. 2:103, 31; O.V. Gopkalo 2008, 34, map 15.

⁷²⁰ W. Ziemińska-Odojowa 1999a, 93, pl. CXCIII/534:8.

Group TM XI is represented by short, rectangular beads made of opaque glass, green (type TM 105) or red (type TM 107). Specimens of the first form were discovered in grave 884 (884/262), of the second form – in graves 385 (385/21) and 884 (884/83–85). Beads of group TM XI are rare in Poland. Red glass specimens predominate among them and are known, among others, from the Wielbark cemeteries at Niedanowo, graves 518 and 534,⁷²¹ and Nura, grave 3.⁷²² A specimen from Kowalewko, grave 355,⁷²³ resembles the TM-105 bead from grave 884. Beads of group TM XI first appear in phase B₂/C₁–C_{1a}⁷²⁴ but are most common in phases C₂–D.⁷²⁵ The specimens from Kleszewo date to stage VIIa and phase VII of the cemetery's functioning.

Grave 385 from phase VII yielded three rectangular beads of green glass, type TM 115 (385/22–24). These beads are characteristic of the younger and late Roman period and the early Migration period. They are known, among others, from sites of the Przeworsk, Wielbark and Sudovian cultures, and of the Dębczyno group.⁷²⁶

Polyhedral beads were discovered in eight (?) graves (258?, 385, 597, 600, 720, 884, 919). Most of them are specimens made of blue glass, type TM 126, of which there are 12 (385/25.26, 597/6–9, 600/3–7, 919/6). Two (?) specimens (258/5?, 385/27) are made of purple glass (type TM 128). From grave 884 come one green glass bead, type TM 129 (884/78), and three red glass beads, type TM 132 (884/79–81). A black glass specimen (type TM 134) comes from grave 720 (720/31). The specimens made of transparent light brown glass (579/10) and opaque blue glass (884/82) have no equivalents in M. Tempelmann-Mączyńska's classification. The first one finds parallels among Chernyakhov specimens of type G XVII/9, and the second one – of type G XVII/11.⁷²⁷

Polyhedral beads are one of the most common "late Roman" forms recorded in the *Barbaricum* area. As is the case at Kleszewo, specimens made of transparent blue glass are the most frequent, while other colour variants and specimens made of opaque glass are less common.⁷²⁸ These beads are dated within phases B₂/

C₁–D, and most often to C_{1b}–C₂.⁷²⁹ The finds from the discussed cemetery come from phases VI and VII of the site's occupation.

Cylindrical beads of group TM XV were discovered in graves 175 (175/2) and 386 (386/23), and in a secondary context – in the fill of a medieval grave (ZL/105). That last one is made of green glass (type TM 140), the rest are white (type TM 138). Such artefacts are recorded mainly in the eastern and southern parts of central European *Barbaricum*, in features from phases C₂–D.⁷³⁰ The beads from Kleszewo are dated to phases VI (?) and VI–VII of the cemetery's use.

Found in grave 629 from phase VII were four cylindrical, spiral beads made of blue glass (629/2–5). They correspond to type TM 152. This form is sporadically found in central European *Barbaricum*. The only specimen known to me from the Polish lands – apart from the Kleszewo one – was discovered at Pruszcz Gdański, site 5, grave 23.⁷³¹ The burial, based on a comb with a bell-shaped back, can be dated to the beginning of the Migration period. Less or more similar blue glass beads are more often found in the Chernyakhov and Sântana de Mureş cultures, where they are usually dated to the end of the Roman period.⁷³²

Grooved (melon) beads were discovered in four graves (385, 386, 720, 884). Blue glass specimens, type TM 162, and those similar to types TM 162 and 163 come from grave 884 (884/30.94). Two small purple specimens of type TM 166 were found in grave 385 (385/28.29); a black bead, similar to types TM 168 and 169 comes from grave 386 (386/26).⁷³³ Two pieces made of transparent yellowish glass from grave 720 (720/29.30) are closest to type G XIV/8.⁷³⁴ Grooved beads are widespread in the central European *Barbaricum* area. Blue glass specimens are the most numerous.⁷³⁵ Beads of types TM 162, 163, 166, 168 and 169

IV, maps 19 and 20.

⁷²⁹ M. Tempelmann-Mączyńska 1985b, 19, 37–38, 174–175, table 8, pl. 2:126–134, 34.

⁷³⁰ M. Tempelmann-Mączyńska 1985b, 19, 38–39, 175, table 8, pl. 2:134, 3:140, 35; cf. also O.V. Gopkalo 2008, 24–25 (types VIII/5 and VIII/9).

⁷³¹ M. Pietrzak L. Cymek, F. Roźnowski 2015, 30, pl. XXII/23:5; cf. M. Tempelmann-Mączyńska 1985b, 19, 38, 176, table 8, pl. 3:152, 36.

⁷³² O.V. Gopkalo 2008, 32, pl. II, map 14.

⁷³³ M. Tempelmann-Mączyńska 1985b, 19–20, 39–41, tables 3, 8, 38, 39.

⁷³⁴ O.V. Gopkalo 2008, 35, pl. III, map 16.

⁷³⁵ I omit here the specimens made of the so-called Egyptian faience, type TM 171 (cf. the description of these beads in the section on Przeworsk culture beads).

⁷²¹ W. Ziemińska-Odojowa 1999a, 90, 93, pl. CLXXXVII/518:2, CXCIII/534:14.

⁷²² PMA collection, inv. no. IV/ 5772.

⁷²³ T. Skorupka 2001, 95, pl. 109/355:3d.

⁷²⁴ Cf. the footnote above.

⁷²⁵ M. Tempelmann-Mączyńska 1985b, 19, 35, 173, table 8, pl. 2:105.107, 32.

⁷²⁶ M. Tempelmann-Mączyńska 1985b, 19, 35, 173, table 8, pl. 2:115, 33.

⁷²⁷ O.V. Gopkalo 2008, 40–41, table IV.

⁷²⁸ M. Tempelmann-Mączyńska 1985b, 37–38, pl. 34; M. Erdrich, H.-U. Voß 1997, 82, fig. 7; O.V. Gopkalo 2008, 39–41, pl.

are dated within phases B₂–D, and the earliest features with beads of type G XIV/8 come from the second half of the 4th century CE.⁷³⁶ The beads from Kleszewo were found in graves associated with phase VI (grave 386) and phase VII (graves 385 and 720), possibly stage VIIa (grave 884) of the cemetery's functioning, which is consistent with the chronology of individual types.

Group TM XXI group, i.e., beads decorated with "eyes", consists of nine items, discovered in three graves and on the surface of the cemetery. The black specimen from grave 708 (708/20) was assigned to type TM 212. Subtype TM 223c (red with black and white "eyes") is represented by two specimens from grave 386 (386/27.28). Perhaps,⁷³⁷ the bead from grave 884 (884/95) was similar to them. The stray find of a black bead with red and yellow "eyes" (ZL/108) corresponds to subtype TM 224e, and four black-blue specimens with quadrangular black-and-white or white-and-navy blue "eyes" (386/29–32) correspond to subtype TM 225c.

Eye beads are a large, diverse, long-lived and widespread group of ornaments.⁷³⁸ Their particular variants are distinguished by the colour of the base glass and the traits of the ornament (colour, shape, single- or multi-layer structure). As a group, they are dated to the entire Roman period and the beginning of the Migration period. They are found in large numbers in features from phases B₂–C₁, which especially applies to beads of opaque red glass. The situation is different in the case of beads made of black glass, which are considered to be rather "late Roman" in form.⁷³⁹ The Kleszewo beads come from graves from phases VI and VII of the cemetery's use. All of them find less or more direct analogies at Wielbark culture sites.⁷⁴⁰

⁷³⁶ M. Tempelmann-Mączyńska 1985b, 19–20, 39–45, 176–177, table 8, pl. 3:162.163.168.169; O.V. Gopkalo 2008, 35–36.

⁷³⁷ The "eyes" have crumbled; it is possible that they were of one colour, which is a characteristic feature of type TM 211 (cf. M. Tempelmann-Mączyńska 1985b, 20, pl. 4:211).

⁷³⁸ M. Tempelmann-Mączyńska 1985b, 20, 48–52; pl. 44, 45; P. Ethelberg 2000, 82–83; O.V. Gopkalo 2008, 47–50.

⁷³⁹ M. Tempelmann-Mączyńska 1985b, 52.

⁷⁴⁰ E.g., type TM 212 – Cecele, grave 224 (J. Jaskanis 1996, 37, pl. XXIX/224:2); type TM 223 – Kowalewko, graves 34, 73, 76, 238 (T. Skorupka 2001, 156, table 10), Weklice, graves/features 51, 124, 184, 256, 277, 288, 384, 388, 455, 385 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 36, 49, 62, 76, 81, 83, 101, 114, 119); type TM 224 – Kowalewko, grave 293 (T. Skorupka 2001, 156, table 10), Kozłówko, stray find (M. Woźniak 2011, 181, fig. 13:5); type TM 225 – Brudnice, graves 496 and 531 (A. Szela 2013a, 114), Brzyno, grave 227 (A. Strobin 2021, 74, pl. CXVI/227:3), Kamienica Szlachecka, graves 62 and 86 (M.

Thirty beads ornamented with linear patterns (group TM XXII) were recovered from six graves (158, 385, 386, 708, 720, 884) and as stray finds (ZL/109–111). From grave 386 from phase VI (?) of the cemetery's use comes a blue bead with a circumferential white line of type TM 235 (386/5), rarely found in Poland. Its closest analogy is a specimen from the cemetery at Ciepłe, (inhumation) grave 65 discovered on 8 June 1897,⁷⁴¹ dated with an Almgren-72 brooch to phase B₂.⁷⁴² A similar artefact was found at the Balt cemetery at Równina Dolna, grave 191;⁷⁴³ it was accompanied by a brooch with a returned foot. Similar beads are recorded in greater numbers in the Black Sea areas, where they are dated to the 1st–2nd century CE.⁷⁴⁴

The black beads with a circumferential figure-of-eight-shaped pattern, type TM 266, found in graves 158 (158/39) and 386 (386/36–38), are a form commonly encountered in almost the entire area of barbarian Europe.⁷⁴⁵ They are dated within phases B₂/C₁–D, most often to subphase C₂.⁷⁴⁶ The Kleszewo specimens come from graves from phase VI.

Beads decorated with a figure-of-eight pattern and points were found in graves 158 (158/38), 386 (386/33.34)⁷⁴⁷ and 708 (708/21). They are much less common than the similar specimens of type TM 266, mentioned above. They are known, among others, from the Elbe River basin, Poland and the Black Sea zone.⁷⁴⁸ The finds from central European *Barbaricum* are usually dated to phases C₂–D, while specimens from eastern Europe are dated to the 3rd–4th century CE. The closest analogies for the black beads from graves 158 and 708 are the specimens from grave 543 at Niedanowo, dated

Tuszyńska 2020, 78), Pruszcz Gdański, site 5, grave 17 (M. Pietrzak, L. Cymek, F. Rożnowski 2015, 25, pl. XV/17:i).

⁷⁴¹ A. Schmidt 1902, 111, pl. VII:54.

⁷⁴² Cf. A. Chylińska-Früboes 2020, 237–242.

⁷⁴³ W. Nowakowski 2001b, 94.

⁷⁴⁴ Cf. type 144 acc. to E.M. Alekseeva (1978, 40, pl. 27:3.13).

⁷⁴⁵ E.M. Alekseeva 1978, 50–51, pl. 32:39–49; M. Tempelmann-Mączyńska 1985b, 21, 55, pl. 6:266, 48; I.E. Olldag 1994, @@; O.V. Gopkalo 2008, 52, pl. 3, map 26; L. Grumeza 2020, 437–438, 440, fig. 1.

⁷⁴⁶ M. Tempelmann-Mączyńska 1985b, 53, 58, table 8.

⁷⁴⁷ According to M. Tempelmann-Mączyńska (1985b, 20, 180), these beads are model examples of type TM 230, which belongs in the group of beads with "eyes". However, their decoration was made by melting the threads into the body, which is characteristic of beads of group TM XXII, i.e., those decorated with linear patterns.

⁷⁴⁸ E.M. Alekseeva 1978, 55, pl. 32:25–27; M. Tempelmann-Mączyńska 1985b, 21, 55, pl. 6:276, 48.

to phases C₃-D⁷⁴⁹. I know of no parallels for the white beads from grave 386.

Beads decorated with circumferential zigzag and, sometimes, straight lines were found in grave 158 from phase VI, grave 385 from phase VII of the cemetery's use, as stray finds and in a secondary context, in the fills of medieval graves (ZL/109-111). The black glass specimens, decorated with red and white threads, correspond to types TM 293 (ZL/111) and TM 301 (158/40). The green glass bead with yellow and brown threads is similar to type TM 293⁷⁵⁰ (ZL/109), and the light blue glass bead with yellow and red threads is similar to type TM 299. The brown example with red, yellow and white threads (385/41) belongs to type TM 303. Beads ornamented with straight and/or zigzag lines (types TM 292-303) are found across the *Barbaricum* areas, from the Weser River to the Black Sea. They are dated within phases B₂/C₁-D, mostly C_{1b}-D.⁷⁵¹ In Mazovia and Podlachia, they were discovered, among others, at Cecele, Kozłówek, Niedanowo, Modła, Szczyty-Dzięciołowo.⁷⁵²

From graves 385 (385/30-40) and 720 (720/26-28) come 14 spindle-shaped beads made of opaque red glass, with visible small, dark streaks. The specimens from Kleszewo are the model form of type TM 318.⁷⁵³ I do not know of any analogy for them from Poland, but they resemble Chernyakhov beads of type G III/2.⁷⁵⁴ O.V. Gopkalo dates them to the terminal section of the Roman period and the beginning of the Migration period. The Kleszewo specimens come from features from phase VII of the cemetery's use, so they are of similar chronology.

Type TM 324⁷⁵⁵ is represented by two cylindrical specimens with white and red zigzag bands, discovered in grave 884 (884/40.41) from stage VIIa of the cemetery's use. Their only analogy known to me is a specimen from Pruszcz Gdański, site 5, grave 19.⁷⁵⁶ It differs from the Kleszewo beads by its slightly more stocky form and

the presence of a yellow zigzag between the white and red bands. The feature from Pruszcz Gdański, based on fibulae of pattern ZG 47, can be dated to phases C₃-D.⁷⁵⁷

A bead of pale, bluish-greenish glass, decorated with uneven white lines, was found in grave 386 (386/39). It can be assigned to type TM 339. A few specimens of this type are known from the Wielbark culture area, other specimens come from the Balt sites of north-eastern Poland and western Lithuania; isolated examples have also been found in Germany. Beads of type TM 339 are dated within phases C_{1b}-D.⁷⁵⁸ The find from Kleszewo comes from a grave associated with phase VI (?) of the cemetery's use.

Grave 386 also contained specimens decorated with rosettes made in the *millefiori* technique (386/40-43). Two of them have green bodies (subtype TM 362e), the other two - white (subtype TM 362a). Type-TM 362 beads of diverse colours are commonly found throughout almost all of *Barbaricum*.⁷⁵⁹ They are also recorded in relatively large numbers in Poland, mainly at Wielbark culture sites, in features from phases C_{1b}-D.⁷⁶⁰

The same grave also contained two mosaic beads with a chequerboard pattern, type TM 366 (386/44.45). One bead has a body made of black glass and an ornament of white and red glass (386/44). The other specimen is red and is decorated with rhomboidal fields of a red and white chequerboard with a yellow and black border (386/45). Like the rosette-decorated specimens dis-

⁷⁴⁹ W. Ziemińska-Odojowa 1999a, 95, pl. CXCVI/543:10.

⁷⁵⁰ In the Catalogue, the bead was mistakenly assigned to type TM 290.

⁷⁵¹ E.M. Alekseeva 1978, 51-52, pl. 31:63.64.72; M. Tempelmann-Mączyńska 1985b, 21, 55-58, pl. 7, 8, 59; I.E. Olldag 1994, @@; O.V. Gopkalo 2008, 53-56, pl. 3, map 27.

⁷⁵² J. Jaskanis 1970, 393, pl. I:5; 1996, 28, 40, pl. XX/142:5-10; XXXII/259:1; W. Ziemińska-Odojowa 1999a, 131; J. Andrzejowski 2009, 113, 175, 183, pl. 3.35/85:4, 3.96/199:10, 3.104/213:2; M. Woźniak 2011, 171, fig. 2:5.

⁷⁵³ M. Tempelmann-Mączyńska 1985b, 21.

⁷⁵⁴ O.V. Gopkalo 2008, 22, pl. I, map 7.

⁷⁵⁵ M. Tempelmann-Mączyńska 1985b, 21, pl. 9.

⁷⁵⁶ M. Pietrzak, L. Cymek, F. Rożnowski 2015, 28, pl. XVIII/19:5, LV:2.

⁷⁵⁷ Cf. J. Andrzejowski, R. Prochowicz, T. Rakowski 2008, 47-49.

⁷⁵⁸ M. Tempelmann-Mączyńska 1985b, 22, 185, pl. 8, 9, 5.

⁷⁵⁹ E.g.: E.M. Alekseeva 1978, 42-43, pl. 49:12-18; M. Tempelmann-Mączyńska 1985b, 22, pl. 9, 54; I.E. Olldag 1994, 237; M. Erdrich, H.-U. Voß 1997, 82-85; O.V. Gopkalo 2008, 58-59, map 28, pl. VI; L. Grumeza 2018; A.A. Krasnoperov 2020.

⁷⁶⁰ The list by M. Tempelmann-Mączyńska (1985b, 186-187) can be supplemented with, among others, the specimens from: Gródek, Hrubieszów County, graves 66, 69, 105, 150 (M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 116, 118, 120, pl. A6:1), Jartypory, grave 348 (J. Andrzejowski 2023), Kuczbork-Osada, grave 17 (A. Szela 2018a, 21, pl. XI/17:15), Linowo, graves 76, 120 (M. Kurzyńska 2013, 33, 42, pl. XVIII/76:2, XXXIV/120:6), Masłomęcz, graves 125, 158, 200, 365, 368 (M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 172, 175, 178, 190, pl. A/30:1), Stary Szelków, grave 133 (R. Prochowicz 2013, 305, fig. 4:23), Swarzędów, feature 151 (M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 254, pl. 45:26), Weklice, graves 219, 248, 328, 379, 388, 478 (M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 69, 73, 90, 99, 101, 118, pl. XC/219:2, CIII/248:22.24.25.32, CXLII/328:1, CLXVIII/379:9.10, CLXXI/388:14, CCXII/478:22), Węgrowo, grave 31 (M. Kurzyńska 2013, 30, pl. XXXII:18) and Wyszembork, "vicinity of grave" 194 and a stray find (P. Szymański 2005, 45).

cussed above, beads of type TM 366 are characterised by a wide distribution and great variety of base glass and ornament colour.⁷⁶¹ The earliest beads with mosaic checkerboards date to the beginning of the Roman period, but they are encountered in greatest numbers in features from phases B₂/C₁-C₂.⁷⁶² East of the Middle Vistula, they are recorded only in the context of the Wielbark culture.⁷⁶³

From grave 600 and the fill of a medieval grave (ZL/102) come 30 flat, disc-shaped beads with a hole along the diameter. They are made of black or almost black glass. They correspond to type G XVI/4⁷⁶⁴ or A. Kokowski's pattern P-1;⁷⁶⁵ the definition of the latter is broader, as it includes beads of different colours, not only black ones. The beads from Kleszewo are also similar in shape to specimens of group TM IX.⁷⁶⁶ Beads of type G XVI/4 are very rare. The closest analogies for the Kleszewo finds are the specimens from Masłomęcz, grave 528,⁷⁶⁷ and the Chernyakhov culture cemetery at Rużičanka, grave 25.⁷⁶⁸ The first feature is dated to phase C₂, and the second – tentatively, to the developed section of the younger Roman period.⁷⁶⁹ Visually similar to the aforementioned examples are also the specimens from feature 448 at Brudnice, with a ceramic core covered with black glass. Said feature can be dated to phases C_{1b}-C₂.⁷⁷⁰ More territorially distant parallels can be found at the Sarmatian cemetery at Hunedoara Timișană in Romania.⁷⁷¹ Much more frequently recorded are beads similar in shape but made of glass of a different colour, usually blue or purple.⁷⁷² In Poland, they are most abundantly recorded in the areas of the

Masłomęcz group⁷⁷³ and Wielbark culture.⁷⁷⁴ Most are dated to the developed phase of the younger Roman period. The grave from Kleszewo is dated to phases VI–VII of the cemetery's use.

A lenticular bead of violet-pink glass found in a medieval grave (ZL/103) should also be associated with the Wielbark culture. It corresponds to type G XVI/2⁷⁷⁵ or T. Stawiarska's form F14.⁷⁷⁶ Such beads are known from several late Roman sites of the Wielbark culture.⁷⁷⁷ They are also recorded in the Masłomęcz group and at sites of the Chernyakhov and Sântana de Mureș cultures.⁷⁷⁸ In the Wielbark culture area, they are recorded in graves from phases C₁-D, most commonly C_{1b}-C₂.⁷⁷⁹

Grave 186 contained a pendant of greenish glass. It is shaped like a teardrop, with a bronze wire fragment – a remnant of a suspension loop – embedded inside the body. The artefact can be assigned to type TM 87,⁷⁸⁰ and its best analogies are found among specimens of type G XVIII/14.⁷⁸¹ Glass pendants with a metal suspension loop are rare ornaments. To date, four specimens of this type are known from the Wielbark culture areas,⁷⁸² and several more have been recorded in the territory of the Chernyakhov and Sântana de Mureș cultures, and the Elbe region. The finds from the Wielbark culture have been discovered in graves from phases C_{1b}-C₂.⁷⁸³ The

⁷⁶¹ E.g., E.M. Alekseeva 1978, 39–40, pl. 49:67.68.73–81; M. Tempelmann-Mączyńska 1985b, 22, pl. 9, 54; I.E. Olldag 1994, @@; O.V. Gopkalo 2008, 58, map 28, pl. VI.

⁷⁶² M. Tempelmann-Mączyńska 1985b, 60–61, table 8.

⁷⁶³ E.g., Brudnice, grave 352 (A. Szela 2013a, 117), Jartypany, features 226, 383 (J. Andrzejowski 2023), Pătrovičy, grave 36 (V. Belávec 2006, fig.3/V:24).

⁷⁶⁴ O.V. Gopkalo 2008, 38, pl. IV, map 18.

⁷⁶⁵ A. Kokowski 1995, 16, fig. 4a.

⁷⁶⁶ M. Tempelmann-Mączyńska 1985b, 18, pl. 2.

⁷⁶⁷ M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 199.

⁷⁶⁸ Recently, O.V. Gopkalo 2012, 346, fig. 22:5–9.

⁷⁶⁹ Cf. A. Kokowski 2003b, 245–246.

⁷⁷⁰ A. Szela 2013a, 49, 123; 2013b, pl. CCI/448:3.

⁷⁷¹ L. Grumeza 2019, 79, pl. 26:2 (type VIII/A/5).

⁷⁷² E.g., E.M. Alekseeva 1978, 68, pl. 33:20; M. Tempelmann-Mączyńska 1985b, 19, 33, pl. 2, 29; A.H. Vaday 1989, 100, fig. 20, 25:29; O.V. Gopkalo 2008, 37–38; L. Grumeza 2014, 98–99, fig. 32.

⁷⁷³ Gródek, Hrubieszów County, graves 77, 162 (A. Kokowski 1993a, 61, 112; 1993b, fig. 68:d, 136:n), Masłomęcz, graves 105, 150, 178, 346, 435, 455, 462, 465 (M. Gładysz-Juścińska, A. Kokowski, B. Niezabitowska-Wiśniewska 2021, 171, 175, 177, 189, 193, 195, 196).

⁷⁷⁴ Brulino-Piwki, grave 29 (A. Kempisty 1968, 427, fig. 51:g), Cecele, grave 553 (J. Jaskanis 1996, 75, pl. LXXV/553:2), Jartypany, features 16 and 43 (J. Andrzejowski 2023), Pătrovičy, graves 1, 30, 36 (V. Belávec 2002, 242, fig. 3:9; 2007, 322, fig. 8/36:5a, 9/30:5e).

⁷⁷⁵ O.V. Gopkalo 2008, 37–38, pl. III, map 18.

⁷⁷⁶ T. Stawiarska 1985, 42.

⁷⁷⁷ The list compiled by A. Kokowski (1995, 238, map 33) may be supplemented, among others, by the finds from Nowy Targ, feature 346 (E. Fudzińska, P. Fudziński 2013, 96, pl. LIII/346:2), Pătrovičy, grave 1 (V. Belávec 2007a, 324, fig. 7/1:4k), Jartypany, features 57C, 107, 117, 137, 149C, 158, 170, 226, 231, 264, 334, 396 (J. Andrzejowski 2023).

⁷⁷⁸ A. Kokowski 1995, 38; O.V. Gopkalo 2008, 38, map 18.

⁷⁷⁹ A. Kokowski 1995, 38.

⁷⁸⁰ Cf. M. Tempelmann-Mączyńska 1985b, 19, pl. 2, 30.

⁷⁸¹ O.V. Gopkalo 2008, 44, pl. IV, map.

⁷⁸² Cecele, grave 509 (J. Jaskanis 1996, 69, pl. LXIII/509:2 – there as type TM 83), Malbork-Wielbark, grave 524/25 (R. Schindler 1940, fig. 34), Nowy Targ, feature 419 (E. Fudzińska, P. Fudziński 2013, 114, pl. LXIX/419:1) and Kleszewo, grave 186.

⁷⁸³ E.g., Malbork-Wielbark, grave 524/25 (R. Schindler 1940, fig. 34).

feature from Kleszewo is also dated in an analogous way, i.e., to phase VI of the cemetery's use.

The beads discussed below, which come from Przeworsk culture graves (500/3, 706/4) from phases II and III of the cemetery's functioning, should most probably be associated with the Wielbark culture phase of the site's use. Both were found in the top levels of the pits, a few centimetres below the level of detection of the features. At this depth, the fills of most of the Kleszewo graves were disturbed by ploughing and, to varying degrees, mixed with the bottom level of the arable layer. Occasionally, artefacts from other damaged features were found at this level, most likely due to having been dragged there by a plough.⁷⁸⁴ It seems to me that this is how the presence in Przeworsk culture graves of the ornaments of later chronology discussed below should also be interpreted.

The first of the above-mentioned finds have been preserved in the form of a few dozen fragments of yellow, red, black and (now) green/blue mosaic glass (500/3). The state of preservation of the specimen makes the recreation of its form impossible. However, its reconstruction is possible based on a sketch of the object, which was made shortly after the artefact was removed from the grave (Fig. 37:1.2). The specimen shown in the drawing is a spherical item of about 2.5 cm in diameter, made in the *millefiori* technique. The body was composed of irregular yellow fields with a red border and black/dark grey fields with flowers with white petals and a yellow-red centre. The bead finds its closest analogies among specimens of type 2408 and, to a lesser extent, type 2411, both described by I.E. Olldag,⁷⁸⁵ or of type TM 367a⁷⁸⁶ (Fig. 37:3.4). It differs from the latter two only in the absence of a chequered ornament. Beads of all the aforementioned types are characteristic of the late Roman period and the Migration period. They are known primarily from northern European *Barbaricum*: Denmark, Sweden and northern Germany, where the tradition of using such ornaments continued into the Middle Ages.⁷⁸⁷ More than a dozen specimens have also been discovered by the Middle Rhine as well as in Poland, on the Sambian Peninsula, in the Pannonian Plain and in Crimea.⁷⁸⁸ In central European *Barbaricum*, such

⁷⁸⁴ E.g., a belt buckle with a thickened frame (ZL/40) from the Migration period was found at the level of detection of grave 1019 from the late pre-Roman period.

⁷⁸⁵ I.E. Olldag 1994, @@@@.

⁷⁸⁶ M. Tempelmann-Maczyńska 1985b, 22, pl. 12, 54.

⁷⁸⁷ A. Rau 2010a, 368–374.

⁷⁸⁸ N. Åberg 1919, 37, fig. 33; E.M. Alekseeva 1982, 44, pl. 49:35; É. Garam, A. Vaday 1990, 176, fig. 6:10; A. Rau 2010a, 368–370; A. Szela 2010, 9.

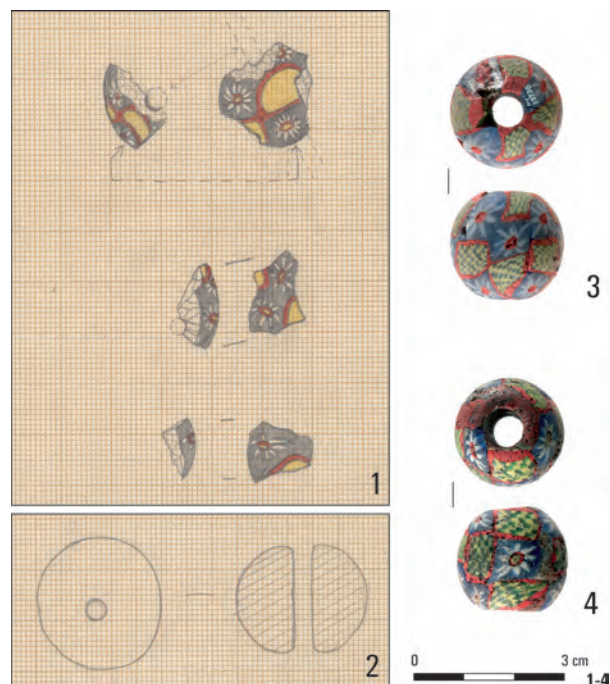


Fig. 37. Fragments of a bead from grave 500, its reconstruction and similar forms. 1.2 – Kleszewo; 3.4 – Nydam. After: A. Rau 2010b (3.4), MSHM archive (1.2).

beads were necklace elements. The finds from North European bog sites indicate that – at least in that region – they also functioned as sword scabbard decorations.⁷⁸⁹

A bead from grave 706 is a barrel-shaped specimen of opaque red glass (706/4). It corresponds to type TM 12, discussed above, and is a form recorded in abundance across central European *Barbaricum*, in features from phases B₂–D. Grave 706 is dated to the initial phase of the Roman period (phase III of the cemetery's use). In this light, the bead it contained would be one of the oldest (if not the oldest) specimens of its type discovered in central Europe.⁷⁹⁰ At Kleszewo, other beads of type TM 12 were recorded in graves of the Wielbark culture, or without a context. Among the former, some specimens are almost identical to the bead from grave 706 and are likewise characterised by slightly flattened walls. Thus, I consider it unlikely that the artefact should be attributed to the Przeworsk culture.

⁷⁸⁹ A. Rau 2010a, 368.

⁷⁹⁰ The dating of type TM 12 also to phase B₁ was based on the contents of grave 646 from Kleszewo, which also included a brooch of Almgren type 68 (M. Tempelmann-Maczyńska 1985b, 27–28). In reality, the grave dates to the Middle Ages. The artefacts from the late pre-Roman period and the Roman period that were recovered from its fill were found there in a secondary context (cf. ZL/3.8.89.94.103.116.124.126.128.342.364).

Table 6. Compilation of nondescript lumps of glass from Wielbark culture graves

Glass colour	Dating		
	Phase VI	Phase VII	Phases VI–VII
colourless	524/9	640/13, 708/22	577/1, 588/1, 601/1, 1027A/2
colourless and blue			577/2
white		883/21	
white-grey		917/7	
blue		578/6, 597/12, 640/12, 641/3, 708/22, 883/22, 884/263, 919/7	185/2, 534/8, 693/2
blue and burgundy	150/10		
blue with white, yellow, red and willow-green pattern			ZL/112
yellow		884/265	
green or greenish	150/11	640/11, 708/22, 950/2	362/3, 693/3, 703/2
turquoise	150/9		
violet/purple		884/265	
violet and red		883/20	
pink	808/5	884/264	
red		883/19.23	
red and green		883/18	
red, green and blue		411/4	
black			719/2
undetermined	150/12, 356/4, 386/92, 524/9	385/40	263/2, 1027A-B/1

Small lumps of colourless or coloured glass, most likely from melted beads, were found in over a dozen Wielbark culture graves (Table 6).

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It was not possible to determine the cultural attribution of the beads and their remains summarised in Table

7.⁷⁹¹ These artefacts were found in graves 149, 164 and 680, on the surface of the site or in a secondary context, in the fills of medieval graves. In terms of typology, the specimens that could be classified represent different types of groups TM I and II: TM 2a (ZL/93), TM 9 and 12 (ZL/94), TM 24 (ZL/95), TM 30b (ZL/98), a form resembling TM types 18 and 30 (ZL/99) and an

⁷⁹¹ Some of the lumps of colourless, yellowish and yellow-green glass may come from melted fragments of glass vessels.

unspecified bead of group TM II (ZL/97). Most likely came from disturbed graves of the Wielbark culture. However, due to the broad chronology of particular types, it cannot be ruled out that some were originally deposited in Przeworsk culture graves.

2.2.5. AMBER BEADS AND PENDANTS

Amber beads were found in 13 inhumation graves of the Wielbark culture (158, 179, 186, 280, 385, 386, 621, 750, 808, 884, 887, 916, 917).⁷⁹² Their number varied from feature to feature, usually ranging from 1 to 14 specimens, except for graves 158 and 386, where 30 and 46 specimens were discovered, respectively.

The most common amber pendants from Kleszewo are figure-of-eight-shaped specimens, of which there are 82 examples (158/9–37, 179/1–3, 186/4.5, 280/4–12, 385/47, 386/69–91, 621/3–16, 884/31). The assemblage comprises pieces with differently shaped heads and less or more rotund bodies. Based on the form of the head, they can be divided into three variants. The first one, represented by the specimen from grave 386, has a spherical head that is weakly distinguished from the body (386/69). It corresponds to type TM 465. The second variant comprises specimens with approximately hemispherical heads, with an opening at the base (158/9–21, 280/4–12, 386/69–91, 621/3–16); they resemble subtypes d, f and g of type TM 471. The third group consist of specimens whose heads are profiled with a circumferential groove (158/22–37, 179/1–3, 186/4.5, 385/47), with a hole drilled in it. This form has no direct analogies among the variants of type TM 471. The last of the figure-of-eight pendants from Kleszewo is a specimen from grave 884 (884/31). It has a small, flat head and a tall, perforated neck; it corresponds to subtype TM 471m. The figure-of-eight pendants from Kleszewo measure between 0.9 and 2.6 cm (usually about 1.5 cm) in height. In two cases (386/70.71), traces of their repair were observed, i.e., due to the destruction of the head, a new hole was drilled in the neck.

Figure-of-eight pendants are found in almost all of barbarian Europe.⁷⁹³ In the Wielbark culture, the old-

⁷⁹² In the Polish print version of the Catalogue, in the description of grave 600, there is incorrect information about the presence in the grave of a cluster of glass and amber beads; in fact, all the beads from this feature are made of glass (cf. grave inventory).

⁷⁹³ M. Tempelmann-Mączyńska 1985b, 81–86, 193–194, pl. 70; A. Reszczyńska 1998, 105–116; A.V. Mastykova 1999; O.V. Gopkalo 2008, 71, map 32; A. Cieśliński 2009, 201–204; B. Lind 2010, 189–190; A. Bliujienė 2011, 113–120; M.J. Przybyła, E. Rydzewska 2019, 167, fig. 9; A.A. Krasnoperov 2021. The count of six sites with figure-of-eight pendants from the Wielbark culture

Table 7. Compilation of fragments of melted glass objects (beads?) of undetermined cultural attribution

Glass colour	Artefact no.
colourless	ZL/122.126.127
yellowish	ZL/125.126
yellow-green	ZL/113
green or greenish	680/1, ZL/123.124
green-yellow, black and yellow	ZL/121
turquoise	149/2, 164/2
red, green and blue	ZL/120
black with light streaks	ZL/119
undetermined	ZL/116.129

est specimen comes from subphase B_{2b}, but they are most often found in features from phases C_{1b}–D.⁷⁹⁴ The specimens from Kleszewo were found in graves from phases VI and VII of the cemetery's use.

The second group, in terms of quantity, are disc-shaped beads. Among them, specimens with diameters in the range of 0.7–1.2 cm, assigned to type TM 388, are the most common, with 22 examples found at Kleszewo (386/46–64, 808/3, 884/27, 887/3). Most of them (19 pcs.) came from grave 386. The specimens from graves 158 and 917, measuring 1.7 cm and 2.8 cm in diameter (158/8, 917/4), are of type TM 389. A bead from grave 884, with a biconical body, corresponds to type TM 391. Beads of types TM 388–391 are among the most common amber ornaments in the Wielbark

areas to the east of the Middle Vistula, mentioned in the listed publications, is too low. Such beads have been found there at the majority of cemeteries with inhumation burials. The list of finds can be supplemented with, among others, the specimens from Brudnice, graves 318, 352, 381, 448, 496 (A. Szela 2013a, 125), Dąbek, site 9, grave 3 (A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 148), Jartypory, grave 49 (J. Andrzejowski, K. Stanek 2007, 238, fig. 4:5), Modła, graves 122, 225 (J. Andrzejowski 2006, 23, fig. 5:13.14; 2009, 190), Pátrovičy, graves 1, 13, 36 (V.G. Belávec 2007a, 314, 322, fig. 6/13:7–14, 8/36:6g), Stary Szelków, grave 131 (information from Radosław Prochowicz, PMA).

⁷⁹⁴ M. Tempelmann-Mączyńska 1985b, 83–86; A. Cieśliński 2010, 86.

culture. Their chronology covers almost the entire Roman period and the early part of the Migration period.⁷⁹⁵ Analogous artefacts are also commonly found in other areas of *Barbaricum*.⁷⁹⁶

Fourteen pendants with roughly geometric bodies were found in four graves (280, 385, 750, 884). In general, they can be assigned to group TM XL.⁷⁹⁷ Seven specimens are small and flat, with roughly trapezoidal or cuboidal bodies; they were found in grave 750 (750/10–16). A similar specimen, profiled in the lower part with a circumferential groove, comes from grave 884 (884/32). All of them resemble different variants of type TM 414. Four specimens with elongated, somewhat conical or cylindrical shapes, from graves 280 (280/1-3) and 385 (385/44), find parallels among artefacts assigned to different variants of type TM 416, and the pendants of irregular shape from grave 385 (385/45.46) – among specimens of type TM 419. Pendants with an elongated, roughly geometric form are frequently found in the Wielbark culture areas, as well as in other regions.⁷⁹⁸ They are dated from subphase B₂ to the early Migration period.⁷⁹⁹

Three disc-shaped beads with cylindrical sides were classified as type TM 399. The two larger ones, with diameters of 2.1 and 2.4 cm, were found in grave 385 (385/42.43), while a small specimen with a diameter of 0.7 cm came from grave 386 (386/65). Such beads are encountered somewhat less frequently than the above-discussed specimens of types TM 388–391 and are known from Scandinavia, sites of the Wielbark culture and Dębczyno group in Pomerania, as well as from the areas of Balt settlement.⁸⁰⁰ Several specimens similar to those from Kleszewo, were found in the amber workshops of the Przeworsk culture at Świlcza.⁸⁰¹ However, I do not know of analogous artefacts from the Wielbark

culture areas to the east of the Middle Vistula. Type TM 399 is dated within phases B₂–D.⁸⁰²

Three hemispherical specimens from grave 386 correspond to type TM 400 (386/66–68). This form is characteristic of the southern and eastern Baltic zone.⁸⁰³ In addition, they are found, for example, in Scandinavia,⁸⁰⁴ at Wielbark culture sites in Chełmno Land⁸⁰⁵ and Mazovia,⁸⁰⁶ and in the Chernyakhov culture.⁸⁰⁷ The chronology of type-TM 400 beads in the Wielbark culture extends from phase B₂ to phase D.⁸⁰⁸

Three polyhedral beads from grave 884 represent type TM 405 (884/33–35). Scarce specimens of this type are scattered throughout almost all of central European *Barbaricum*.⁸⁰⁹ They are dated within phases C–D. Apart from the Kleszewo specimen, only one such item is known to me from the Wielbark culture areas east of the Middle Vistula, which was found at the cemetery at Nura, grave 3.⁸¹⁰

An equally rare find in Mazovia and Podlachia is the cuboid bead, type TM 407, discovered in grave 884 (884/36). A similar specimen, with slightly convex walls, comes from Drohiczyń, pit 1.⁸¹¹ Isolated specimens of a similar shape have been recorded in other settlement zones of the Wielbark culture, as well as in the Przeworsk and Chernyakhov culture territories and the areas inhabited by the Balts.⁸¹²

Four beads from grave 884 are specimens with visible lathe marks. One (884/26) is disc-shaped (type TM 430), two (884/24.25) are barrel-shaped (type TM 431), and the last one (884/38) is cylindrical, with convex walls (type TM 438). Beads of all these types are known from several sites of the Wielbark culture, including in Mazovia and Podlachia, and their neighbouring groupings, e.g., the Dębczyno group, West Balt circle, the Chernyakhov and Sântana de Mureş cultures.

⁷⁹⁵ M. Tempelmann-Mączyńska 1985b, 65–67, pl. 58, 59; A. Reszczyńska 1998, 105–116.

⁷⁹⁶ M. Tempelmann-Mączyńska 1985b, 65–67, pl. 58, 59; U. Lund Hansen 1995, 217; O.V. Gopkalo 2008, 68–69, map 31; B. Lind 2010, 187; L. Boye, U. Lund Hansen 2013, 61.

⁷⁹⁷ In the Polish print version of the Catalogue (M. Woźniak 2021, 148), the artefacts from grave 750 were mistakenly assigned to group XXXIX.

⁷⁹⁸ M. Tempelmann-Mączyńska 1985b, 72–73, pl. 65, 66; A. Reszczyńska 1998, 105–116; O.V. Gopkalo 2008, 70, map 31; B. Lind 2010, 189, fig. 4:66.

⁷⁹⁹ M. Tempelmann-Mączyńska 1985b, 72–73, table 8.

⁸⁰⁰ M. Tempelmann-Mączyńska 1985b, 68; P. Ethelberg 2000, 74–75, fig. 63; A. Bliujienė 2011, 95.

⁸⁰¹ Cf. group 1a described by A. Gruszczńska (1999, 184, fig. 10, 11:31–42).

⁸⁰² M. Tempelmann-Mączyńska 1985b, 73, table 8.

⁸⁰³ M. Tempelmann-Mączyńska 1985b, 68–69, pl. 63; A. Bitner-Wróblewska 2007, 65–66; A. Bliujienė 2011, 147.

⁸⁰⁴ P. Ethelberg 2000, 74–75, fig. 63; B. Lind 2010, 188.

⁸⁰⁵ E.g., Linowo, features 69A, 148, 155, 164, 219 (M. Kurzyńska 2015, 83–84).

⁸⁰⁶ E.g., Brudnice, grave 282 (A. Szela 2013a, 124), Modła, grave 129 (J. Andrzejowski 2006, 23, fig. 6:4), Niedanowo, grave 325 (W. Ziemińska-Odojowa 1999a, 64, pl. CXIX/325:2–4).

⁸⁰⁷ O.V. Gopkalo 2008, 69, map 31.

⁸⁰⁸ M. Tempelmann-Mączyńska 1985b, 68–69.

⁸⁰⁹ M. Tempelmann-Mączyńska 1985b, 70, pl. 64; O.V. Gopkalo 2008, 70, map 31.

⁸¹⁰ M. Tempelmann-Mączyńska 1985b, 191.

⁸¹¹ Z. Szmit 1921, 64, fig. 38.

⁸¹² M. Tempelmann-Mączyńska 1985b, 70–71, pl. 65; O.V. Gopkalo 2008, 70, map 31; A. Bliujienė 2011, 224.

They are dated to the younger and late Roman period and phase D.⁸¹³

The last two specimens, of undetermined typology, were found in graves 884 and 916. The first one (884/37) has a rounded, slightly flattened body. The second bead is roughly disc-shaped (916/4), which brings it closer to specimens of group TM XXX.

The Kleszewo cemetery is one of the richest sites of the Wielbark culture in Mazovia and Podlachia in terms of amber objects (Table 8). An item made of this raw material was found in every other inhumation grave.⁸¹⁴ This does not seem to be a coincidence. The site is located in the vicinity of a zone (Kurpiowska Plain and vicinity) rich in amber deposits.⁸¹⁵ This raw material was until recently obtained there by simple methods, which was possible due to its easily accessible, shallow deposits. The methods of its extraction in modern times have been described in quite some detail by A. Chętnik.⁸¹⁶ The method was primitive enough not to require, apart from the knowledge of the deposit location, any specialist preparation or complicated tools. It is unlikely that this raw material would not have been extracted there in antiquity.

2.2.4. STONE BEADS

Beads made of stone were found in four Wielbark culture graves (150, 524, 708, 954), as stray finds and in a secondary context, in the fill of medieval graves (ZL/130–134).

A plano-spherical specimen of type TM 494 came from grave 150 (150/3) from phase VI of the cemetery's use. Similarly dated is the cuboid bead of type 500 from grave 524 (524/4). The polyhedral specimens of type TM 499 from graves 708 (708/24–31) and 954 (954/1) are associated with phase VII. The beads of the same type – stray finds and recovered from medieval graves (ZL/130–134) – also likely date to this time section.

⁸¹³ M. Tempelmann-Mączyńska 1985b, 70–71, pl. 65; O.V. Gopkalo 2008, 69, map 31; A. Bliujienė 2011, 96, 147.

⁸¹⁴ This percentage is likely overestimated to some extent. Due to the presence at the site of multiple pits from the Bronze Age, whose outlines and fill colours resembled inhumation graves, only features with human remains and/or Roman period artefacts were interpreted as skeletal burials. Excavations at other Mazovian-Podlachian cemeteries of the Wielbark culture show that inhumation graves without grave goods and preserved human remains constitute a significant percentage of all such burials.

⁸¹⁵ A. Chętnik 1952, 365–366; A. Małka 2010, 502–504, with earlier literature.

⁸¹⁶ A. Chętnik 1952, 360–363, 376–384.

Table 8. Percentage of inhumation graves with amber objects at Mazovian-Podlachian cemeteries of the Wielbark culture*.

Site	Inhumation graves with amber objects
Kleszewo	56,5% (13/23)
Brulino-Piwki	30,7% (4/13)
Pátrovičy	29,6% (16/54)
Brudnice	28,1% (9/32)
Stary Szelków	20,0% (16/80)
Cecele	14,7% (9/61)
Modła	13,0% (3/23)

*Included are sites with ten and more inhumation graves (cultural attribution of some of them is uncertain). Based on A. Kempisty 1968, J. Jaskanis 1996, J. Andrzejowski 2009, A. Szela 2013, and information obtained from Dr V. Belávec (WA UW) and R. Prochowicz (PMA).

Most stone beads from Kleszewo are burnt, and white, white-grey or grey in colour.

Stone beads are found in Poland less frequently than specimens made of glass or amber.⁸¹⁷ Most of the beads discovered in the Wielbark culture area come from sites located east of the Middle Vistula River. These are mainly specimens made of different types of chalcedony. Among them, the most numerous are polyhedral beads, type TM 499, recorded there from subphase C₁ onwards but characteristic mainly of phases C₃–D.⁸¹⁸ Other forms are found there sporadically, e.g., beads analogous to the artefacts from graves 150 and 524 were found at the Podlachian cemeteries at Szczyty-Dzięciołowo and Cecele.⁸¹⁹ Polygonal beads of types TM 499 and TM 500, made of semi-precious stones, mainly carnelian, found in the Wielbark culture area are probably imports from the Chernyakhov culture territory,⁸²⁰ where such ornaments are commonly encountered.⁸²¹ It is not possible to indicate the place of

⁸¹⁷ M. Tempelmann-Mączyńska 1985b, 88–90, pl. 77; cf. also R. Prochowicz 2013, 310, fig. 5.

⁸¹⁸ Recently, R. Prochowicz 2013, 312.

⁸¹⁹ J. Jaskanis 1970, 393–394, pl. I:6.8; 1996, 54, 56, pl. XLVI/393:2, L/403:22.23.

⁸²⁰ Cf. R. Prochowicz 2013, 312.

⁸²¹ O.V. Gopkalo 2008, 73–76, 82, tables 2, 5, map 34.

manufacture of the plano-spherical specimen from grave 150.

2.2.5. BONE PENDANT

From grave 100 comes a drilled-through talon of a bird of the family Accipitridae, which was probably used as a pendant (100/1). The feature is dated within phases IV–V of the cemetery's use. Several such decorations are known from the Przeworsk culture area. In terms of territory, the closest analogy is a specimen from Brudnice, grave 20, made from a talon of an eagle.⁸²² Pendants made from talons of birds of prey of undetermined species are also known from Kraśnik-Piaski, grave 60,⁸²³ and Starachowice, grave IV,⁸²⁴ perhaps also Chorula, grave 153.⁸²⁵ All these features, on the basis of their grave goods (Kraśnik-Piaski, Starachowice, Chorula) or results of anthropological analyses (Kleszewo, Brudnice), can be identified as female burials. They are usually dated to phases B₂–C₁.

2.3. TOOLS AND UTENSILS

2.3.1. SEWING NEEDLES

Sewing needles, numbering 24 to 31,⁸²⁶ were found in 21 to 28 graves and as stray finds. One of them is made of bone, the others are iron or bronze. Three copies were found in grave 357, and one each in the remaining features. The length of the completely preserved specimens is 5–16 cm, usually 10–11 cm.

The needle from grave 413 (413/12), dated to stage Vb of the cemetery's use, was made of a bone of a large mammal – cattle or horse. Its head was worked from the top. The eye is hourglass-shaped, which indicates that it was drilled from both sides, e.g., with the tip of a knife. The item seems quite common, but as a grave find it is unique. Of over a hundred needles discovered at large Mazovian-Podlachian cemeteries of the Przeworsk culture at Brudnice, Kamieńczyk, Nadkole site

2, Niedanowo, Modła and Oblin, none of them were made of bone.⁸²⁷

The dating of the needles discovered at the cemetery is illustrated in Table 9. Most (19 pieces) come from features from the late pre-Roman period and the beginning of the Roman period. They are all made of iron. The most common are the needles of T. Dąbrowska's type II,⁸²⁸ which includes specimens with a hole made with a punch. There were also three needles of type I, i.e., with an eye in the form of a loop created by hammering the needle head to the shaft (20/2, 704/1,⁸²⁹ ZL/59). Type-I needles are characteristic of the late pre-Roman period; in Mazovia, they are no longer found in features from the developed section of phase B₁ and younger. Type-II specimens were common also during the Roman period.⁸³⁰

Six or seven⁸³¹ specimens were found in early Roman graves of the Przeworsk culture (Table 9). Five of them are iron, two are bronze. Two iron specimens represent type II, the rest could not be classified due to their poor state of preservation.

Three needles were recorded in Wielbark culture graves (Table 9). They are all made of bronze. The eyes were made with a punch (type II). The specimen from grave 887 has shallow, elongated grooves on both sides of the head.⁸³² They are found relatively often on needles from the Roman period, but the function of these grooves is unknown.⁸³³

2.3.2. SO-CALLED AWLS

So-called awls were found in 22 graves (1/1961/6, 20/4, 51/3.4, 59/2, 200B/5, 203/2, 245/3, 357/8, 409A.409B/1, 413/10, 476/2, 518/3, 521B/3, 591/1, 655/3?, 657/3, 702/9?, 798/2, 1019/4, 1024B/3, 1025/4?, 1026A/4) and as stray finds, on the surface of the site (ZL/58). These are objects in the form of a long, usually spindle-shaped rod, with a circular cross-section on one side and a quadrangular cross-section on the other; less often, the cross-section is only quadrangular, and in exceptional cases – only circular. In several cases (e.g.

⁸²² A. Szela 2021, 28, 81, pl. XV/20:9.

⁸²³ Z. Wichrowski 2000, 100, fig. 4:9.

⁸²⁴ R. Jamka 1959, 39, fig. 11:g; J. Andrzejowski 2004, 331

⁸²⁵ J. Szydlowski 1964, 118, 188, fig. 126:6.

⁸²⁶ This assemblage also includes the fragments of rods of round cross-section measuring over 4 cm in length that were found in graves 113, 117, 132, 200A, 593, 657, 702. In terms of their function, categorising these objects as needles is uncertain, especially in the case of the bronze specimens from graves 132 and 200A.

⁸²⁷ Cf. T. Dąbrowska 1997, 97; J. Andrzejowski 1998a, 78; 2009, *passim*; W. Ziemińska-Odojowa 1999a, 118; K. Czarnecka 2007, 91; A. Szela 2021, 88.

⁸²⁸ T. Dąbrowska 1997, 97.

⁸²⁹ In the Catalogue, mistakenly as type II.

⁸³⁰ Cf. T. Dąbrowska 1997, 97; K. Czarnecka 2007, 91.

⁸³¹ The attribution of grave 244 to the Przeworsk culture is uncertain.

⁸³² Cf. "pins" of B. Beckmann's type 2 and 3 (1966, 15, pl. I:2.3).

⁸³³ E.g., J. Andrzejowski, A. Żórawska 2002, 48; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 155.

Table 9. Dating and typological identification of bronze and iron needles from Kleszewo. The bolded font depicts bronze needles, the asterisk (*) – fragmentarily preserved specimens, whose functional classification is uncertain.

Dating	Type		
	I	II	Undetermined
I-III	20/2, 704/1	1/1961/5, 48/5, 68/4, 91/3, 245/4, 357/5-7	113/2*, 117/3*, 224/6, 593/1*, 615/8, 657/4*, 1024B/4, 1024C/3
III-IV		338/1	
IV-V		525B/3	132/37*, 200A/3*, 244/2*, 339/2, 702/8*
VI-VII		534/3, 884/9?, 887/2	
undetermined	ZL/59		ZL/60

51/3, 409A, 409B/1), the side edges of the quadrangular part are transversely notched. The length of the completely preserved specimens ranges from 6.4 cm to 22 cm. All specimens can be attributed to the Przeworsk culture. Most were found in graves from the late pre-Roman period (Chart 1).

The function of these objects has long been discussed in the literature.⁸³⁴ Most often, they are interpreted as awls or needle-shaped fire strikers; they are less often assigned a different role, e.g., burins. No fire-flints were found in any of the Kleszewo graves, so I assume that the tools in question are not fire strikers. The same is indicated by the specificity of the cemetery. Starting from phase II of the site, graves contained no objects considered to be archaeological markers of male burials (see below), and fire-starting tools are considered to be such.⁸³⁵

2.3.3. HOOKED PINS

From Kleszewo come 16 hooked pins (13/2, 20/3, 158/44, 184/7, 224/5, 331/1, 413/11, 516/3, 695/1, 855/1?, 860/4, 883/2, 969/3, 1024A/3, 1024C/2, ZL/61). The specimens from Przeworsk culture graves and stray finds are made of iron, while the specimens discovered in Wielbark culture features are bronze. They measure from 3.1 cm to 5.8 cm in length. Seven of them – three bronze (184/7, 695/1, 883/2) and four iron (331/1, 855/1?, 969/3, ZL/61) ones – have spirally twisted shafts; the shafts of the remaining pieces are

⁸³⁴ J. Ilkjær 1993, 265; M. Grygiel, R. Grygiel, W. Stasiak 2019, 285–286; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 154–155.

⁸³⁵ K. Czarnecka 1990, 43.

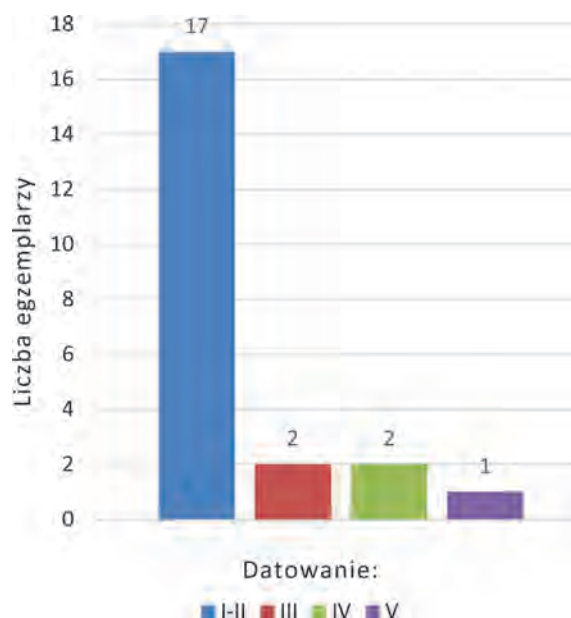


Chart 1. Frequency of occurrence of awls in particular phases of the cemetery's functioning

smooth. Hooked pins are commonly found at sites of the Przeworsk and Wielbark cultures.⁸³⁶ At cemeteries, they are most often (but not exclusively) recorded in women's graves.⁸³⁷ They are usually interpreted as part of a spindle.⁸³⁸ At Kleszewo, in a context confirming

⁸³⁶ J. Andrzejowski 1998a, 80–81; J. Maik 2012, 57–58; W. Stącel 2021.

⁸³⁷ K. Skóra 2015, 90, table 27; W. Stącel 2021, 121, fig. 19.

⁸³⁸ J. Andrzejowski 1998a, 80–81; J. Maik 2012, 57–59; W. Stącel 2021; in this last work, examples of other interpretations of the objects in question.

this hypothesis, a hooked pin was discovered in an inhumation grave of the Wielbark culture (grave 158). It was stuck in a piece of wood. Its distance from a spindle whorl indicates that the spindle was over 10 cm long. In addition to the above, pins together with spindle whorls were found at Kleszewo four more times, all in cremation graves of the Przeworsk culture (graves 224, 413, 860, 1024C).

2.3.4. CRESCENT-SHAPED KNIVES

Crescent-shaped knives were found in 13–16 Przeworsk culture graves (48/6, 91/5?, 117/4, 187/1, 245/2, 353/2?, 357/4, 500/2, 583/1, 596A /1, 711/3, 717/1?, 1024B/2, 1025/2, 1026A/3, 1035/2) and in a secondary context – in the fills of Wielbark culture inhumation graves (917/9) or medieval burials (ZL /77). Some of them are residually preserved; consequently, their functional classification is uncertain. It cannot be ruled out that some of them were used as razors. This remark mostly applies to the specimens with a flat and straight tang on which a handle made of organic materials was mounted.⁸³⁹ These objects, unlike the “ordinary” crescent-shaped knives, are quite often found in men’s graves.⁸⁴⁰ At Kleszewo, starting from phase II of the cemetery’s use – and this is how most of the artefacts in question are dated – we no longer record items seen as archaeological markers of men’s graves, such as tools, weapons, etc. Therefore, I interpret all knives with a curved blade discovered at the cemetery as crescent-shaped knives.

Five specimens with a straight or almost straight grip of rectangular cross-section (596A/1, 711/3, 1025/2, 1026A/3, 1035/2) can be assigned to type Ia.⁸⁴¹ The grips of specimens from graves 711, 1026B and 1035 expand into a trapezoidal shape towards a downward bent terminal; in the remaining specimens, this part of the grip has not been preserved. The grip of the knife from grave 711 has small incisions on the edges and transverse grooves near the blade. The grip of the knife from grave 1035 is decorated with transverse grooves and a parallel row of circles. The specimens from graves 48 and 583, with straight, spirally twisted grips (48/6, 583/1), can be assigned to type Ib. The second one, better preserved, has a looped terminal.

Type II, with a curved grip, is represented by the specimens from graves 117 and 500. The first of them, less profiled (type IIa), has a flat, semi-circular terminal (117/4). The second exemplar has a strongly arched,

⁸³⁹ K. Czarnecka 2007, 89; T. Dąbrowska 2008, 62.

⁸⁴⁰ T. Liana 1970, 449; K. Czarnecka 1990, 64; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 153.

⁸⁴¹ Classification of knives after J. Kostrzewski 1919a, 153–158.

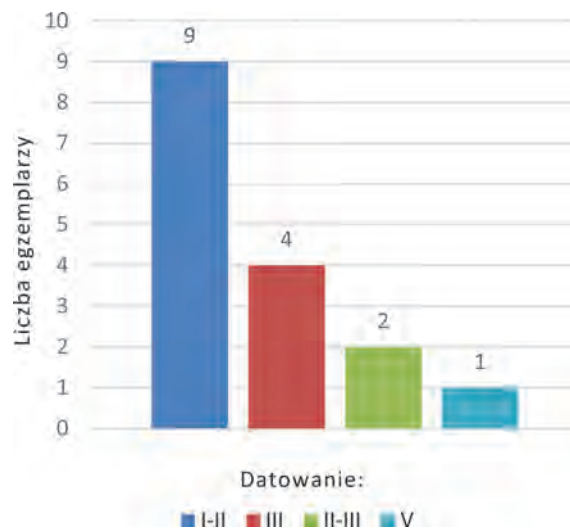


Chart 2. Dating of the crescent-shaped knives from the Kleszewo graves

rod-shaped grip terminated with a ball (?) (500/2). It can be assigned to type IIb.

The best-preserved crescent-shaped knife was found in grave 357. It has an S-shaped grip, profiled mostly with circumferential grooves and notches on the external edge (357/4). At the end of the grip, there is a hemispherical knob. The item corresponds to type III in the classification of J. Kostrzewski.

The other specimens from Kleszewo, due to their state of preservation (missing the grip), could not be classified with more precision.

The crescent-shaped knives from Kleszewo were discovered in features from phases I–III and Va–b (Va?). Most were recorded in features from the late pre-Roman period and the initial phase of the Roman period (Chart 2). This dating is consistent with the chronology of these tools in the Przeworsk culture.⁸⁴²

2.3.5. STRAIGHT KNIVES

Seven to nine knives with roughly straight blades were found at the cemetery. The specimens from Przeworsk culture graves (1/1961/4, 200BB/6, 479/1?, 655/4, 969/5, 1035/4) and stray finds (ZL/78) are made of iron. The copy from grave 969, dated to stage Vc, has the tang defined on both sides, the rest – mostly dated to phases I–III – on one side.⁸⁴³ The tang of the knife from grave 655 has two holes, which indicates that it was riveted

⁸⁴² Cf. T. Liana 1970, 449; T. Dąbrowska 1988, 28–29.

⁸⁴³ Does not apply to the specimen from grave 479, in which this element has not been preserved.

to the handle. In other cases, the handles were attached without using rivets. The blades of the listed specimens measure 7–9 cm in length.

Wielbark culture knives were found in grave 884 (884/10) and, perhaps, in grave 150 (150/2). The latter artefact is a fragment of a massive iron blade that may be part of a knife or scissors. The first option is supported by the complete lack of iron shears at Mazovian-Podlachian sites of the Wielbark culture⁸⁴⁴ and the simultaneous presence of knives made of this raw material.⁸⁴⁵ The specimen from grave 884 is small, 5.3 cm in length, and has the tang defined on both sides. It is made of bronze. Knives made of this raw material and of dimensions similar to those of the Kleszewo artefact are found in Wielbark culture features dating to the phases of the younger and late Roman period and the early part of the Migration period.⁸⁴⁶ Several of them were discovered at Mazovian-Podlachian sites.⁸⁴⁷ Similar examples also come from, among others, the areas of the Maślomęcz group, and the Chernyakhov and Sântana de Mureș cultures.⁸⁴⁸

2.3.6. MINIATURE KNIVES

Two miniature bronze knives were found in grave 708 from phase VII and on the surface of the cemetery (708/4, ZL/79). The first one is 2.5 cm long, the second one is 3.8 cm long. Their small size suggests they likely had no practical use. Miniatures of tools or objects of everyday use (knives, razors, casket keys, etc.) of similar dimensions are known from many regions of *Barbaricum* and the Roman provinces.⁸⁴⁹ They are interpreted in different ways, most often as items of symbolic significance and/or decorations. Some of them were used as pendants, the function of others is unknown. Miniature tools that served as pendants are known, among others, from the Przeworsk culture cemeteries at Opatów, Siemiechów and Wiktorów,⁸⁵⁰ and the Wiel-

bark cemeteries at Niedanowo and Odry.⁸⁵¹ It seems that the knife from grave 708 at Kleszewo could have been used in a similar way. However, a clear functional classification of the item is ruled out by the lack of the tang terminal, where, hypothetically, a suspension loop should be located. The situation is different in the case of the stray find, the “handle” of which has been preserved in its entirety and has no loop. The purpose of this item is unknown.

2.3.7. CASKET ELEMENTS

Iron elements of caskets made of organic materials were discovered in nine Przeworsk culture graves from phase V, most often from stage Vb, and as stray finds on the surface of the site. The largest set, consisting of a key, lock mount and side fittings, and a spring, comes from grave 537. Graves 365B and 515 contained sets consisting of a key, lock fittings and a spring. The remaining features yielded either a single object each (115, 516, 968) or a pair of items (104, 363, 526).

Keys were found in five graves (363/9, 365B/5, 515/5, 537/5, 968/6). They are specimens with a single, roughly U-shaped bit (A. Kokowski’s type A⁸⁵²), commonly encountered in *Barbaricum*. The shafts of all pieces are quadrangular in cross-section, hammered flat at the end and bent into a ring-shaped loop; in the case of the keys from graves 365B and 515, an iron ring was passed through the loop. The keys from graves 365B and 537 have ornamented shafts. The first one was decorated with cut-out metopes at the ends, and the edges of the other one were notched near the bit and loop.

Lock mounts were discovered in five graves (104/4, 363/10, 365B/6, 515/4, 537/7) and as a stray find (ZL/55). They are of various shapes. The fitting from grave 537 is triangular, the specimen from grave 515 is hourglass-shaped, and the mounts from graves 363 and 365B are trapezoidal. The original outline of the corroded mount from grave 104 is difficult to reconstruct. Its narrow and elongated shape indicates that it was probably oval. The shape of the stray find is unknown. The fittings found at Kleszewo were affixed to the casket with nails with almost spherical (365B), disc-shaped (515) and almost conical (537) heads. All find analogies at early Roman sites of the Przeworsk culture.⁸⁵³

Springs were found in six graves (104/3, 115/2, 365B/7, 515/5, 526/1, 537/5). They are specimens with

⁸⁴⁴ Cf. K. Skóra 2015, 193.

⁸⁴⁵ E.g., Cecele, grave 489 (J. Jaskanis 1996, 65, pl. LIX/489:3).

⁸⁴⁶ A. Cieśliński 2010, 89.

⁸⁴⁷ Brudnice, feature 337 (A. Szela 2017b, 577, fig. 1:8), Brulino-Piwki, grave 1 (A. Kempisty 1968, 411, fig. 4:b), Cecele, grave 502A (J. Jaskanis 1996, 68, pl. LXII/502A:5), Gozdowo, grave from 1947 (A. Musianowicz 1949, 93–94, fig. 1), Kitki, barrow II (J. Okulicz 1965b, pl. 95:7), Niedanowo, grave 360 (W. Ziemińska-Odojowa 1999a, 69, pl. CXXXIII/360:1).

⁸⁴⁸ A. Kokowski 1995, fig. 76, map 65.

⁸⁴⁹ M. Martin 1997, 363–369; cf. T. Capelle 1994, 86–93; 2002; I. Beilke-Voigt 1998, 35–40, 117–126.

⁸⁵⁰ J. Moszczyński 2010, 132, fig. 95; R. Madyda-Legutko, J. Rodzińska-Nowak, J. Zagórska-Telega 2011a, 40–41, 51–52;

2011b, pl. XXVI/49:3c, LIII/147:5a.

⁸⁵¹ L. Kajzer 1968, 61, pl. XIII/127:h; W. Ziemińska-Odojowa 1999a, 104, pl. CCXVI/609:4.

⁸⁵² A. Kokowski 1997, 14.

⁸⁵³ Cf. A. Kokowski 1997, 13, fig. 26–29.31–33.

flat, strip-like bodies and cylindrical pins. The spring from grave 537 was attached to the sides or lid with a nail with a large, disc-shaped head. Other specimens were affixed by driving the end of their shafts into the side or lid.

The artefacts discussed above are elements of caskets fitted with the simplest and most common form of lock recorded in central European *Barbaricum*, recently defined as the *Siemianice* type.⁸⁵⁴ Such caskets were used throughout the Roman period, with the greatest number of finds dating to phases B2 and B2/C1. The analyses of grave goods have shown that they are mainly characteristic of women's graves;⁸⁵⁵ exceptions to this rule are rarely recorded.⁸⁵⁶ These containers presumably held small objects of daily use, amulets, ornaments, etc.⁸⁵⁷

Grave 537 contained two fittings, each consisting of two rectangular plates joined along the longer axis by three rivets (537/8.9). These objects functioned as fittings for the sides of a casket.⁸⁵⁸ The gap between the front and back plates, which is indicative of the thickness of the fitted walls, is approximately 0.9 cm in both cases. The iron strips from graves 516 (516/4) and 526 (526/2), and ones found without a context (ZL/56.57), which were bent several times at right angles, can probably also be interpreted as braces reinforcing the casket wall structure.⁸⁵⁹

From grave 101 from stage IIa comes a fitting consisting of two figure-of-eight links joined with a ring (101/2). One of the links is provided with a pin used to fix the object to a base, presumably a board. The item most closely resembles link hinges, which can sometimes be found in caskets.⁸⁶⁰ However, no other casket elements were found in the Kleszewo grave, which does not allow a clear interpretation of the fitting.

It is possible that a pin with a profiled ring, found on the surface of the site (ZL/54), was part of a casket handle.⁸⁶¹

2.3.8. FITTINGS

Found in grave 534, dated to phases VI–VII, were bronze case components, consisting of five C-shaped wire fittings and a sheet base fitting (534/4.5). The case origi-

nally measured approximately 1.1–1.2 cm at its widest point. Its length is difficult to determine, but it is unlikely it was more than a few centimetres (Fig. 38). The sides were probably made of leather or wooden slats. The case may have held a needle, which was also found in the grave (534/3). It is possible that one of the wire rings (534/1.2) was used to hang the object on a string. I am unable to identify an analogy for this artefact.

Grave 851 (Wielbark culture, phases VI–VII of the cemetery's functioning) contained a fitting consisting of a bronze attachment plate with a moulded loop and a bronze notched disc, which functioned as a washer (851/1.2). The thickness of the object to which the fitting was attached was approximately 0.3–0.5 cm. Hence, it appears to have been fixed to some article made of leather rather than wood.

A trough-shaped object made from sheet metal (407/1) was recovered from the top level of grave 407 (Przeworsk culture, phase I–IIa of the cemetery's use). According to the inventory records,⁸⁶² it was made of bronze. The small size of the artefact⁸⁶³ rather excludes its classification as a fragment of a shield edge fitting.⁸⁶⁴ On the other hand, bronze artefacts similar in shape and size can be found among elements of clothing. Such objects were mounted on the belts found in the graves of barbarian elites at Grudziądz-Rządź⁸⁶⁵ and Opole-Gosławice.⁸⁶⁶ Such details are also characteristic of bronze buckles with a pin extending into a buckle plate.⁸⁶⁷ All these, however, are objects dated to the Roman period, i.e., much later than the Kleszewo grave. Hence, they cannot be treated as direct analogies. Another interpretation of the object is also possible. Judging by an archival sketch, the artefact in question was almost identical to the iron "troughs" from the neighbouring grave 402. They were part of a sword scabbard, more precisely a broken, arched edge part of the back plate that originally overlapped the front part of the hilt. Perhaps the specimen from grave 407 was another fragment of this object. In this light, the identification of its raw material as bronze would have been a mistake, which is, unfortunately, no longer verifiable.⁸⁶⁸

⁸⁶² The artefact was lost before 1982.

⁸⁶³ The distance between the edges of the trough was approx. 0.2–0.3 cm.

⁸⁶⁴ Cf. T. Bochnak 2005, 125–127.

⁸⁶⁵ W. La Baume 1928, 44, fig. 11.

⁸⁶⁶ G. Raschke 1939, 64, fig. 4:12.13.

⁸⁶⁷ E.g., Elbląg-Pole Nowomiejskie (E. Blume 1912, 47, fig. 46), Niedanowo, grave 596 (W. Ziemińska-Odojowa 1999a, 102, pl. CCXI/596:5), Pruszcz Gdański, site 10, grave 49 (M. Pietrzak 1997, 19, pl. X/49:1a).

⁸⁶⁸ It is possible that, due to its colour, the artefact appeared to

⁸⁵⁴ K. Czarnecka 2020, 49–81, with earlier literature.

⁸⁵⁵ O.V. Gopkalo 2011b 68, 78, table 2.3; O.S. Milaševs'kij 2016, 70; K. Czarnecka 2020, 297–303.

⁸⁵⁶ K. Czarnecka 2020, 299–303.

⁸⁵⁷ K. Czarnecka 2020, 211–212.

⁸⁵⁸ K. Czarnecka 2020, 167, fig. 188:3–7.

⁸⁵⁹ Cf. K. Czarnecka 2020, 169, fig. 188:2.8.10.

⁸⁶⁰ Cf. K. Czarnecka 2020, 157–159, fig. 113.

⁸⁶¹ Cf. K. Czarnecka 2020, 163, fig. 115.

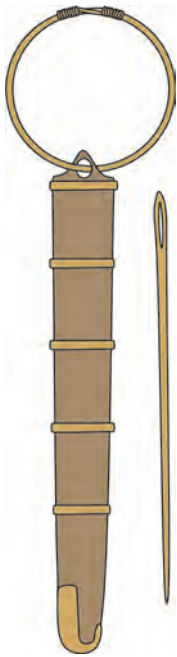


Fig. 38. Reconstruction of the case (needle-holder?) from grave 534.

Drawn by M. Woźniak

Grave 147 (Przeworsk culture, phases I–IIa of the cemetery's use) contained an unidentified fitting (?), preserved as two large pieces of iron sheet with (one?) hole (147/7).

A fragment of a melted bronze fitting (?) made from a massive metal sheet was found on the surface of the site (ZL/76). Its dating and function are unknown. Another stray find was an iron fitting in the form of an oblong sheet with rounded corners (ZL/75). The length of its rivet shafts (over 0.6 cm) indicates that the object was most likely affixed to wood. Its attribution to the late pre-Roman period or the Roman period is uncertain; it may have been made in modern times.

2.3.9. RIVETS AND NAILS

Metal rivets and/or nails were found in ten graves of the Przeworsk culture (10/2, 118/12.13, 132/39, 146/1.2, 147/1.2, 188/1, 379/1, 407/3, 413/9, 608/1), one of the Wielbark culture (411/2) and one of undetermined cultural attribution (164/1). Two are made of bronze (132/39, 413/9), the rest are iron specimens. The better-preserved specimens have less or more rounded and,

be “bronze”. It would not have been the only mistake of the person that created the inventory. Two small plates from grave 402, which are, *nomen omen*, fragments of iron sheets from the scabbard of the sword discussed (402/1), were also identified as bronze. In grave 402, “trough-shaped” scabbard pieces were found both near the sword (i.e., at the bottom of the pit) and in the top part of the fill.

less often, quadrangular heads and shafts of square or round cross-sections, often bent at right angles. In this assemblage, the specimen from grave 147 with a large round head stands out; it most closely resembles rivets used to affix shield bosses to the boards of the shield.⁸⁶⁹ The function of the other specimens is unknown. Most were probably used to attach fittings to objects made of organic materials.

2.3.10. OTHER METAL ARTEFACTS

From grave 615⁸⁷⁰ from phases IIb–III come fragments of a bronze mirror handle, namely, the central parts of the handle, which was ring-shaped, and its terminal in the form of circular discs. The artefact has already been published.⁸⁷¹ It belongs to a group of mirrors referred to in the literature as the *Zadowice* type (Fig. 39).⁸⁷² Such utensils were most likely manufactured in Celtic centres along the Middle Danube as indicated, among others, by the finds from Bratislava, where the remains of a metallurgical workshop with fragments of such mirrors were found.⁸⁷³ Such artefacts are relatively often recorded in Poland, especially in the Przeworsk culture areas, from where at least six specimens are known.⁸⁷⁴ They probably arrived via the population of the Tyniec group, who were in contact with Celtic settlement centres along the Middle Danube.⁸⁷⁵ Their spread across Poland coincides with the dispersal of other late Celtic and early Roman craft products, whose presence is customarily attributed to contacts along the so-called Amber Road.⁸⁷⁶ In the Przeworsk culture area, *Zadowice*-type mirrors are dated to phases A₃ and B₁; in the La Tène culture, their chronology covers the late La Tène period.⁸⁷⁷

⁸⁶⁹ Cf. T. Bochnak 2005, 124–125.

⁸⁷⁰ One fragment was recovered from the top level of the feature, which was connected with the top level of grave 614. However, the artefact was likely originally deposited in grave 615.

⁸⁷¹ M. Rudnicki 2012, 472, pl. 4:12.

⁸⁷² Cf. A. Szpunar, P. Dulęba 2009, 128–137; J. Schuster 2010, 181–185; P. Dulęba 2018; M. Grygiel 2022, 157–159.

⁸⁷³ Cf. K. Pieta 1996, 188, fig. 3:5.13.

⁸⁷⁴ The list compiled by P. Dulęba should be supplemented with the finds from Kleszewo and Czersk, grave 64 (information from K. Watemborska-Rakowska [PMA], who conducts excavations at Czersk).

⁸⁷⁵ Cf. Z. Woźniak 2004, 56–57; P. Poleska 2006, 258; M. Woźniak 2020, 184.

⁸⁷⁶ E.g., T. Dąbrowska 2003; 2008, 116–117; A. Maciałowicz 2010, 380; T. Bochnak 2014, 191–193; M. Woźniak 2020, 184–186.

⁸⁷⁷ Recently, M. Grygiel 2022, 158.

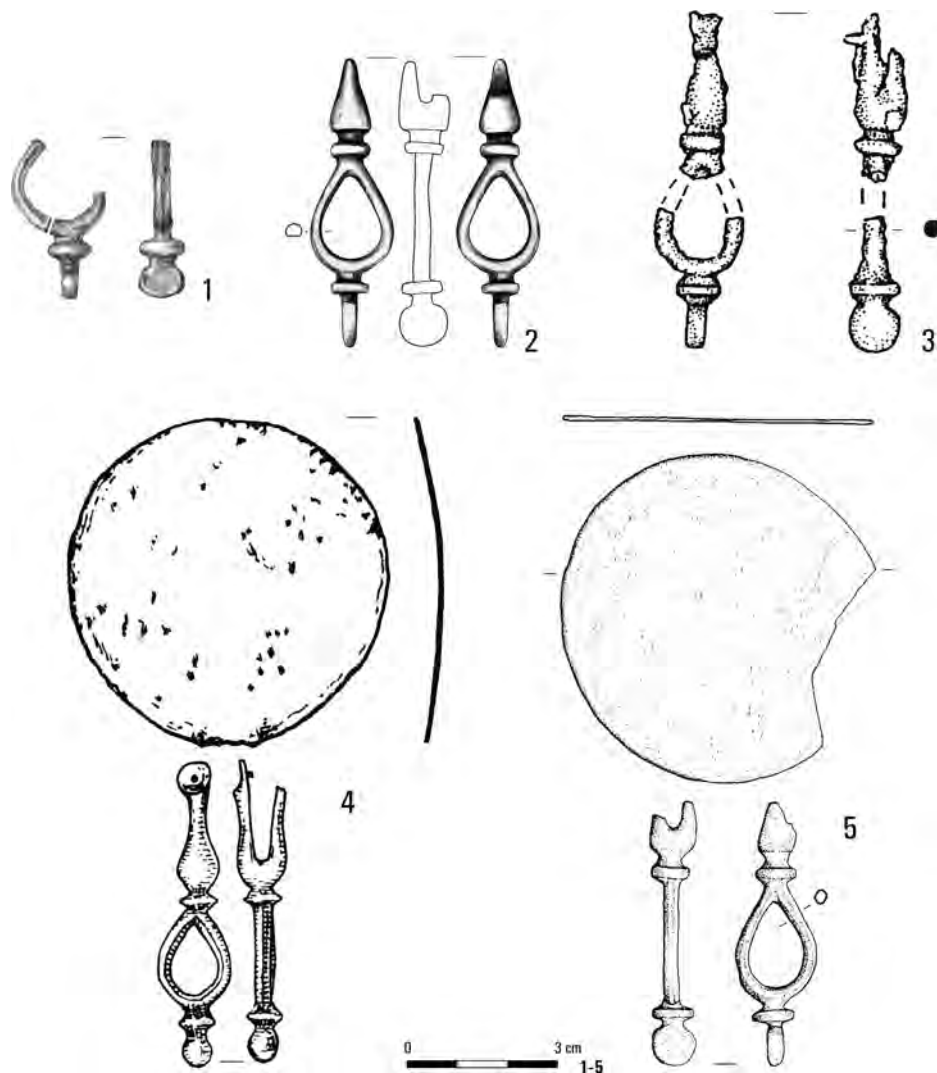


Fig. 39. *Zadowice*-type mirrors. 1 – Kleszewo, graves 614/615 and 615; 2 – Kurzątkowice, stray find; 3 – Charłupia Mała, grave 25; 4 – *Zadowice*, grave 773; 5 – Chorvátsky Grob, stray find. After: M. Dulęba 2018 (2), A. Kaszewska 1982 (4), P. Kurowicz, M. Olędzki 2002 (3), K. Pieta 2009 (5), M. Woźniak 2021 (1).

Bronze tweezers (363/2) were found in grave 363, tentatively associated with the Wielbark culture. Such toilet utensils are relatively rarely recorded at sites of this culture,⁸⁷⁸ especially those to the east of the Middle Vistula.⁸⁷⁹ Tweezers are most commonly interpreted as tools used for body grooming, e.g., hair removal.⁸⁸⁰ In the Wielbark culture, they are found in both male and female graves.⁸⁸¹

⁸⁷⁸ A. Strobin 2006, 135.

⁸⁷⁹ E.g., Brulino-Piwki, grave 25 (A. Kempisty 1968, 424, fig. 43e), Jartypory, features 187, 256, 431 (J. Andrzejowski 2023), Modła, grave 237 (J. Andrzejowski 2006, 25, fig. 12/237:4).

⁸⁸⁰ H. Steuer 2003, 178; A. Strobin 2006, 135.

⁸⁸¹ K. Skóra 2020, 104, table 4.4.

Rings were discovered in 14 Przeworsk culture graves from phases I–V of the cemetery's use (15/1, 61/5, 100/6, 147/4, 200B/4, 307/1, 351/2, 409A/2, 637/1, 700/2, 832/5.9, 860/5, 969/4, 1035/3) and in a secondary context – in the fill of a medieval grave (ZL/70). This last item as well as the specimens from graves 15 and 832 (832/5) are bronze, the other exemplars were made of iron. The function of the Kleszewo rings can be determined purely hypothetically. They all came from cremation graves, which eliminates the possibility of conclusions based on their position relative to the skeleton of the buried person. The small specimens from graves 15, 637, 832 and the one found in a secondary context, whose diameters measured between 0.7 and 1.2 cm, could have served as ornaments (or their parts), such as pendants. This interpretation is suggested by

the artefact from grave 637, which has glass flecks on its surface, presumably from a melted bead. Measuring 1.7 cm in diameter, the specimen from grave 147 (147/4) may have been used for the suspension of a scabbard of a one-edged sword (see Subchapter 2.4.1). The specimen from grave 409A was most likely part of a sword belt, as indicated by a ring-shaped belt-hook found in the same feature.⁸⁸² The functional classification of the remaining rings, which measure between 2.2 and 4 cm in diameter, remains unclear. Some of them were presumably part of the clothing of the buried individuals.⁸⁸³

In grave 132 from stage Vb of the cemetery's functioning, there was an iron object in the shape of a quadrangular frame with concave longer sides and defined, rounded corners decorated with punched circles (132/23). The small size and ornamentation of the artefact suggest that it may have been used as a decoration, e.g., a pendant, belt fitting, etc.

Grave 148, dated to phase V of the cemetery's use, contained fragments of a bronze wire spring (148/1). It is most likely a fragment of a brooch or part of a decoration, such as a pendant.⁸⁸⁴

Objects whose function is unknown to me were discovered in 16 graves and as stray finds. They are: an oblong bronze object in the form of a bar with one flat end of quadrangular cross-section, the other end is round (81/1); a bronze cone formed from rolled sheet metal (692/1); fragments of an iron object of plaited (?) wire (620/1); an iron disc with a hole in the centre (637/2); an iron bar bent in half (101/5); an iron bar, bent four times at right angles and topped with a circular plate (85/86/2); a fragment of an iron rod, looped at one end (518/4); a fragment of a bronze openwork object (1026A/2); a small, triangular, bronze fitting (?) with a hole in the centre (61/4); a fragment of an ornament (?) in the form of a disc with a hole in the centre, decorated around the outer edge with a notched (?) wire (968/5); a loop formed from a bronze strip, possibly a fitting of an object of organic material (146/3); a fragment of an object of unspecified metal, with an almost cylindrical, hollow body (808/2); a fragment of a bronze sheet, rolled at one end into a cylinder with a bronze wire embedded in it (175/1); a fragment of a bronze object in the form of a somewhat conical disc from which extends a shaft bent at right angles (707/1); a plate (fitting?) with a circular hole in the centre (285/1); six iron rods (1021/1, ZL/62-66). It cannot be ruled out

⁸⁸² Cf. T. Bochnak 2005, 58–59.

⁸⁸³ On the subject of the function of rings in the dress and portable equipment, see J. Illkjær 1993, 229–231; L. Grumeza 2014, 92–93; A. Mistewicz, M. Maciałowicz, M. Woźniak 2020, 143–145.

⁸⁸⁴ Cf. V.G. Belevic, M. Wozniak 2019, 162.

that these last items, which were stray finds, are modern objects.

In addition, the contents of 70 graves and features of the Przeworsk culture, 30 of the Wielbark culture and ten of undetermined cultural attribution included fragments of wires, sheets, bars, plates and lumps of corroded iron and melted bronze and, exceptionally, silver. This assemblage is completed by metal objects made of a raw material that could not be identified (101/3, 128/4, 230/1).

2.3.11. ANTLER COMBS

The Kleszewo cemetery yielded the remains of 46 combs (Table 10). All specimens for which the raw material could be identified were made of deer antler (cf. Appendix 2 – Gręzak).

From Przeworsk culture graves come six combs, all of them burned and fragmentarily preserved. All are single-layer, one- or multi-piece specimens. Graves 73A–B and 398, dated to phase V of the cemetery's use, contained one-piece combs (73A–B/1, 398/2) of S.W. Teuber's type E I.⁸⁸⁵ The first one, based on the circle decoration, can be assigned to variant E Ic, and the second one, with horizontal grooves above the teeth – to variant E Id.⁸⁸⁶ Both artefacts also correspond to type A I defined by S. Thomas.⁸⁸⁷ Combs of type E I are commonly found in almost the entire area of central European *Barbaricum*.⁸⁸⁸ East of the Middle Vistula, they appear in both Przeworsk and Wielbark culture features. The finds that can be associated with the former unit are dated to phases B₂ and B₂/C₁.⁸⁸⁹

Two composite specimens from graves 378 (378/1) and 527 (527/1) correspond to S.W. Teuber's type M I⁸⁹⁰ and S. Thomas' type B I.⁸⁹¹ The state of preservation of both artefacts does not allow reconstructing their original structure, especially the number of segments of which they were composed. No rivets that connected individual elements were found in the Kleszewo graves. Combs of type M I are characteristic of the Polish lands, primarily the Przeworsk and Wielbark culture areas.

⁸⁸⁵ S.W. Teuber 2005, 201–202.

⁸⁸⁶ S.W. Teuber 2005, 202, pl. 4:13–15, 5:1–3.

⁸⁸⁷ S. Thomas 1960, 56–57 with fig.

⁸⁸⁸ S.W. Teuber 2005, 201–202, map 11.

⁸⁸⁹ E.g., Kamińczyk, graves 68, 173, 187, 205, 254 (T. Dąbrowska 1997, 24, 43, 46, 49, 55), Nadkole, site 2, graves 1, 21, 50, 121, 129, 142 (J. Andrzejowski 1998a, 84), Niedanowo, grave 260 (W. Ziemińska-Odojowa 1999a, 52).

⁸⁹⁰ S.W. Teuber 2005, 213–219, pl. 7:1–14.

⁸⁹¹ S. Thomas 1960, 62–66.

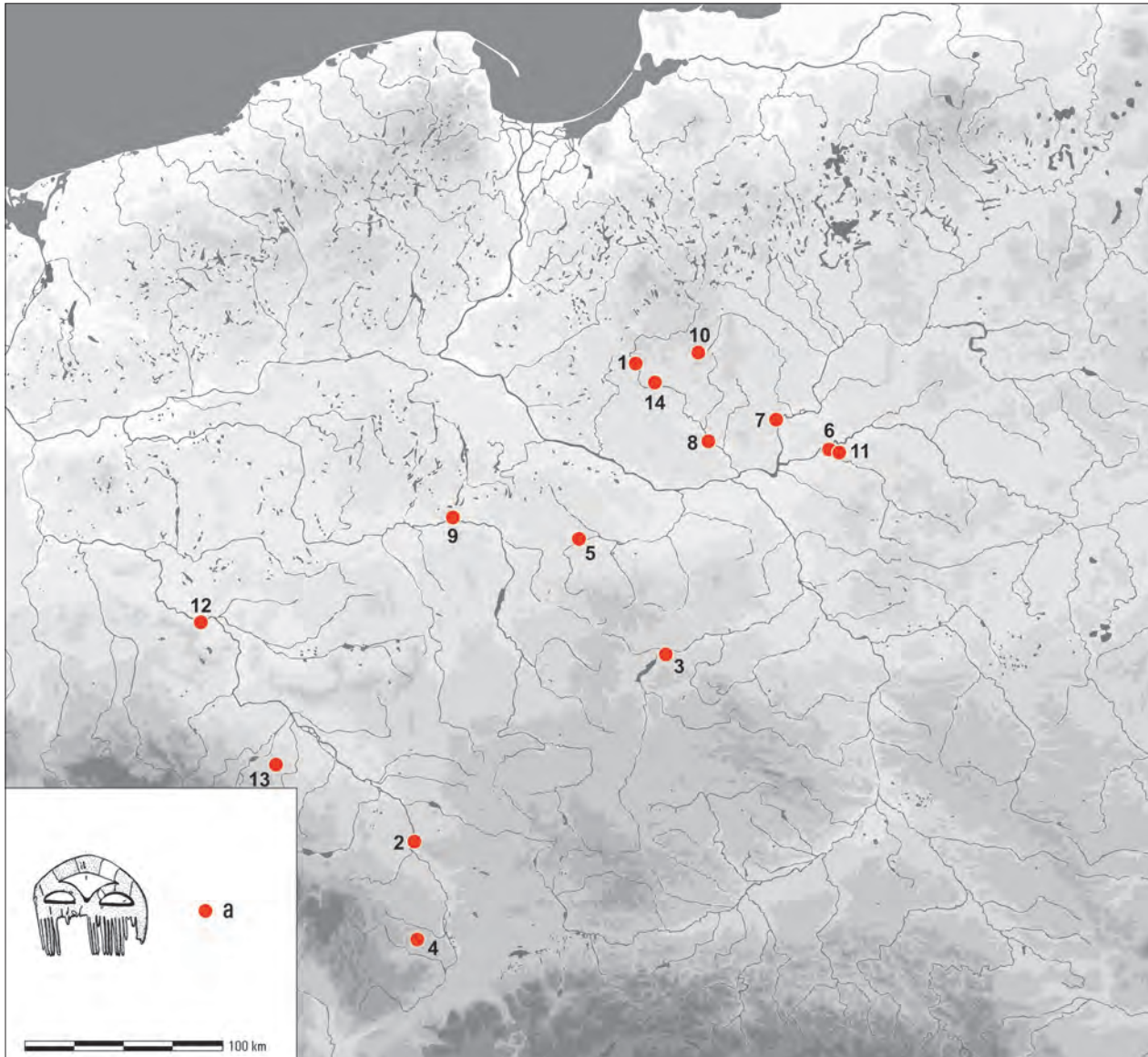


Fig. 40. Distribution of one-piece combs with an openwork back of S.W. Teuber's type D II (2005) in the northern part of central European *Barbaricum*. 1 – Kleszewo; 2 – Brudnice; 3 – Chorula; 4 – Cieblowice Duże; 5 – Dzierżysław; 6 – Gledzianówek, site 2; 7 – Kamieńczyk; 8 – Kołożąb, site 3; 9 – Konin; 10 – Modła; 11 – Nadkole, site 2; 12 – Głogów-Nosocice; 13 – Stary Zamek; 14 – Zgliczyn-Pobodzy. After: S.W. Teuber 2005, with additions

Less numerous examples of this type are also known from the Middle Elbe region, the Bohemian Basin and the Lower Morava River basin.⁸⁹² The Kleszewo combs date to stages Vb–c of the cemetery's functioning, which corresponds to the general chronology of the type.⁸⁹³

A comb with an openwork back was found in grave 370. The back has the form of an approximately semicircular frame, inside which there was at least one curved element (370/1). The specimen corresponds to S.W.

⁸⁹² S.W. Teuber 2005, 217, map 25; J. Schuster 2018a, 102, fig. 53.

⁸⁹³ S.W. Teuber 2005, 217–218.

Teuber's type D II, which groups combs with rounded cutouts.⁸⁹⁴ It can also be assigned to S. Thomas' type C.⁸⁹⁵ Combs of type D II are found mainly in the Upper and Middle Elbe basin and the Przeworsk culture areas (Fig. 40). The finds from Mazovia and Podlachia date to phase B₂, most often its later stage.⁸⁹⁶

⁸⁹⁴ S.W. Teuber 2005, 185–186.

⁸⁹⁵ S. Thomas 1960, 66–71.

⁸⁹⁶ T. Dąbrowska 1997, 47; J. Andrzejowski 1998a, 85; cf. S.W. Teuber 2005, 188–190.

The last comb found in a Przeworsk culture grave at Kleszewo is represented by a nondescript piece of a tooth (839/1).

Forty-two⁸⁹⁷ combs were attributed to the Wielbark culture (Table 10). They are most often preserved in small fragments. This comment applies to both unburnt specimens from inhumation graves and burnt specimens from cremation graves. All⁸⁹⁸ the Wielbark culture combs are multi-layered. The presumed shape of the back was determined only for the specimens from graves 177 and 884. They both have a semicircular back and can thus be assigned to S. Thomas' type I.⁸⁹⁹ This is a common form, predominant among combs from the Wielbark culture area and found in features from phases B₂/C₁–D. Probably, most of the Kleszewo combs were originally also of this shape. A different form was most likely represented by the specimens discovered in grave 708 and as a stray find (ZL/90). They have been preserved in small fragments, on the basis of which it is impossible to determine their shape. Their original form is suggested by tubular rivets, which are found only in combs with a bell-shaped back, S. Thomas' type III.⁹⁰⁰ Several specimens of this kind are known from Poland.⁹⁰¹ Such combs are most often recorded in the areas of the Chernyakhov and Sântana de Mureş cultures.⁹⁰² Antler processing workshops are also known from the

⁸⁹⁷ The interpretation of all antler plates as comb remains is not always certain, albeit the most likely. As it were, no other objects composed of such elements were found at the cemetery. The same applies to small rivets discovered in several graves without antler comb fragments (e.g., graves 158, 263, 690B, 858, ZL/92). At Wielbark culture cemeteries of Mazovia and Podlachia (and in other areas), such objects were used to join the plates of three-layered combs. This is also the only context in which they were recorded at the Kleszewo cemetery. Therefore, I interpret all rivets of analogous shape found at the site as comb elements.

⁸⁹⁸ The fragments of an almost completely decomposed plate (?) of bone or antler, found in inhumation grave 386, are difficult to interpret. If they are comb remains, it would have been a one-piece specimen, as no rivets were found during the excavation of the feature. On the other hand, it cannot be excluded that the object was placed in the grave in an incomplete state or that the fragments do not come from a comb.

⁸⁹⁹ S. Thomas 1960, 88–94.

⁹⁰⁰ S. Thomas 1960, 104–114.

⁹⁰¹ Brudnice, grave 279 (A. Szela 2010, 9), Gródek, Hrubieszów County, site 1C, grave 30 (A. Kokowski 1993a, 27; 1993b, fig. 22:d), Pruszcz Gdański, site 5, grave 1/1926 (M. Pietrzak, L. Cymek, F. Rożnowski 2015, 12, pl. LVI:1), Węgrowo, grave 28 (M. Kurzyńska 2013, 27, pl. XXV/28:10), Żerniki Wielkie, grave 9 (L.F. Zotz 1935, 65, fig. 13:7).

⁹⁰² M. Gładysz, A. Kokowski 2002, 286.

territory of the latter unit, where blanks of tubular rivets have been discovered.⁹⁰³ It is, therefore, possible that the finds from Kleszewo were made in the Danube or Black Sea regions.⁹⁰⁴

Bell-shaped combs are rare in the Wielbark culture (Fig. 41). Isolated finds are known from sites located by the Lower Vistula and in the Elbląg Upland,⁹⁰⁵ others come from Mazovia⁹⁰⁶ and western Ukraine.⁹⁰⁷ Several more have been discovered in the Masłomęcz group area.⁹⁰⁸ In the Wielbark culture territory, they are usually dated to the early Migration period.⁹⁰⁹ In the areas of the Masłomęcz group and the Chernyakhov culture, they probably appeared slightly earlier, during the transition from the Roman period to the Migration period.⁹¹⁰ If the classification of the comb from grave 708 as a specimen with a bell-shaped back is correct, the dating of the feature should be narrowed down⁹¹¹ to stage VIIb of the cemetery's functioning. A few tubes, resembling rivets of the above-mentioned combs, were also found in graves 579 (579/1) and 640 (640/4). Both features, based on other grave goods, are dated to phase VII of the site's use. It is very possible that these tubes are fragments of other combs of the form discussed.⁹¹²

The back plates of the composite combs from Kleszewo were decorated in a way typical of this kind of artefacts,⁹¹³ i.e., with engraved circles, including con-

⁹⁰³ S. Musteață, A. Popa 2010, 164, fig. 4:7.

⁹⁰⁴ To date, no traces of antler processing workshops have been found in the Wielbark culture area in Mazovia and Podlachia, likely due to the lack of excavations at settlement sites of this unit in the region in question. The commonality of combs at local cemeteries indicates that such objects were made locally. It is possible that specimens with a bell-shaped back were also manufactured there.

⁹⁰⁵ Gronowo Górne (S. Anger 1880, 122, pl. V:43), Pruszcz Gdański, site 5, graves 1/1926, 8/1926, 23, 24 (M. Pietrzak, L. Cymek, F. Rożnowski 2015, 85).

⁹⁰⁶ Brudnice, grave 279 (A. Szela 2010, 9), Modła, grave 146 (J. Andrzejowski 2006, 23, fig. 9:3).

⁹⁰⁷ E.g., Baiv, grave 2 (Ū.V. Kuharenko 1975, 52, fig. 3:11).

⁹⁰⁸ Gródek, Hrubieszów County, site 1A, graves 3 and 5 (M. Gładysz, A. Kokowski 2002, 286, pl. III/3:5, IV/5:1,2), site 1C, graves 30, 64, 84 (A. Kokowski 1993a, 27, 51–52, 69; 1993b, fig. 22:d; 56:m; 86:m.o).

⁹⁰⁹ M. Mączyńska 2019, fig. 11:8.

⁹¹⁰ E.L. Gorohovskij 1988, 44; A. Kokowski 1995, 31.

⁹¹¹ In the Catalogue, the dating of the feature is stated as phase VII.

⁹¹² Grave 640 also contained several pieces of antler comb plates.

⁹¹³ Cf. ornamental motifs of types A–C acc. to S. Thomas (1960, 91, fig. 27–29).

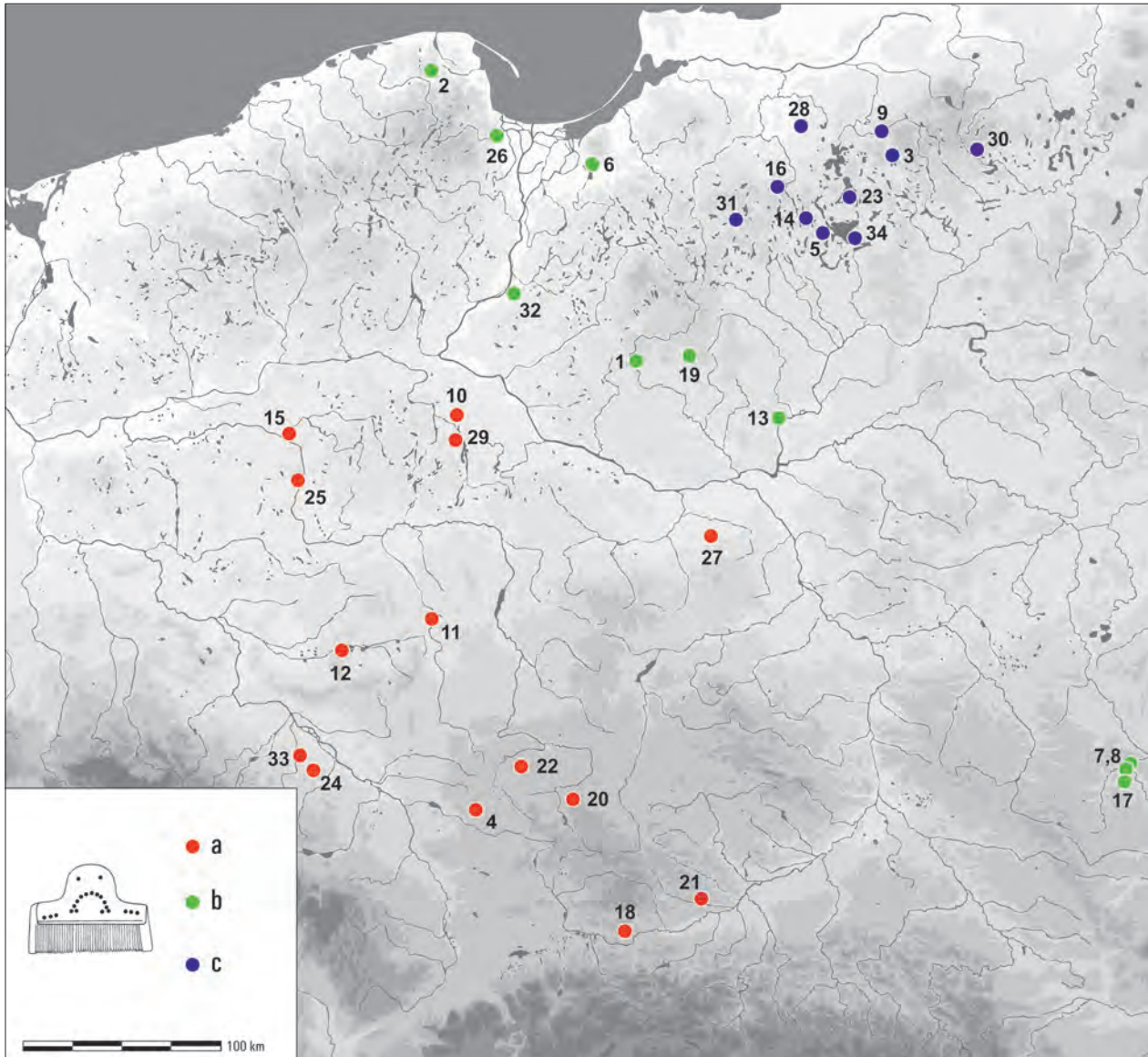


Fig. 41. Distribution of combs with a bell-shaped back in the northern part of central European *Barbaricum*.

1 – Kleszewo; 2 – Brudnice; 3 – Chynowie; 4 – Czerwony Dwór; 5 – Dobrodzień; 6 – Gąsior; 7 – Gronowo Górne; 8 – Gródek, Hrubieszów County, site 1A; 9 – Gródek, Hrubieszów County, site 1C; 10 – Grunajki; 11 – Inowrocław; 12 – Kalisz-Piwonice; 13 – Kaszowo; 14 – Kosewo; 15 – Kowanówko; 16 – Łężany; 17 – Masłomęcz; 18 – Mników; 19 – Modła; 20 – Olsztyn; 21 – Opatkowice; 22 – Opatów; 23 – Paprotki Kolonia; 24 – Polwica; 25 – Poznań; 26 – Pruszcz Gdański, site 5; 27 – Regów; 28 – Sławosze; 29 – Sławsk Wielki; 30 – Szwajcaria; 31 – Tumiany; 32 – Węgrowo; 33 – Żerniki Wielkie; 34 – Zdory.

After: E. Cnotliwy 2010, with additions

centric ones (163A/3, 386/94?, 693/1, 721A/1, 721B/2, ZL/91), or with rows of lines (258/4).

2.3.12. OTHER BONE AND ANTLER ARTEFACTS

In Przeworsk culture graves 218 (218/1) and 262 (262/3), dated respectively to phase IV and stage V of the cemetery's use, there were two drilled-through horse tarsal bones, so-called astragals. Such bones, discovered

in graves, are most often interpreted as game pieces or amulets.⁹¹⁴ The latter interpretation is usually applied to specimens that, like the Kleszewo finds, are discovered on their own and show traces of processing, e.g., they are perforated. Items identified as game accesso-

⁹¹⁴ J. Rogatko 1994, 333–335; J. Andrzejowski 1998a, 85–86; R. Madyda-Legutko, J. Zagórska-Telega 2000, 111–112; M.O. Strel'nik, M.A. Homčik, S.A. Sorokina 2009, 34–44.

Table 10. Compilation of combs and their fragments. The asterisk (*) marks graves (and stray finds) that yielded rivets only. Classification of Przeworsk culture combs after S.W. Teuber (2005).

Culture					
Przeworsk				Wielbark	
Type E I	Type D II	Type M I	Undetermined	Composite	Undetermined
73A-B/1, 398/2	370/1	378/1, 527/1	839/1	158/46*, 163A/3, 166/1?, 175/3, 177/3, 185/4, 195/1?, 257/2, 258/4, 263/1*, 265/1, 355/4, 356/5?, 359/4?, 380/2, 411/5, 415C/1, 524/5, 578/4, 579/1*, 640/15, 641/4, 690B/1*, 690A-B/1, 693/1, 699/2?, 703/1, 707/2, 708/5, 721A/1, 721B/2, 858/1*, 881/2, 884/12?, 950/3?, 1027A/1, 1027B/1, ZL/89, ZL/90, ZL/91?, ZL/92*	386/94?

ries are found in smaller or larger sets, often accompanied by other objects that served the same purpose, e.g., cuboid dice. In the Przeworsk culture, the so-called astragals are most frequently found in features from the early Roman period.⁹¹⁵ From grave 524 (Wielbark culture, phase VI of the cemetery's use) comes an oblong, quadrangular object of unspecified function, made of worked sheep or goat bone (524/6). Two artefacts of similar shape were found in grave 101 at Masłomęcz. They have transverse incisions at the ends and in the centre. They were accompanied by bone pawns; hence, they were considered elements of a gambling set.⁹¹⁶ Kleszewo grave 524 did not contain any items that would indicate that the find in question served the same purpose. On the other hand, it somewhat resembles tubes made of bird bones, which are often discovered at sites of the Chernyakhov and Sântana de Mureş cultures, and the Masłomęcz group. These items are most often interpreted as needle-holders.⁹¹⁷ They are very rare in the Wielbark culture.⁹¹⁸ There were no needles found in the Kleszewo grave. Their absence, however, does not necessarily mean that they were not there during the funeral ceremony. The finds of needle-holders from northern Europe indicate that objects made of wood, e.g., pins,⁹¹⁹ were also stored there. As wood is less durable than metal and bone, it would have been

⁹¹⁵ J. Andrzejowski 1998a, 85; K. Czarnecka 2007, 95.

⁹¹⁶ A. Kokowski 1987, fig. 22:a.b.

⁹¹⁷ E.g., A. Kokowski 1995, 57, 294, map 73; B.V. Magomedov 2001, 83. According to L.O. Şovan (2009, 215), who based his opinion on the studies of the material from the Sântana de Mureş culture cemetery at Mihălăşeni, these holders were used primarily to store unspecified substances.

⁹¹⁸ T. Skorupka 2001, 95, pl. 109/356:4; M. Kurzyńska 2013, 31, 53, pl. XXXIV/31:48.

⁹¹⁹ E. Vedel 1886, 132, fig. 295, 296; A. Rau 2010, 235.

completely burned during cremation. At cemeteries of the Chernyakhov and Sântana de Mureş cultures, bone tubes are found in both men's and women's graves.⁹²⁰ In Scandinavia, metal needle-holders are an attribute of female burials.⁹²¹ The grave from Kleszewo probably contained the remains of a man.

According to the archival notes, a bone object was also found in grave 1. Its shape is unknown, and the artefact was most likely lost during the excavations in 1964.

2.3.13. SPINDLE WHORLS

From Kleszewo come 72 spindle whorls,⁹²² of which 52 specimens were discovered in Przeworsk culture graves and five in Wielbark culture features. The remaining specimens are stray finds or come from features of unknown cultural attribution. Most (29 pcs.) of the precisely dated examples were found in features from phase V of the cemetery (Chart 3). Two spindle whorls are made of sandstone (see below), and the others are made of clay. Among all the finds, the specimens with a biconical body are the most numerous, with 62 examples. Moreover, there are four cylindrical, three trapezoidal, and two plano-spherical specimens; the original shape of two artefacts is unknown. In terms of size, almost all Kleszewo spindle whorls can be divided into two groups: 1) specimens with a diameter of approx. 2–3 cm and a height of 1–2 cm, and 2) specimens

⁹²⁰ O.V. Gopkalo 2011b, 30.

⁹²¹ A. Rau 2010, 235, fig. 91.

⁹²² These are the following finds: 1/1961/7, 22/1, 36/1, 40/1, 42/3.4, 43/3, 48/13, 95/2, 104/6, 105/3, 132/40–42, 141/3, 146/9, 148/4–6, 158/45, 187/3, 188/2, 224/8, 239/1, 244/3, 245/6, 259/2, 347/3, 351/4, 352/3, 354/7, 357/9, 363/14.15, 364/3, 365B/8, 383/9, 413/18–23, 515/8, 521B/4, 538/2, 582/1, 597/13.14, 612/1, 640/16, 697/3.4, 723/1, 798/3, 860/7, 869/1, 884/11, 968/7, 1022/7, 1024C/4, 1047/4, ZL/135–144.

with a diameter of approx. 3.5–4.5 cm and a height of 1, 5–2.5 cm (Chart 4). The height-to-diameter ratio is 0.3–1, usually 0.4–0.65.

Individual features usually yielded one specimen each. Two spindle whorls were found in graves 42, 363, 597 and 697, three – in graves 132 and 148, and six – in grave 413. Of the features with multiple spindle whorls, grave 597 is attributed to the Wielbark culture, the rest to the Przeworsk culture. In all the cases where at least two spindle whorls were found in one feature, individual specimens differed in size and, therefore, in weight. They were probably used to spin threads of varying parameters.⁹²³

The two specimens made of sandstone stand out among the Kleszewo whorls. One was found in a Przeworsk culture grave from phases I–IIa of the cemetery's use. It is a biconical specimen decorated on the sides and bases with engraved encircled dots (22/1). The other one is a cylindrical specimen from a Wielbark culture grave from phase VII (597/14). Its base⁹²⁴ is ornamented with small depressions and lines, and its sides are ornamented with grooves. The finds of spindle whorls made of sandstone are unique in the areas east of the Middle Vistula. Only a few examples, found in Wielbark culture graves, are known (see below). The Kleszewo spindle whorl from a Przeworsk culture grave does not seem to find any analogies at local sites occupied in the late pre-Roman period.⁹²⁵ The closest specimens of this chronology were discovered at the Oksywie culture cemetery at Brzyno.⁹²⁶ Sandstone spindle whorls of other shapes are also known from the area of said cultural unit.⁹²⁷ Such artefacts are also relatively often recorded at sites of the Oder group of the Jastorf culture.⁹²⁸ Therefore, I assume that the spindle whorl from grave 22 at Kleszewo is an import from one of the above-mentioned groups.

The provenance of the spindle whorl from grave 597, which may be associated with the Wielbark culture, is unclear. Such artefacts are rare at the Mazovian-Podlachian cemeteries of said group. They form a small, morphologically and chronologically diverse collec-

tion, scattered over a large territory,⁹²⁹ and including disc-shaped, cylindrical, biconical and plano-spherical, or similar, specimens. The oldest examples have been discovered in features from phases B₂/C₁–C_{1a}, the youngest come from the end of the Roman period or the beginning of the Migration period. During the Roman period, sandstone whorls are recorded mainly in the areas between the Elbe and Oder. In Poland, they are found much less frequently, mainly at Wielbark culture sites in northern Poland.⁹³⁰ Until recently, they have been interpreted as imports from across the Oder.⁹³¹ According to J. Schuster,⁹³² the number of sandstone spindle whorls from Wielbark culture cemeteries in western Pomerania and northern Greater Poland is large enough that their local manufacture should also be taken into account. If this suggestion is correct, the oldest Wielbark culture specimens from Mazovia and Podlachia, which are dated to phases B₂/C₁–C_{1a}, could have arrived with the people that migrated there from the north-west. The question of the origin of the specimens from the developed section of the younger Roman period and later, which include the Kleszewo specimen, remains open. It cannot be ruled out that at least some of them were made locally. Sandstone occurs naturally in these areas as an erratic.⁹³³

Four clay spindle whorls have decorated bodies. A stray find of a biconical specimen (ZL/140) was decorated on its sides with engraved lines forming a double zigzag, embellished with a dotted line on one side and with groups of points on the other. The cylindrical specimen from grave 364 (364/3, Przeworsk culture, stage Vb of the cemetery's use) has an irregular pattern on part of its circumference, composed of vertical, diagonal and horizontal lines. The Wielbark culture spindle whorl from grave 597 (597/13) is decorated with depres-

⁹²³ Cf. K. Grömer 2005, 109–111.

⁹²⁴ The other base is damaged.

⁹²⁵ Cf. T. Dąbrowska 2008, 122–187.

⁹²⁶ A. Strobin 2021, 79, 84, pl. CXLVII/261:8, CLVIII/277:5.

⁹²⁷ J. Kostrzewski 1919a, 167–168, fig. 177, 180; 1919b, 62; E. Bokinić 2008, 97–98.

⁹²⁸ Lubieszewo, site1, graves 49, 81, 84, 86, 96B, 97 (R. Wołagiewicz 1997, 18, 22–24, pl. V/49:b, X/84:a, X/81:e, XI/86:e, XII/96B:b, XIII/97:e), Głazów, stray find (L. Domańska et al. 2013, 124, fig. 10).

⁹²⁹ Brudnice, feature 178 (A. Szela 2013a, 100), Brèst-Tryšyn, grave 55 (V. Belevic 2007b, 52, fig. V/55:10; cf. Ü.V. Kuharenko 1980, pl. XVIII/55:g), Jartypory, features 10a and 49 (J. Andrzejowski 2005a, fig. 14:a; J. Andrzejowski, K. Stanek 2007, fig. 4:f), Kołoząb, grave 109 (I. Tomaszewska 1988, 110, fig. 8:1), Niedanowo, grave 142 (W. Ziemińska-Odojowa 1999a, 32, pl. XL/142:6); Stary Szelków, grave 223 (excavations of R. Prochowicz, PMA collection).

⁹³⁰ J. Schuster 2018a, 116–118, fig. 65; 2018b, 93, fig. 44.

⁹³¹ A. Kokowski 1995, 37.

⁹³² J. Schuster 2018a, 118; 2018b, 93, 96.

⁹³³ E.g., a petrographic analysis of the layers of a gravel extraction site at Łubienica-Superunki, located approx. 10 km to the south of the Kleszewo cemetery, showed that sandstone constitutes 5–20% of glacial till composition (M. Górską-Zabielska 2017, 43; M. Górską-Zabielska, E. Smolska, L. Wachecka-Kotkowska 2021, 45, 47, fig. 5).

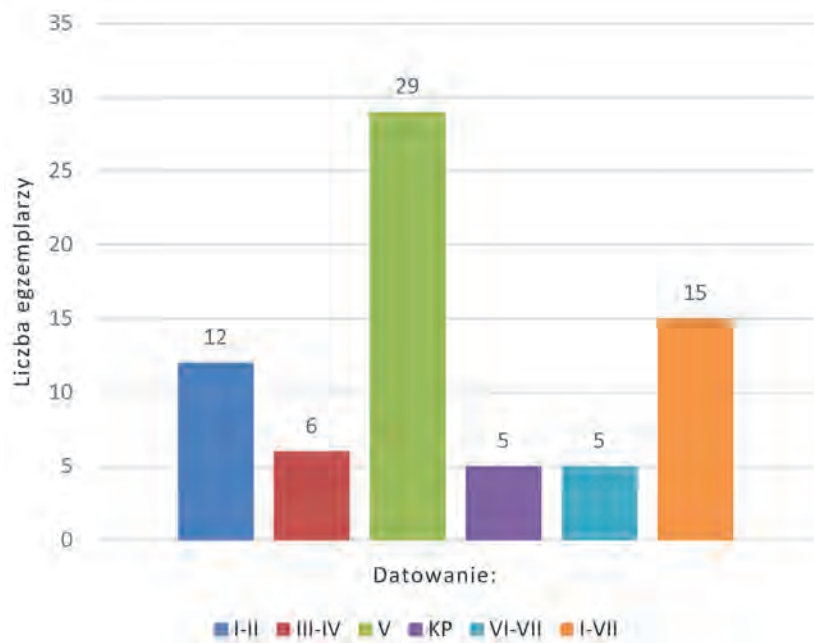


Chart 3. Number of spindle whorls in graves from particular phases of the cemetery's use. The "KP" bar represents whorls of imprecise chronology.

sions and spring imprints. In the Wielbark culture, such decoration is mainly found on pottery.⁹³⁴ In Mazovia and Podlachia, Wielbark culture pottery ornamented in this way is characteristic of the end of the Roman period and the beginning of the Migration period,⁹³⁵ which is consistent with the dating of the Kleszewo feature. A spindle whorl fragment from grave 723 (723/1) is decorated with rows of dots, but the condition of the artefact does not allow reconstructing the pattern.

2.3.14. OTHER CLAY ARTEFACTS

From grave 850 comes a cube with a hole in the central part (850/2). The feature is dated to phase II of the site's use. Its function is unclear. We know such items from many sites from the late pre-Roman period and the Roman period.⁹³⁶ They are usually interpreted as spindle whorls,⁹³⁷ which is debatable. The main task of a spindle whorl, apart from weighting the spindle,

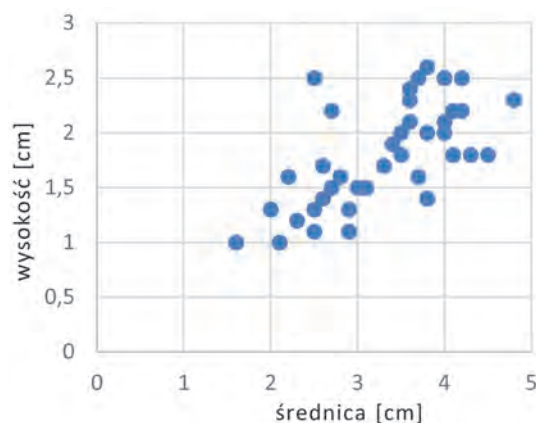


Chart 4. Diversification of spindle whorls in terms of their dimensions.

is to strengthen its rotational movement.⁹³⁸ In this respect, round solids work best, which is confirmed by the shapes of spindle whorls used from the Neolithic to modern times. Among them, there are practically no specimens of cuboid shapes.⁹³⁹ Therefore, it seems to me that the cube from Kleszewo, as well as similar artefacts from the Iron Age, should not be classified as spindle whorls. They could have been used, for example, as weights for other purposes.

⁹³⁴ R. Wołagiewicz 1993, 22, list 30; A. Kokowski 2001, 324.

⁹³⁵ W. Ziemińska-Odojowa 1999a, 135.

⁹³⁶ E.g., Gola, grave 9 (M. Grygiel, R. Grygiel, W. Stasiak 2019, 184, fig. 123:22), Grudziądz-Rządź, graves 180, 499, 617 (recently, M. Kurzyńska 2020, 102, 143, 162, table 57:17, 75:20,23), Karczewiec, grave 75a (T. Dąbrowska 1973, 422, pl. XVI:19), Krosno, feature 33 (A. Jarzec 2018, 36, pl. XXXI/33:6), Warszawa-Wilanów, graves 7, 76 (J. Marciniak 1957, 17, 81, pl. X:5, LXIX:10).

⁹³⁷ E.g., J. Kostrzewski 1919a, 165; E. Bokiniec 2008, 97 and the works cited in the footnote above.

⁹³⁸ Cf. T.J. Chmielewski 2009, 77–80; J. Maik 2012, 54–55; M. Przymorska-Sztuczka 2018, 352.

⁹³⁹ Cf. T.J. Chmielewski 2009, 77–80; M. Przymorska-Sztuczka 2018, 352–355.

Graves 146 and 185 contained fluted clay knobs of the *Bernašivka* type.⁹⁴⁰ One is a flat specimen with a circular depression in the central part (146/8), found in a Przeworsk culture grave from phase V of the cemetery's use. The shape of the second, residually preserved, specimen cannot be reconstructed (185/1). It was discovered in a Wielbark culture grave from phases VI–VII. *Bernašivka*-type knobs have recently been comprehensively discussed by B. Niezabitowska-Wisniewska.⁹⁴¹ The specimen from grave 146 is a form typical of the eastern zone of the Przeworsk culture in phase B₂. Of the dozen or so specimens known so far, only one was discovered outside northern and eastern Mazovia, namely, in Greater Poland, at the Wielbark culture cemetery at Straduń.⁹⁴² The specimen from grave 185 probably represents one of patterns 1–3 in the classification by the cited author. These patterns are commonly recorded in the areas of the Wielbark culture and the Masłomęcz group. Several/over a dozen specimens have also been found in the territories of the Przeworsk, Chernyakhov, Sântana de Mureș, Luboszyce and Elbe circle cultures; one example is known from the Dollkeim/Kovrovo culture. The chronology of these artefacts covers the younger and late Roman periods and the early phase of the Migration period. So far, the function of these objects has not been clearly determined.⁹⁴³

Grave 608 (Przeworsk culture, phases I–IIa) contained a nondescript lump of daub (608/9). It cannot be excluded that the artefact is of earlier chronology, i.e., it was originally associated with a settlement from the Bronze Age.⁹⁴⁴ In this light, it would have been found in the grave in a secondary context.

2.3.15. STONE OBJECTS

In two graves of the Przeworsk culture from stage IIa and phases III–IV of the cemetery's use, there were small flat pebbles with signs of use-wear (239/2, 357/10). Similar objects, which are called polishers, are assigned various functions, e.g., as tools used for smoothing the surface of vessels or for tanning works.⁹⁴⁵ In Mazovia and Podlachia, they are usually found in

women's graves from the late pre-Roman period and, less often, the early Roman period.⁹⁴⁶

Feature 82 (Przeworsk culture, phases I–V of the cemetery's use) yielded a grinding stone (82/1). Such tools are commonly recorded at settlement sites dating from the Neolithic up to the end of antiquity. However, I do not know of a similar specimen discovered at a cemetery from the late pre-Roman period or the Roman period. It is very possible that the artefact should be associated with the Trzciniec-Lusatian occupation horizon of the Kleszewo site, and its presence in a chronologically later feature is of a secondary character. Moreover, the dating of feature 82 to the Iron Age also raises reasonable doubts. It may also be a modern pit in which artefacts from various chronological periods were found.

2.3.16. GLASS BALLS

From graves 615 and 614.615, dated to phases II–III (or IIB–III), come three small pieces of white glass (Fig. 42). They are partly melted, and there are remnants of glass of a different colour on one of the fragments. Two pieces (Fig. 42:2.3) have a relatively regular shape, in which they resemble objects found at La Tène culture sites and described as balls.⁹⁴⁷ The Kleszewo artefacts also closely match their dimensions and glass colour. In the La Tène culture areas, balls are discovered both at settlements and cemeteries. Their chronology covers the middle and late La Tène period. Most often, they are interpreted as amulets or gaming stones.⁹⁴⁸

2.4 WEAPONS

Parts of weaponry were found in three Przeworsk culture graves. A sword in a scabbard and a spearhead were discovered in grave 402, a spearhead comes from grave 655, and a possible fragment of a scabbard fitting was found in grave 147. Grave 402 is dated to phase I, the rest, slightly less precisely – to phases I–IIa of the cemetery's use.⁹⁴⁹

⁹⁴⁰ A. Kokowski 2000.

⁹⁴¹ B. Niezabitowska-Wisniewska 2015.

⁹⁴² B. Niezabitowska-Wisniewska 2015, 505–506.

⁹⁴³ An overview of old and new concepts – B. Niezabitowska-Wisniewska 2015, 506–514.

⁹⁴⁴ Daub fragments were found in many pits of the Trzciniec and/or Lusatian cultures.

⁹⁴⁵ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2020, 156–157.

⁹⁴⁶ Cf. Dąbek, site 9 (A. Mistewicz, A. Maciałowicz, M. Woźniak 2020, 156–157), Kamińczyk (T. Dąbrowska 1997, 98), Oblin (K. Czarnańska 2007, 91).

⁹⁴⁷ Cf. M. Rudnicki 2012, 471–472.

⁹⁴⁸ Cf. M. Zepezauer 1993, 91–93; H. Rissanen 1999, 157; T. Bochnak 2014, 54.

⁹⁴⁹ These artefacts have already been discussed – cf. A. Maciałowicz and M. Woźniak 2015, 231–240.

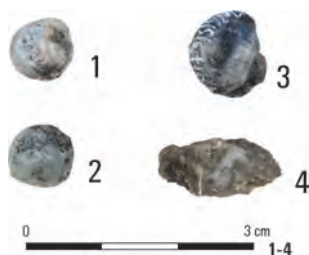


Fig. 42. Balls (?) of white glass from graves 614.615 and 615.

Photo by M. Woźniak.

2.4.1 SWORD AND SCABBARDS

The sword from grave 402 is a double-edged specimen, with a campanulate crossguard and wide blade ending in a curved point (402/1). On both sides of the blade, there is a wide fuller covered with small depressions. The state of preservation⁹⁵⁰ of the artefact makes it difficult to determine the nature of the latter feature, especially whether these pits are a result of intentional procedures or incidental (corrosion?). The first possibility is indicated by the fact that the alleged pattern covers the same space on both sides and, indirectly, by the fact that swords from the late pre-Roman period were occasionally decorated in this way. This kind of ornament was made by punching or acid etching.⁹⁵¹ The Kleszewo sword corresponds to T. Bochnak's type 3 and P. Łuczkiwicz's type II/2b.⁹⁵² This form is found relatively often in the area of the Przeworsk culture. Most of the precisely dated specimens were discovered in features from phase A₂.

The scabbard of this sword is composed of two iron plates fastened at the mouth with a crossbar with two so-called ogees, and at the bottom – with a high, pointed chape with triangular protrusions and a pair of round discs. Analogous finds from the Przeworsk culture were identified by T. Bochnak as type III (*Paruszewice* type), which corresponds to type 1a in P. Łuczkiwicz's classification.⁹⁵³ A dozen or so such specimens are known from Poland. They are often found in the La Tène culture areas, both in the eastern and western zones.⁹⁵⁴ Due to the fact that, to date, there has been no evidence that such scabbards could have been made in the Przeworsk culture environment, the finds from Poland are considered, together with the accompanying swords,

⁹⁵⁰ The part of the blade protruding from the scabbard is corroded and covered with a thick layer of a conservation agent.

⁹⁵¹ J. Kostrzewski 1919a, 87–88, fig. 71; T. Bochnak 2005, 32–34.

⁹⁵² T. Bochnak 2005, 25, 28–30; P. Łuczkiwicz 2006, 30–34.

⁹⁵³ T. Bochnak 2005, 38–39; P. Łuczkiwicz 2006, 59–60.

⁹⁵⁴ P. Łuczkiwicz, M. Schönfelder 2010, 172–182; T. Bochnak 2014, 86–88.

to be Celtic imports.⁹⁵⁵ In the Przeworsk culture areas, scabbards of Bochnak type III / Łuczkiwicz type 1a are most often dated to phase A₂, which is consistent with the chronology of most specimens discovered in the Celtic lands.⁹⁵⁶

Grave 147 yielded a fragment of an iron bar of triangular cross-section (147/3). Its function is unclear, and its interpretation is particularly difficult due to the lack of both terminals. The shape of the artefact most closely resembles C-shaped fittings (braces) used to fasten the elements of single-edged sword scabbards⁹⁵⁷ (Fig. 43:3–6). Assuming that the bar in question was used for this purpose, it cannot be excluded that, among the remaining, less characteristic contents of grave 147, there are further fragments of scabbard fittings, e.g., the iron ring from this feature (147/4) could have been part of a suspension ring (Fig. 43:7.8).⁹⁵⁸

2.4.2 POLE WEAPONS

Iron polearm heads were found in graves 402 and 655. The specimen from grave 402 has a laurel-shaped blade with a clearly marked rib and a relatively short socket (402/2). The side edges of the blade are deformed in places, perhaps intentionally. The spearhead corresponds to T. Bochnak's type 7a or P. Łuczkiwicz's variant F/1.⁹⁵⁹ The former is dated to phases A₁ and A₂,⁹⁶⁰ the chronology of variant F/1 is broader and covers the entire late pre-Roman period.⁹⁶¹ The spearhead from grave 655 has a slender, lanceolate blade (655/2). Moreover, it has a long socket decorated at the base with two circumferential grooves, between which there is a rivet hole. There is a small triangular depression adjacent to the edge of the hole, which indicates that the socket was incised in this place before the hole was punched. Treatments of this type are recorded on spearheads from the late pre-Roman period and the Roman period. They are believed to have functional significance – they probably made it easier to punch a hole.⁹⁶² The spearhead in question can be assigned to T. Bochnak's type 7d or P. Łuczkiwicz's variant H/1.⁹⁶³ Type 7d is dated to the

⁹⁵⁵ T. Bochnak 2005, 45; 2014, 74, 75, 80–88; P. Łuczkiwicz 2006, 184–185.

⁹⁵⁶ P. Łuczkiwicz, M. Schönfelder 2010, 172–182.

⁹⁵⁷ Cf. A. Maciałowicz, M. Woźniak 2015, 240.

⁹⁵⁸ Cf. J. Kostrzewski 1919a, 102, fig. 94d.

⁹⁵⁹ T. Bochnak 2005, 77; P. Łuczkiwicz 2006, 113.

⁹⁶⁰ T. Bochnak 2005, 77.

⁹⁶¹ P. Łuczkiwicz 2006, 116, 177.

⁹⁶² K. Czarnecka, B. Kontny 2008, 34; 2009, 698–700.

⁹⁶³ T. Bochnak 2005, 78; P. Łuczkiwicz 2006, 199.

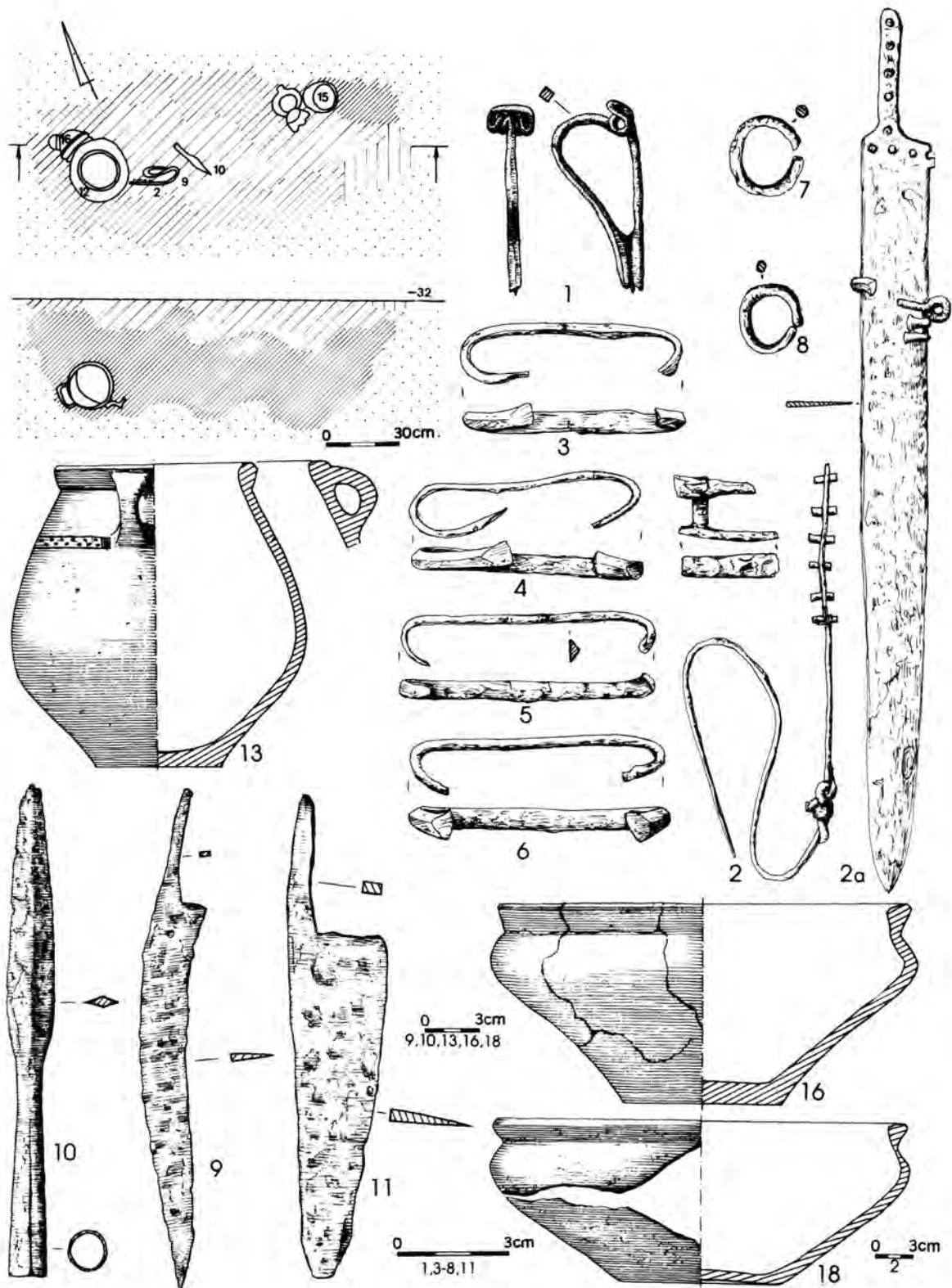


Fig. 43. Contents of grave 156 from Kamińczyk. After: T. Dąbrowska 1997.

entire late pre-Roman period,⁹⁶⁴ variant H/1 is placed within phases A₂–A₃.⁹⁶⁵ Both Kleszewo spearheads find numerous analogies in the Przeworsk culture territory, including northern and eastern Mazovia.⁹⁶⁶

2.5. BOTANICAL MATERIAL

From two Przeworsk culture graves (615/26, 627/5) come fragments of pericarp and seeds of common hazel (*Corylus avellana*).⁹⁶⁷ Their presence probably had some symbolic significance. It is believed that hazel played a significant role in the beliefs of the inhabitants of barbarian Europe.⁹⁶⁸ Hazelnuts have been recorded at several cemeteries discovered in Poland. However, they are found quite rarely in the Przeworsk culture; they are known from a few graves from the late pre-Roman period and the Roman period.⁹⁶⁹

Small⁹⁷⁰ pieces of an artefact (artefacts?) made of wood were found in an inhumation grave of the Wielbark culture (917/6). Their state of preservation precludes any attempt at identifying these finds.

2.6. ROMAN VESSELS

2.6.1. BRONZE VESSELS

Bronze vessel fragments were found in two graves (61, 524). More pieces – from one or two specimens – were stray finds from the surface of the cemetery (ZL/84.85?).

From the grave of the Przeworsk culture of no. 61, dated to phases IV–V of the cemetery's functioning, come an everted rim and body sherds (61/1.2). It is not

possible to determine the type of vessel on the basis of these elements. Bronze vessels are very rarely discovered at Przeworsk culture sites to the east of the Middle Vistula.⁹⁷¹

A better-preserved specimen was found in a Wielbark culture grave (524/7) from phase VI of the cemetery's use. The vessel is partly melted and heavily deformed. It was a specimen with a cylindrical upper body and thickened rim with chamfered edges. However, it is difficult to determine whether the rim was thickened inwards or outwards. Of the vessels recorded in the *Barbaricum* area in the developed section of the younger Roman period, which include the Kleszewo find, bowls with vertical walls, similar to Eggers types 78 and 79,⁹⁷² and buckets of the *Hemmoor* type (Eggers types 52–66)⁹⁷³ are shaped in this way. The former have rims thickened on the outside, the latter – also on the inside. Both forms are characterised by the presence of circumferential grooves, or a different ornamental band, on the outer surface of the walls. Such ornamentation is currently invisible on the Kleszewo artefact.⁹⁷⁴

The specimen from Kleszewo is one of the youngest bronze vessels discovered at a Wielbark culture site located east of the Middle Vistula. Similarly dated artefacts from that area form a relatively small assemblage, which includes scoops and strainers, bowls and buckets, and, exceptionally, other forms.⁹⁷⁵

The original shape and dating of the vessels preserved in fragments, which were stray finds (ZL/84.85?), are unknown. It cannot be ruled out that these objects are unrelated to the cemetery from the end of antiquity, e.g., they date to modern times.

2.6.2. GLASS VESSELS

One intact glass vessel and a few lumps of melted glass, possibly remnants of other specimens, were recorded at the cemetery.

From grave 884 comes a thick-walled, cylindrical beaker with a rounded base, decorated with four rows of oval and circular depressions made by cutting (884/1).

⁹⁶⁴ T. Bochnak 2005, 79.

⁹⁶⁵ P. Łuczkiwicz 2006, 120.

⁹⁶⁶ T. Bochnak 2005, 77–78; P. Łuczkiwicz 2006, 113, 119, maps 21–22.

⁹⁶⁷ Species identification carried out courtesy of Prof. Maria Lityńska-Zajac (Institute of Archaeology and Ethnology, PAS)

⁹⁶⁸ Cf. A. Niewęglowski 1988; 1993; K. Skóra 2008, 22–23; A. Błażejowski, M. Bohr, A. Chrzanowska 2020, 112–113; M. Mączyńska, I. Jakubiak, A. Urbaniak 2021, 74–75.

⁹⁶⁹ E.g., Głogów-Nosocice, grave 65 (A. Błażejowski, M. Bohr, A. Chrzanowska 2020, 98), Łęg Piekarski, grave from 1947 (L. Leciejewicz 1957, 103), Warszawa-Wilanów, grave 43 (J. Marciniak 1957, 155).

⁹⁷⁰ One of them was made of alder wood (*Alnus sp.*) – the species was identified by Dr Katarzyna Cywa (W. Szafer Institute of Botany, PAS)

⁹⁷¹ E.g., Zgliczyn-Pobodzy, graves A and 4 (A. Szela 2018b, 123, 127, fig. 2:2.3, 8:4).

⁹⁷² E.g., M. Erdrich 2002, pl. 92:3, 94:2, 95, 96:1; M. Erdrich, C. von Carnap-Bornheim 2004, pl. 29–32.

⁹⁷³ E.g., M. Erdrich 2002, pl. 63–86; M. Becker *et al.* 2006, pl. 41–47.

⁹⁷⁴ The vessel has been crushed; one side wall under the rim is obscured by a fragment of the lower part of body bent over it.

⁹⁷⁵ Cf. R. Wołagiewicz 1993, 32–33; A. Mistewicz, A. Maciałowicz, M. Woźniak 2020, 163–164.

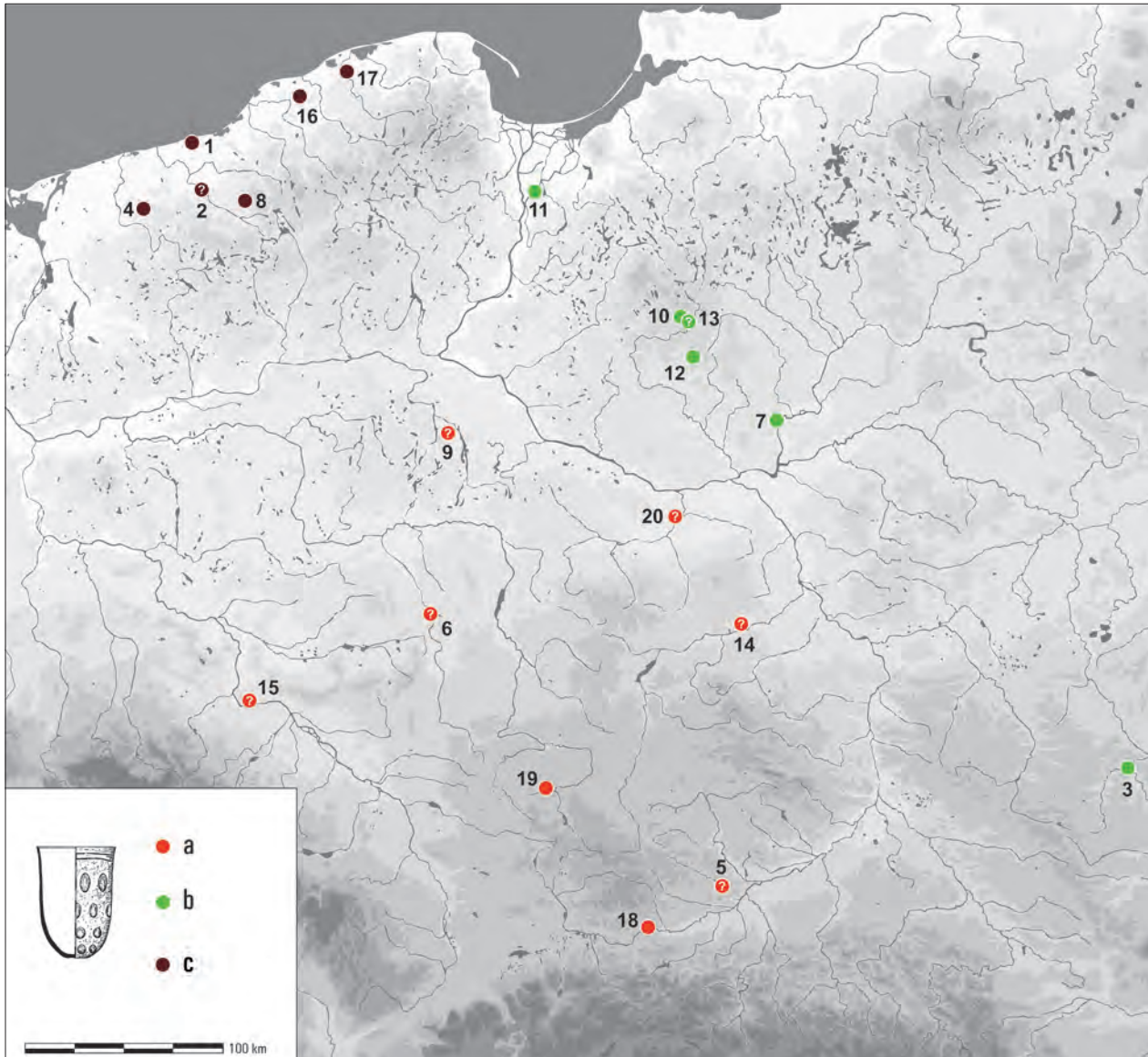


Fig. 44. Distribution of beakers of Eggers type 230 in the northern part of central European *Barbaricum*.

1 – Kleszewo; 2 – Borkowice; 3 – Dębczyno; 4 – Gródek, Hrubieszów County; 5 – Igllice; 6 – Jakuszowice; 7 – Kalisz-Piwnice; 8 – Kowalki; 9 – Krusza Zamkowa; 10 – Kozłówko; 11 – Malbork-Wielbark; 12 – Modła; 13 – Niedanowo; 14 – Otałażka; 15 – Prawików; 16 – Swołowo; 17 – Witkowo; 18 – Zofipole; 19 – Żabieniec; 20 – Żdźarów.

After: T. Stawiarska 1999, with additions.

The vessel corresponds to H.J. Eggers' type 230,⁹⁷⁶ type *Kowalki* distinguished by G. Rau,⁹⁷⁷ and E. Straume's type I.⁹⁷⁸ It is one of the most common forms encountered in barbarian Europe, giving rise to numerous studies.⁹⁷⁹ The vessels in question vary in morphology,

degree of elaboration of the ornament and chemical composition. In recent years, most attention has been paid to their chronology and the location of workshops that made them. Researchers generally agree that the main time of their manufacture was at the end of the Roman period (phase C₃) and that, to a lesser extent,

⁹⁷⁶ H.J. Eggers 1951, 180.

⁹⁷⁷ G. Rau 1972, 124.

⁹⁷⁸ E. Straume 1987, 28–33.

⁹⁷⁹ E.g., G. Rau 1972, 124, 129–134; U. Lund Hansen 1987, 88–89; L. Barkóczy 1988, 105; G. Gomolka-Fusch 1999, 137; T. Sta-

wiarska 1999, 147–151; B. Stjernquist 2004, 159–162; S. Pánczél, A. Dobos 2007, 68–69, 73, fig. 1; I. Gavritukhin 2011, 39–46; S.B. Shabanov 2011; O.V. Petrauskas 2016; 2018; S.B. Šabanov 2020, 118.

they were still in use at the beginning of the Migration period (phase D₁).⁹⁸⁰ The issue that poses the greatest problems is determining the chronological position of the oldest specimens. Several beakers from Scandinavia and Poland are dated to phase C₂.⁹⁸¹ For example, this is how the vessels from the Przeworsk culture settlements at Zofipole and Kalisz-Piwonice⁹⁸² are dated. I. Gavritukhin pointed out that these early specimens are usually represented by forms slightly different from the classic examples of Eggers type 230, e.g., they are shorter or thin-walled, or their dating may be broader, i.e., including also the end of the Roman period.⁹⁸³ The beaker from Kleszewo was found in a feature dated to stage VIIa of the cemetery's functioning, which corresponds to the period of the greatest popularity of these vessels.

The vessels in question are recorded in greatest numbers in the Chernyakhov and Sântana de Mureş cultures. Many have also been discovered in Poland (Fig. 44) and in Scandinavia. A few specimens have been found in Hungary and Crimea. On the other hand, such vessels are extremely rare in the areas of the Roman Empire. Consequently, determining their provenance proves to be very difficult. In the literature, they are most often interpreted as Roman wares or products of workshops located in *Barbaricum*, more precisely in the territory of Ukraine.⁹⁸⁴ The possibility of glass vessel manufacture outside the Empire is confirmed by the discovery of a glass workshop at Komariv on the Dniester, where mould-blown vessels were certainly made.⁹⁸⁵ The production of cut vessels, however, has not yet been confirmed there.⁹⁸⁶ Moving away from an attempt at indicating the place of manufacture of the Kleszewo beaker, it can be stated that it probably came to Mazovia from the Chernyakhov culture area.

Fragments of an indeterminate vessel or vessels come from "grave" 832. These are a large lump of heavily burnt glass of unspecified colour (832/13) and two smaller pieces of molten green glass, one with an appliqué fragment made of thread of the same colour (832/14). The

⁹⁸⁰ Cf. I. Gavritukhin 2011, 39–46, with an overview of earlier concepts; O.V. Petrauskas 2016; 2018.

⁹⁸¹ U. Lund Hansen 1987, 88–89; E. Straume 1987, 28–33, pl. II–IV; R. Wołagiewicz 1993, 34; T. Stawiarska 1999, 149.

⁹⁸² T. Stawiarska 1999, 295–296. The classification of the specimen from Kalisz-Piwonice as Eggers type 230 jest is uncertain.

⁹⁸³ I. Gavritukhin 2011, 43.

⁹⁸⁴ Cf. the literature referenced in footnote @@@ [pierwszym przypisie dotyczącym tego szkła].

⁹⁸⁵ Ū.L. Šapova 1978; O.V. Petrauskas 2014; O.S. Rumânceva 2014a.

⁹⁸⁶ O.S. Rumânceva 2014b, 403–404, 413; O. Rumyantseva, C. Belikov 2017, 262.

preserved fragments do not allow reconstruction of the shape of the vessel. However, as there are no glass vessels dating to the late pre-Roman period in Poland, I associate the fragments from Kleszewo with phases IV–V of the cemetery's use.⁹⁸⁷ From the Przeworsk culture areas, come several vessels discovered in features from the early Roman period,⁹⁸⁸ mainly ribbed bowls and footed beakers. I am not aware of a specimen decorated with applied threads from this time horizon. The oldest forms ornamented in this way known from Poland were discovered in features from the beginning of the younger Roman period, which may suggest dating the fragments from Kleszewo to stage Vc, which I synchronise with phase B₂/C₁–C_{1a}. It should be taken into account, however, that the decoration in question appears in the Roman areas on vessels dating to as early as the 1st century CE.⁹⁸⁹

Pieces of a melted thick-walled vessel of colourless glass were discovered in grave 708 (708/23) from phase VII of the cemetery's use. Some smaller and larger lumps of yellowish and colourless glass, summarised in Table 6 in Subchapter 2.2.3.2, may also be remnants of vessels.

2.6.3. TERRA SIGILLATA

Grave 150, dated to phase VI of the cemetery's use, contained a fragment of a *terra sigillata* vessel (150/1). It is covered with a brown glaze. On the outer surface, there are imprints in the form of a beaded line and another, undefinable pattern. L. Tyszler tentatively assigned this specimen to H. Dragendorff's type 37⁹⁹⁰ and, based on the ornamentation, considered it to be a product of a Gaul workshop (Lezoux) from the second half of the 2nd century CE.⁹⁹¹

In the Wielbark culture areas, *terra sigillata* vessels are found very rarely; in Mazovia and Podlachia, they are quite exceptional (Fig. 45). It is estimated that the finds from the said cultural area, of which there are nearly 25, constitute about 5% of the collection of all vessels of this type discovered in Poland.⁹⁹² Most are deep bowls of H. Dragendorff's type 37. The most numerous are the products of the Rhineland workshops at Rheinabern. The finds of forms from central Gaul

⁹⁸⁷ "Grave" 832 consist of at least two Przeworsk culture burial pits from phases I–IIa and IV–V.

⁹⁸⁸ T. Stawiarska 1999, 165–166.

⁹⁸⁹ S. Fünfschilling 2015, 78.

⁹⁹⁰ Cf. H. Dragendorff 1895, 94, pl. III:37.

⁹⁹¹ L. Tyszler 1999, 41.

⁹⁹² J. Andrzejowski, A. Przychodni 2008, 169, fig. 8

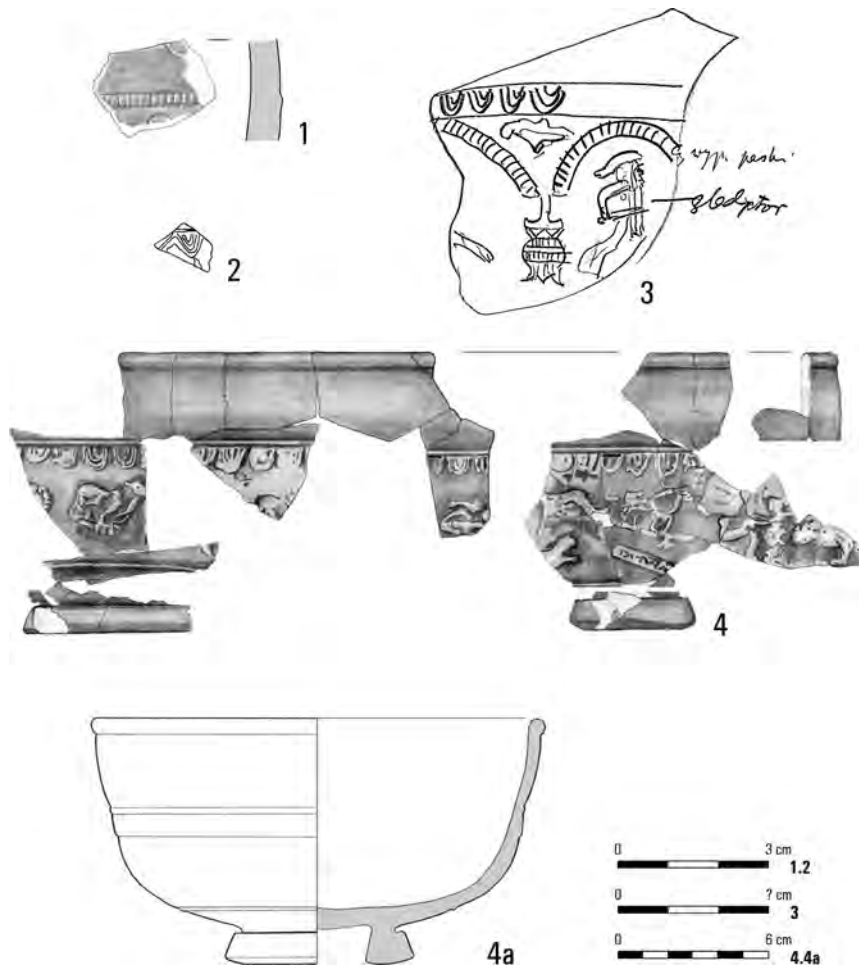


Fig. 45. Finds of *terra sigillata* from northern and eastern Mazovia and Podlachia.

1 – Kleszewo, grave 150; 2 – Warszawa-Dotrzyma; 3 – Ciemnowko; 4 – Jartypory, grave 106.

After: J. Andrzejowski, A. Przychodni 2009 (4), L. Tyszler 1999 (2), M. Woźniak 2021 (1), J. Kostrzewski, *Archive* (3)

are few (Fig. 46).⁹⁹³ It is presumed that *terra sigillata* vessels arrived in the Wielbark culture area from the Danube region via the Amber Road, or from the west via Scandinavia.⁹⁹⁴

2.7. CLAY VESSELS

2.7.1. HAND-BUILT CLAY VESSELS

Hand-made pottery of the Przeworsk and Wielbark cultures was discovered in 524 features and graves, as

⁹⁹³ J. Andrzejowski, A. Przychodni 2008, 169–177; A. Przychodni 2010.

⁹⁹⁴ J. Andrzejowski, A. Przychodni 2008, 173; L. Tyszler 2012, 269; 2017, 85; J. Schuster 2018b, 174.

stray finds on the surface of the cemetery and in secondary contexts – in the fills of medieval graves. It forms a large assemblage, containing the remains of around 1,840 identified vessels. The remainder consists of more than 21,000 nondescript fragments, usually burnt body sherds. Several dozen graves also contained sherds of pottery from the Bronze Age Trzciniec and Lusatian cultures. They likely found their way into Przeworsk and Wielbark culture graves by accident, e.g., with the earth used to fill the pits. These artefacts will not be discussed in this publication.

PRZEWORSK CULTURE

From 344 graves and features of the Przeworsk culture come the remains of about 1,340 vessels and more than 15,000 nondescript potsherds. Fragments of about 200 more vessels and nearly 2,600 nondescript fragments of Przeworsk culture pottery were found on the sur-

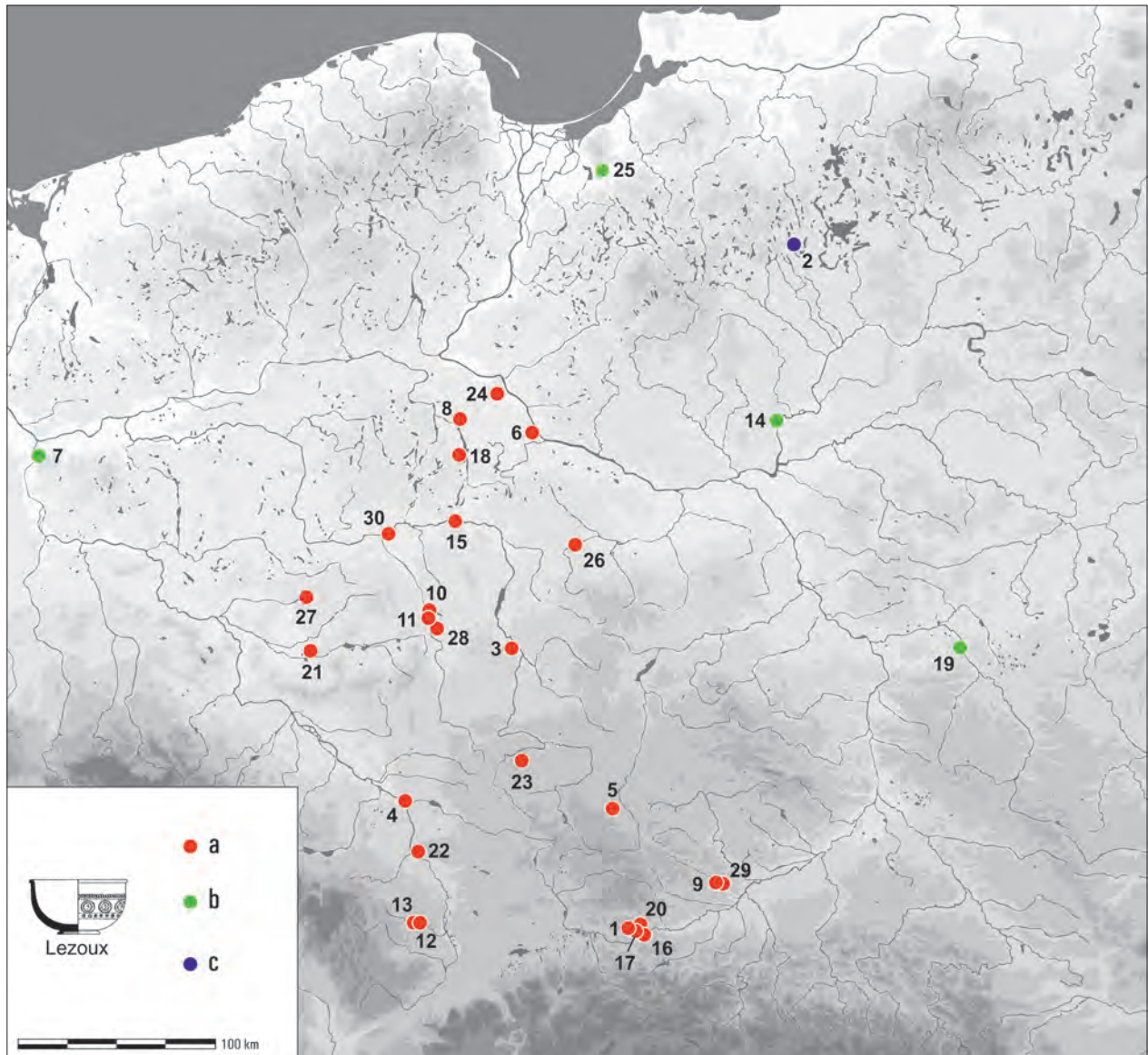


Fig. 46. Distribution of *terra sigillata* vessels from central Gaul in the northern parts of central European *Barbaricum*.
 1 – Kleszewo, 2 – Aleksandrowice; 3 – Babięta; 4 – Chałupia Mała; 5 – Dobrzeń Mały; 6 – Drochlin; 7 – Gąbinek; 8 – Górzycza;
 9 – Jacewo; 10 – Jakuszowice; 11 – Kalisz-Piwonice; 12 – Kalisz-Zawodzie; 13 – Kietrz, site 1; 14 – Kietrz, site 7; 15 – Konin;
 16 – Kraków-Pychowice; 17 – Kryspinów; 18 – Lachmirowice; 19 – Lubartów; 20 – Modlniczka; 21 – Niezgodza; 22 – Obrowiec;
 23 – Opatów; 24 – Otłoczyn; 25 – Weklice; 26 – Witaszewice; 27 – Wymysłowo; 28 – Zadowice; 29 – Zagórzycze; 30 – Zapowiednia.
 After: L. Tyszler 2012, P. Kaczanowski 2017, I. Jakubczyk 2018, with additions

face of the site and in secondary contexts. The vessels from Kleszewo were classified following two separate divisions: one for the late pre-Roman period and the initial section of the Roman period (phases I–III of the cemetery’s use), and another one for the Roman period (phases IV and V).

Phases I–III

The ceramic material of phases I–III of the cemetery’s functioning generally consists of forms typical of Przeworsk culture pottery.⁹⁹⁵ Naturally, it has the most in common with earthenware found east of the Middle

⁹⁹⁵ E.g., J. Kostrzewski 1919a, 180–194; T. Dąbrowska 1988, 28–31; 1997, 101–104; R. Mycielska, Z. Woźniak 1988, 23–25; A. Maciałowicz 2006, 308–317; M. Grygiel 2018, 323–326.

Vistula. Therefore, in an attempt to organise and describe the Kleszewo pottery, I made use of the existing studies on the material from the largest Mazovian cemeteries. The classification proposed in this publication (groups I–VII) is an adaptation of the typology created by T. Dąbrowska for the “pre-Roman” pottery from the Kamieńczyk cemetery.⁹⁹⁶ The slight differences between the two systems are the result of taking into account the local specificity of the Kleszewo material. In this publication, I do not follow the classification of rims presented in T. Dąbrowska’s division.⁹⁹⁷ This is due to the fact that, in the case of burnt vessels, which predominate in the Kleszewo pottery assemblage, rims are often damaged, sometimes bloated, and the edges of their planes are blurred. As a result, it was usually impossible to distinguish broad, flat rims faceted multiple times on the outside (T. Dąbrowska’s variant “a”) from broad, flat and sharply faceted ones (T. Dąbrowska’s variant “b”).

Group I consists of medium-sized mugs and handleless vessels of similar shape. About 100 of such vessels were found at Kleszewo. The most numerous are specimens of type I.4, i.e., vessels with a rounded body and undefined rim (e.g., 200B/12, 224/11, 245/7), and of type I.1 – with a rounded body and defined rim (e.g., 9/1, 591/2, 655/6.7). Each form is represented by about 30 specimens. Other variants of group I, i.e., vessels with a cylindrical (type I.2 – e.g., 22/10.11, 357/17, 1024B/9) or bipartite body (type I.3 – e.g., 117/5, 357/16, 697/5), both with a defined rim, were recorded nearly two times less often. From the cemetery also come a few mugs that do not fit into any of the distinguished types (see below). Vessels of types I.1–3 usually have carefully worked, smooth and, occasionally, burnished surfaces;⁹⁹⁸ specimens with a coarse surface are recorded only exceptionally (e.g., 11/1, 357/14, 409/11?). Some examples of the former vessels have a small handle, cylindrical or quadrangular in cross-section and constricted in the middle, attached to the upper part of the body. On the other hand, the specimens with coarse surfaces have large handles, which brings them closer to vessels of type I.4. Some mugs are decorated with simple ornamental motifs, typical of pottery from the late pre-Roman period (e.g., 22/10, 122/2, 357/15.16, 860/9 – see below). Type-I.4 mugs have coarse, carelessly smoothed

or smooth and, exceptionally, burnished (1022/12⁹⁹⁹) surfaces, devoid of ornamentation. Their handles are massive and cylindrical.

At the Kleszewo cemetery, mugs of types I.1 and I.2 were found in features dated to phases I–III, especially I–IIa, of the cemetery’s use. Type-I.4 mugs are also dated to phases I–III, with most of them discovered in graves and features from phase II, which is also how the majority of type-I.3 vessels are dated.

From grave 92 comes a small mug with a pear-shaped body and a thickened and faceted rim (92/2). It finds good analogies among mugs of type PXXG defined by R. Mycielska and Z. Woźniak¹⁰⁰⁰ or type IV distinguished by A. Maciałowicz.¹⁰⁰¹ Such vessels, in small numbers, have been recorded at several Przeworsk culture cemeteries in northern and eastern Mazovia, and they are also found to the west of the Vistula. Most come from features dated to phase A₂ and, exceptionally, phase A₃.¹⁰⁰² This chronology also applies to the specimen from Kleszewo, which was found together with a brooch of type H.

Grave 224 from stage IIa of the cemetery’s use contained a mug with a defined rim (224/10). It differs from type-I.1–3 vessels in its massive body, which is more characteristic of type I.4. A similar specimen, dated to phase A₂, is known from Suchodół.¹⁰⁰³ A similar mug of type I.4 comes from grave 357 (357/19); it has a poorly defined, slightly thickened rim, gently bevelled on the outside. The vessel is associated with stage IIa of the cemetery’s use.

Several vessels of types I.1 and I.3 (e.g., 187/4, 1047/5) are distinguished by their large size (rim diameter of over 15 cm, height over 13 cm), which allows them to be assigned to the group of “large mugs” as defined by K. Czarnecka.¹⁰⁰⁴ In her opinion, such vessels, due to their large volume, were rather used for purposes other than drinking. She speculates that they may have been made specifically for funeral ceremonies. It should be noted, however, that mugs of similar size are also recorded at settlements.¹⁰⁰⁵ The large mugs from Kleszewo are dated to phases II and III of the cemetery’s use.

⁹⁹⁶ T. Dąbrowska 1997, 101–104.

⁹⁹⁷ T. Dąbrowska 1973, 499; 1988, 15; 1997, 101.

⁹⁹⁸ As most of the specimens have been secondarily burnt, it is difficult to establish the original appearance of their damaged and discoloured surfaces.

⁹⁹⁹ This vessel could also be assigned to miniature forms of type to VII.5.

¹⁰⁰⁰ R. Mycielska, Z. Woźniak 1988, 24.

¹⁰⁰¹ A. Maciałowicz 2006, 309–310.

¹⁰⁰² A. Maciałowicz 2006, 310.

¹⁰⁰³ A. Maciałowicz 2006, 288, pl. VI/16:1.

¹⁰⁰⁴ K. Czarnecka 2007, 97.

¹⁰⁰⁵ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 171–172.

Similar forms are most often dated to phase A₂, less often – to the beginning of phase A₃.¹⁰⁰⁶

A total of 94 specimens assigned to group II (bowls) were found in 69 graves and features, in secondary contexts and on the surface of the site. These are medium-sized and large vessels. They were divided into three types. Vessels of types II.1 and II.2 are characterised by defined rims and either spherical (type II.1 – e.g., 20/6, 22/4, 798/4) or less or more biconical bodies, usually rounded at the maximum circumference located in the upper part of the body (type II.2 – e.g., 22/5, 357/20, 1024A/9). These specimens have carefully treated, smooth surfaces. Type-II.3 bowls are vessels with rims undefined on the outside, sometimes thickened and/or bevelled on the inside (e.g., 20/7, 357/21, 1030/4). Their bodies are spherical (e.g., 1035/6), flowerpot-shaped (e.g., 985/1) and, exceptionally, slightly biconical (e.g., 1030/4). Their surfaces are smooth but usually treated less carefully than in the case of specimens with distinct rims. Bowls of types II.1–3 are undecorated; only the specimen from grave 224 (224/13) has two criss-crossing lines engraved on the inner surface of the base (Fig. 47).

The most numerous at the Kleszewo cemetery are specimens of type II.2, which constitute about 60% of the total number of group-II vessels. The second most frequent forms are bowls of type II.1 (c. 25%), and the third – of type II.3 (c. 15%). For the individual types, some differences in the chronology can be observed. Type-II.1 vessels are mainly characteristic of the oldest stage of the cemetery's use, comprising phases I and I–IIa. Only a few specimens were recorded in graves from stage IIb and phase III. The situation is different in the case of bowls of types II.2 and II.3, which were most frequent in graves and features dating to phase II, or phases II–III, of the cemetery's use.

Compared to the specimens discussed above, the vessels from graves 277 and 96, dated respectively to phases II–III and phase II of the cemetery's functioning, stand out. They are bowl-shaped forms with a bipartite body and defined rim, which resemble type II.2. The first is a specimen with a cylindrical upper part of the body (277/1). The vessel is reminiscent of type-I.3 mugs (see above), from which it differs mainly in proportions.¹⁰⁰⁷ The bowl is decorated above the maximum body diameter with a wide, circumferential band of the so-called blank meander. The second specimen is slightly biconical and has a small handle (967/5). The

¹⁰⁰⁶ Recently, A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 171–172.

¹⁰⁰⁷ I.e., a larger rim diameter to height ratio.



Fig. 47. Inner base surface of a bowl from grave 224 (a) and a sketch of the lines engraved on it (b).

Photo/drawn by M. Woźniak

upper part of its body is ornamented with a circumferential band of chevrons.

In grave 351 from phase III of the cemetery, there were fragments of a bowl with a rounded body, undefined rim and two flat handles in the form of arched projections at the rim (Fig. 48:1). I do not know of a good analogy for this artefact. A somewhat similar specimen with decorative, horizontal handles was discovered in feature 85 at the Pajewo-Szwelice cemetery (Fig. 48:2). The vessels from grave 18 at Brudnice (Fig. 48:3) and grave 250 at Niedanowo (Fig. 48:4) also resemble the Kleszewo artefact. The former, however, is noticeably smaller than the Kleszewo one and oval in plan.¹⁰⁰⁸ The bowl from Niedanowo, on the other hand, has handles in the form of three pointed protrusions. This shape is

¹⁰⁰⁸ A. Szela 2021, 27, 98, pl. XII/18:2.

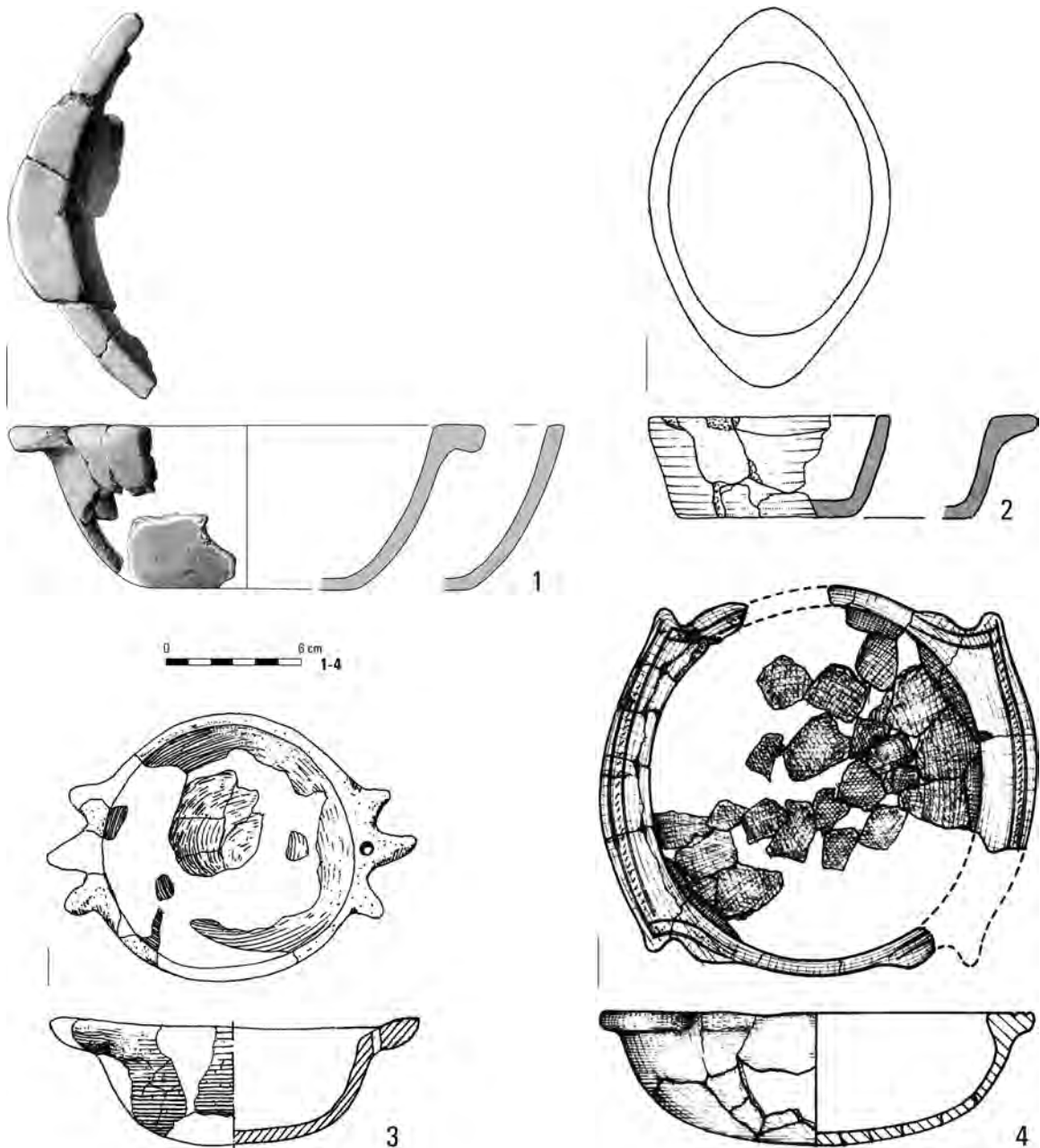


Fig. 48. Vessel from grave 351 and similar forms.

1 – Kleszewo, grave 351; 2 – Pajewo-Szwelice, feature 85; 3 – Brudnice, grave 18; 4 – Niedanowo, grave 250.

After: W. Ziemińska-Odojowa 1999a (4), Z. Dłubakowski 2005 (2), A. Szela 2021 (2), M. Woźniak 2021 (1)

completely atypical for Przeworsk culture pottery. Such handles can be found on early Roman bowls from Jutland.¹⁰⁰⁹ The specimen from Pajewo-Szwelice is dated to phase A₃/B₁, so analogously to the specimen from Kleszewo; the other listed forms are younger - they come from graves dated to subphases B_{1b}-B_{2a}.

¹⁰⁰⁹ J. Schuster 2017a, 149, fig. 22.

Tripartite vessels with a defined rim and bulbous body and the maximum circumference in the upper or middle part of the body (group III) were found in 20–23 graves (e.g., 27/3, 51/6.7, 596A/2). These specimens are medium-sized or, most often, large. They have plastically defined necks that are cylindrical or conical. The rim diameter of individual specimens is smaller or, less frequently, similar to the largest body diameter. The vessels are carefully made, and all specimens have

smooth surfaces. They were discovered in graves from phases I–III of the cemetery’s use. Several vessels dated to phase I (e.g., 117/12, 596A/2, 798/6-8) and one from phase I–IIa (620/6) have either one or a couple of handles, attached at the neck. This element is not found on specimens from graves dating to stage IIb and phase III. The vessels in question were sometimes ornamented with engraved bands (e.g., 51/6, 101/9, 1022/8). The specimen from grave 1025 has a clay strip applied at the base of the neck (1025/5). Most¹⁰¹⁰ of the decorated vessels of group III were discovered in graves from phase II of the cemetery’s use.

Vases of group IV are tripartite vessels with a defined rim and biconical or rounded body, with the maximum diameter in the upper part of the body, which is usually located directly below a plastically defined neck (e.g., 200B/17.18, 500/8, 1024B/14). They were discovered in 27 graves of the Przeworsk culture, in secondary contexts (in Wielbark culture graves) and on the surface of the site. They are medium-sized and, rarely, large vessels. Some of them have a single small handle (e.g., 200B/17, 521A/1, 1047/8) or a so-called pseudo-handle (1035/8 – Fig. 49¹⁰¹¹), attached at the neck. The latter is rarely found on Przeworsk culture vessels from the late pre-Roman period, e.g., on a stray find from Stupsk.¹⁰¹² The so-called pseudo-handle is more frequently noted on vessels of the Oksywie and Jastorf cultures and is usually placed at the body.¹⁰¹³ The vases of group IV have carefully treated, smooth surfaces. Most are decorated with an engraved band near the maximum body diameter (e.g., 219A/3-5, 245/10, 500/8, 697/9). The vessels in question are characteristic of phase II or phases II–III of the cemetery’s use. Twenty-two of the 27 features in which they were found are dated to this period. One specimen from grave 122 and possibly also the vessels from graves 51 and 147, which are dated broadly to phase I–IIa, can be associated with phase I of the cemetery’s functioning.

A form similar to group-IV vessels is represented by a residually preserved vase (?) decorated with a meander band (1026A/6), recovered from grave 1026A. On the basis of an Almgren-2aII fibula, this feature can be dated to phase III of the cemetery’s use. The vessel differs from the vases discussed above mainly in the presence of narrow so-called pseudo-handles with elongated bases. This last feature is reminiscent of the



Fig. 49. The so-called pseudo-handle on a vase from grave 1035. Photo by M. Woźniak

so-called pseudo-handles in the shape of the Roman numeral for 1, typical of early Roman pottery of the Przeworsk culture from northern Mazovia.¹⁰¹⁴ However, it should be emphasised that this form of decoration becomes widespread in northern Mazovia only in the younger section of phase B₁, thus later than the dating of grave 1026A from Kleszewo.¹⁰¹⁵ On the other hand, in eastern Mazovia and Podlachia, such pseudo-handles are not encountered. Hence, the similarity of the detail from the Kleszewo vessel to the ornament of northern Mazovian forms may be coincidental.

Group V consists of medium-sized narrow-mouth jars (so-called pear-shaped vessels) with a defined rim and globular body whose largest circumference is located at its mid-height or lower (e.g., 117/10, 51/8, 655/8). These are carefully made vessels with smooth surfaces. Most of them have a handle under the rim. Numerous specimens are decorated with an engraved circumfer-

¹⁰¹⁰ Only in the case of the find from grave 51, an earlier chronology cannot be excluded.

¹⁰¹¹ The illustration of the handle’s cross-section in the plate wrongly suggests the presence of a hole.

¹⁰¹² A. Niewęglowski, J. Okulicz 1965, 270, fig. 1:i.

¹⁰¹³ E. Bokinić 2008, 144, 145, 147, 158; A. Strobin 2011, 42.

¹⁰¹⁴ E.g., Brudnice (A. Szela 2021, 93, 96, 101), Modła (J. Andrzejowski 2009, 47), Niedanowo (W. Ziemińska-Odojowa 1999a, 122–125); cf. also J. Okulicz 1983, 175, table 1.

¹⁰¹⁵ I correlate phase III of the cemetery’s use with subphase B_{1a} (cf. below).

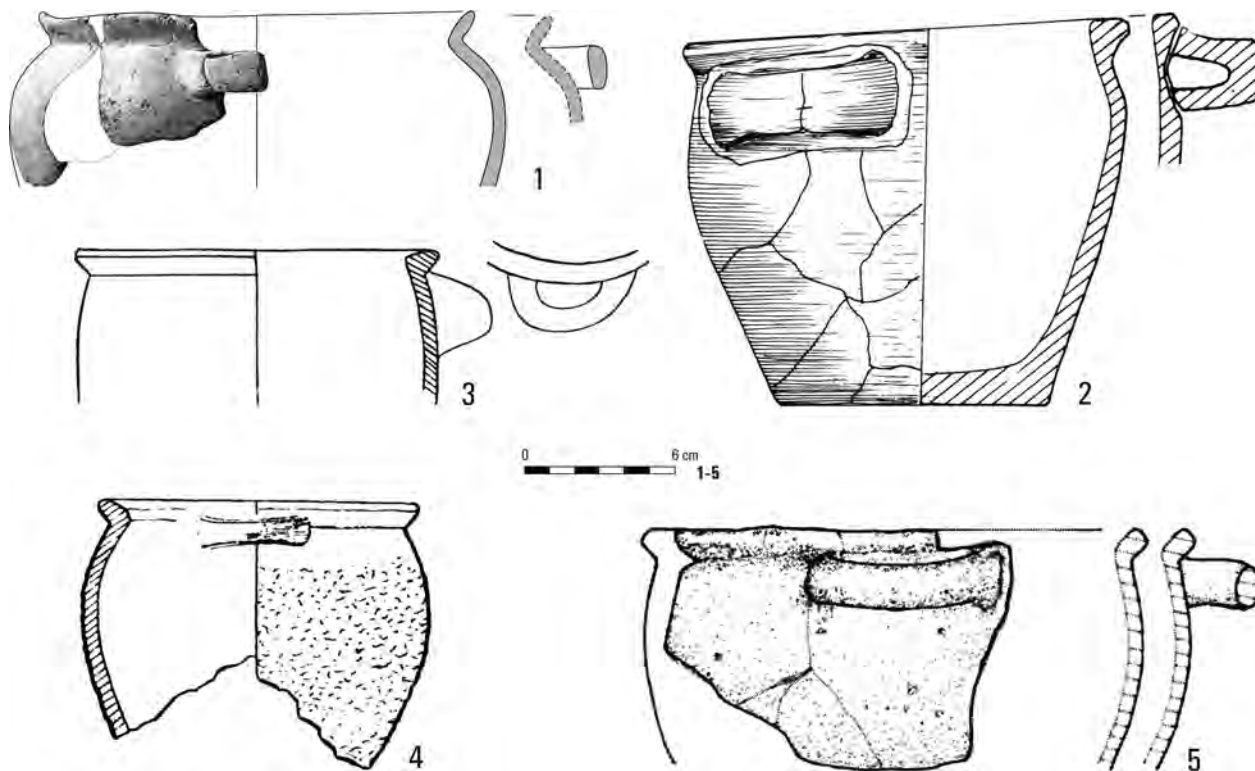


Fig. 50. Vessels with horizontal handles from the Przeworsk culture (1–4) and Oksywie culture (5) areas.
 1 – Kleszewo, grave 798; 2 – Kamieńczyk, grave 82/83; 3 – Warszawa-Wilanów, grave 74; 4 – Wymysłowo, grave 311;
 5 – Szynych, feature 720. After: S. Jasnosz 1952 (4), J. Marciniak 1957 (3), T. Dąbrowska 1997 (2), E. Bokinić 2018 (5),
 M. Woźniak 2021 (1).

ential band in the upper part of the body (e.g., 47/4.5, 620/5, 407/6, 409A/9, 655/8). Jars of group V are typical of phases I–IIa of the cemetery's use, with 14 out of 16 specimens dated in this way. Only the artefact from grave 1022, which is generally dated to phase II of the cemetery's functioning, may be younger.

Pots of group VI are medium-sized or large vessels with a defined rim and rounded body whose largest circumference is located at its mid-height or higher. The group is divided into two types. Type VI.1 consists of specimens whose body diameter is larger than their rim diameter (e.g., 655/9, 1/1961/3); type VI.2 groups specimens in which both these parameters are similar (e.g., 117/13, 532/2, 1024B/16?). The latter are sometimes relatively slender and small vessels (e.g., 1024B/16). Pots of both types can be equipped with two handles attached to the rim. Such specimens also have slightly different proportions from handle-less vessels – their rim diameters exceed the height of the vessel (357/23, 1022/19). The surfaces of group-VI vessels are smooth, rarely – coarse, exceptionally – smooth at the top and roughened at the bottom (117/13). These vessels are undecorated. Handle-less specimens of both types were

discovered in features from phases I–III, while specimens with handles come exclusively from phase II of the cemetery's use.

The pot from grave 798 that resembles type VI.1 has a non-thickened everted rim and horizontally positioned strap handle (798/9). The latter feature is quite rarely recorded amongst Przeworsk culture vessels. It is found on various forms scattered over almost the entire area of this group and dating to phase A₂ or the beginning of phase A₃ (Fig. 50:1–4).¹⁰¹⁶ Similar vessels with analogously shaped handles are also encountered in the Oksywie culture areas (Fig. 50:5). The specimen from Kleszewo is dated to phases I–IIa of the cemetery's use, i.e., in a similar chronological range.

Group VII consists of miniature vessels. It is very diverse in terms of morphology, resulting in a number of types distinguished within its limits. The division was based on the shape of the body and rim. As a result, individual types would sometimes include forms that differ, e.g., in the proportions or location of the maximum body circumference. Five types have been distin-

¹⁰¹⁶ T. Dąbrowska 1997, 103–104; 2008, 69.

guished: VII.1 – slender vessels with a rounded body (e.g., 200B/13.15, 224/12); VII.2 – cups or bowls with a biconical (e.g., 533/4, 536/3, 1024A/6) or – VII.3 – rounded body (e.g., 200B/14, 582/4, 1024A/7); VII.4 – tripartite miniature vases (e.g., 190/1.2, 1025/10), all with a defined rim; VII.5 – forms with an undefined rim. This last type includes small bowls, cups and mugs with a rounded or biconical body (e.g., 1022/12, 1024A/8, 1025/9), inverted cone-shaped vessels (351/8), hemispherical vessels (1/1961/10, 530/2, 615/20) and those shaped as a flattened sphere (1022/20). Group-VII vessels are characterised by carefully treated, smooth surfaces but are rarely decorated (e.g., 615/20). Vases of type VII.4 are the most numerous at the site (approx. 20 pcs.), accounting for approximately 30% of all miniature forms. Less frequently recorded are the examples of types VII.2–3¹⁰¹⁷ and VII.5, with no more than 10 specimens each; type-VII.1 vessels are unique and were discovered in only two graves (200B/13.15, 224/12). The chronology of miniature vessels is diverse. Type-VII.3 vessels date to phases I–III of the cemetery’s use, with most examples found in graves from phases I–IIa. Type-VII.4 specimens are characteristic of phases II–III. This is also how the vast majority of bowls and cups of type VII.2 and forms with an undefined rim of type VII.5 are dated. Slender vessels of type VII.1 were found in graves from stage IIa.

Grave 530 yielded a vessel with a cylindrical, hollow foot and funnel-shaped body (Fig. 51:1). Its only known analogy is a specimen from grave 125 from Błonie (Fig. 51:2), which was used to try to recreate the shape of the deformed Kleszewo vessel. The grave from Kleszewo is dated with vessels of the first ceramic phase to phases I–IIa of the cemetery’s use. The artefact from Błonie, accompanied by similar pottery, should probably be assigned a similar chronology. From the Mazovian territory of the Przeworsk culture, we also know other forms of vessels with a hollow foot. They are small bowls and cups with a defined rim.¹⁰¹⁸ All precisely dated specimens also come from graves dated to the same time horizon, i.e., phase A₂ and the early section of phase A₃.¹⁰¹⁹

Several graves from phases II and III of the cemetery’s use contained pots with an undefined rim (e.g., 48/14, 232/12, 351/5). In terms of shape, they resemble mugs of type I.4 or bowls of type II.3 and are also morphologically similar to early Roman pots of type C.1 (see below). The surface of one specimen is rough in the middle part of the body and smooth near the rim and base (351/5); the remaining vessels are smooth throughout. Similar, smaller and larger, vessels, dating to the late pre-Roman period, are also known from other Mazovian-Podlachian cemeteries of the Przeworsk culture.¹⁰²⁰

From grave 51, dated to phases I–IIa of the cemetery’s operation, comes a small biconical bowl or vase with a non-thickened, everted rim (51/13). Its shape resembles that of the type-VII.2 vessel from grave 1024A (1024A/6), which is dated to stage IIb. Bi- and tripartite forms with a relatively sharp body profile, including those belonging to groups II, IV and type VII.2, first appear at the Kleszewo cemetery only in phase II of the use of the site (e.g., 140/1.3, 219A/5, 245/9, 656/3). Thus, the presence of such a vessel may provide grounds for narrowing down the dating of Kleszewo grave 51 to stage IIa.

From grave 51 also come two fragments of a lid (one?): an edge sherd and a knob-shaped handle (Fig. 52:1). The lid was probably flat, with a cylindrical ring along the edge on the underside, which was perpendicular to the surface of the lid and inserted into the mouth of the vessel it covered. The state of preservation does not allow reconstructing the size of the artefact and, consequently, connecting it to any of the numerous vessels found in the grave in question. Vessels with lids are relatively rare in the Przeworsk culture. We know them from features dated to the late pre-Roman period and the Roman period.¹⁰²¹ Morphologically and chronologically, the closest analogies to the Kleszewo artefact come from the Oksywie culture areas in Chełmno Land and Gdańsk Pomerania. The small vessels from Gdynia-Okisywie and Papowo Toruńskie had similar lids with handles (Fig. 52:2.3).¹⁰²² Both are dated to phases A₂–A₃.¹⁰²³ It is assumed that the appearance of vessels with lids in the Oksywie culture environ-

¹⁰¹⁷ The number of vessels of types VII.2 and VII.3 may be underestimated. This is mostly due to the fact that the fragments of doubtlessly small vessels with less or more rounded bodies may be remnants of mugs of group I or bowls of group II. Therefore, any attempts at assigning these fragments to particular types have been abandoned.

¹⁰¹⁸ T. Dąbrowska 2008, 68–69. A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 173–175.

¹⁰¹⁹ T. Dąbrowska 2008, 68–69.

¹⁰²⁰ E.g., Oblin, graves 36, 42, 138a, 283, 297 (K. Czarnecka 2007, 100, pl. XXXVIII/36:18, XLIV/42:2, CXXXVIII/138a:9, CCXXX-III/383:4, CCLI/297:18), Warszawa-Wilanów, graves 25, 48, 99 (J. Marciniak 1957, 30, 54, 104, pl. XXII:6, XLII:4, LXXXVII:1).

¹⁰²¹ T. Dąbrowska 1993; M. Woińska 2017, 229–230; A. Szela 2021, 99–100.

¹⁰²² D. Bohnsack 1938, pl. 18:9.12; E. Bokinić 2008, 310, pl. XXX/lż13.

¹⁰²³ Cf. A. Strobin 2011, 35–36, 136, 164, 183.

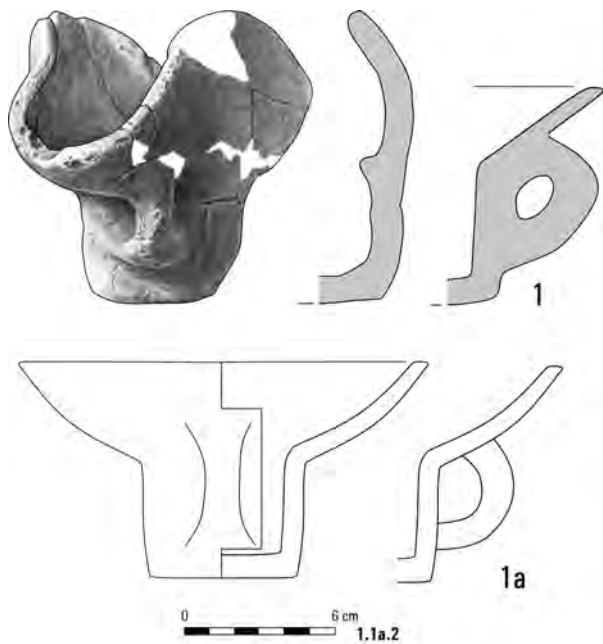


Fig. 51. Footed vessels from Kleszewo, grave 530 (1), and Błonie, grave 125 (2).
After: R. Mycielska, Z. Woźniak 1988 (2),
M. Woźniak 2021 (1).

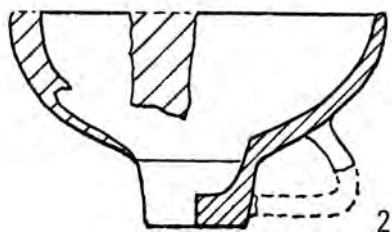


Fig. 52. Fragments of a lid from grave 51 at Kleszewo (1) and similar forms: 2 – Papowo Toruńskie, stray find; 3 – Gdynia-Oksywie, grave 72. After: E. Bokinić 2008 (2), A. Strobin 2011 (3), M. Woźniak 2021 (1)

ment and, through it, in the Przeworsk culture, could have been a manifestation of influences coming from the western zone of the Baltic Sea.¹⁰²⁴

A sherd of a vessel with a strap, so-called X-shaped handle, which was a stray find from the surface of the site (ZL/322), requires a separate mention. Its everted rim is not thickened but bevelled on the inside. This shape is unusual for the Przeworsk culture vessels from Kleszewo, both those from the late pre-Roman period and the Roman period, and completely unknown in the local pottery of the Wielbark culture. This way of shaping the rim is very characteristic of Jastorf culture vessels from the early section of the late pre-Roman period, known from numerous sites in Greater Poland, central Poland, Kuyavia and western Mazovia.¹⁰²⁵ The presence of pottery with Jastorf culture characteristics

at Kleszewo is not necessarily surprising. Artefacts related to the unit in question are more and more often recorded in northern and eastern Mazovia,¹⁰²⁶ e.g., traces of a stay of Jastorf culture people have recently been discovered at Ciechanów, about 35 km north-west of Kleszewo.¹⁰²⁷ Pottery with Jastorf culture traits has also been recorded at other Mazovian-Podlachian cemeteries of the Przeworsk culture.¹⁰²⁸ It is assumed that, in eastern Mazovia and Podlachia, Jastorf culture settlement could have lasted longer than in the lands west of the Vistula, i.e., even up to phase A₂.¹⁰²⁹ Therefore, I date the Kleszewo vessel to phase I of the cemetery's functioning,¹⁰³⁰ which is synchronised with the aforementioned time section (see below). However, it should be taken into consideration that the artefact might be even older.

The Kleszewo pottery from the late pre-Roman period, similar to other Przeworsk culture sites, is divided into two styles.¹⁰³¹ The older one, called the first ceramic phase, is marked by vessels with everted, clearly

¹⁰²⁴ T. Dąbrowska 1993, 116–117.

¹⁰²⁵ M. Grygiel 2018, 314, 321–322, with earlier literature.

¹⁰²⁶ T. Dąbrowska 2008, 35–36, 95–99; M. Grygiel 2018, 355–356, 361–362, fig. 168, 169.

¹⁰²⁷ M. Grygiel 2018, 467; cf. K. Machnio, J. Affelski 2014.

¹⁰²⁸ T. Dąbrowska 2008, 98.

¹⁰²⁹ M. Grygiel 2018, 361–362.

¹⁰³⁰ The artefact was secondarily burnt, which indicates its connection to the cemetery.

¹⁰³¹ T. Dąbrowska 1973, 517–520; 1988, 28–31; M. Grygiel 2018, 323–326, table V.

thickened and faceted rims.¹⁰³² The rims are wider than they are tall, or both parameters mentioned above have similar dimensions. At Kleszewo, specimens of the latter characteristics are predominant. The younger style – the second ceramic phase – is characterised by vessels with slender rims, thickened and not faceted or slightly faceted,¹⁰³³ accompanied by forms with defined, non-thickened and non-faceted rims. Of the vessels discovered at Kleszewo, mugs of type I.1, bowls of type II.1, vessels of group III and jars of group V are more characteristic of the older style, while mugs of types I.3–4, vases of group IV and miniature vessels of types VII.4–5 are representative of the younger style. The remaining forms in varying numbers represent both these ceramic phases.

The Kleszewo vessels from the first ceramic phase are recorded in features from phase I and stage IIa of the cemetery's use. They are almost absent from graves with brooches of type N-a (see graves 361, 967, 1024A). Vessels of the second ceramic phase appear in graves with brooches of type J and early fibulae of type M-a, next to forms typical of the first ceramic phase (e.g., graves 20, 200B, 576). The change in pottery style was, therefore, evolutionary in character. As for the younger style, it fully flourished in stage IIb, and its decline took place in phase III of the cemetery's operation, i.e., at the beginning of the Roman period. In this last chronological section, a significant percentage of vessels from the second ceramic phase is made up of specimens with non-thickened rims; there are also numerous tripartite vessels with gently profiled bodies, which were rarely recorded before this stage (e.g., graves 48, 232, 1048). The rhythm of changes observed for the pottery discovered at Kleszewo is consistent with the one noted at other Mazovian-Podlachian cemeteries.¹⁰³⁴

Ornamentation

The ornamentation of vessels from phases I–III of the cemetery's use includes engraved, impressed, plastic and painted decorations. Engraved ornaments are the most common, while vessels decorated in other ways constitute a small percentage of the assemblage of ornamented specimens. The engraved decoration is usually located at the mid-height or in the upper part of the body. It takes the form of a circumferential, usually relatively narrow band, framed by two lines and composed of lines and rows of strokes, often forming

roughly geometric patterns, e.g., envelopes, steps, meanders, zigzags, chevrons, herringbone (Fig. 53). The first three of the listed motifs are more often noted on vessels dated to phases I–IIa of the cemetery's functioning, the last two – to phases II and III. Handles were decorated in exceptional cases only (985/2). The decorative motifs mentioned are typical of Przeworsk culture pottery from this period.¹⁰³⁵

A mug from grave 1/1961 is decorated with a circumferential row of triangular impressions (1/1961/8), made with an angular object. A similar pattern can be found on a vessel from grave 101; in this case, it is part of an elaborate composition (101/9). The former specimen is dated to stage IIb of the cemetery's functioning, the second – to stage IIa. A miniature cup from grave 187 (187/10) is decorated with a surrounding band of vertical lines on almost the entire surface of the body. The vessel is dated to phases IIb–III of the cemetery's use. Similar specimens were discovered in Łegonice Małe, stray find,¹⁰³⁶ and Legionowo, feature 152.¹⁰³⁷

Grave 203 from phase I of the cemetery's functioning contained a rim sherd from a large vessel, decorated with a row of fingerprints (203/6). This motif is rarely recorded on Przeworsk culture pottery, and mainly on vessels recovered from settlements.¹⁰³⁸ It may originate in the pottery tradition of the Jastorf culture, where this kind of rim ornamentation was widespread.¹⁰³⁹

Applied decorations are rare at Kleszewo. They are mainly represented by circumferential strips, smooth or notched, located near the neck or rim. They are found on several vessels dating to stage IIb and phase III of the cemetery's use (231B/6, 701/6.7, 1025/5). Such ornaments frequently appear in the Przeworsk culture of the later section of phase A₃ and become popular at the beginning of the Roman period.¹⁰⁴⁰ They are sometimes seen as imitations of decorations of Celtic workshop pottery.¹⁰⁴¹ However, in northern and eastern Mazovia and Podlachia, vessels decorated in this way are recorded less frequently than at Przeworsk culture sites located west of the Vistula, e.g., in Greater Poland. A small fragment of a vessel decorated with applied ver-

¹⁰³² In T. Dąbrowska's classification (1973, 499; 1988, 15, fig. 1; 1997, 101), these are rims of variants "a" and "b".

¹⁰³³ Variant "c" in T. Dąbrowska's division (1973, 499; 1988, 15, fig. 1; 1997, 101)

¹⁰³⁴ T. Dąbrowska 1988, 30–31, 35, 46, 50.

¹⁰³⁵ E.g., J. Marciniak 1957, 127–128, pl. XC–XCII; T. Dąbrowska 1973, 514, 516, fig. 101; K. Czarnecka 2007, 100, fig. 4.

¹⁰³⁶ M. Kordowska, K. Kowalska 2018, 41–42, pl. LXIII/ZL:60.

¹⁰³⁷ W. Orliński, M. Woińska 2017, 265, pl. 39/152:5.

¹⁰³⁸ E.g., M. Stasiak-Cyran 2016, 71; P. Łuczkiwicz 2017, 322; Marchelak 2017, 245, fig. 92.

¹⁰³⁹ Cf. M. Grygiel 2018, 309, 314, with numerous references to older literature.

¹⁰⁴⁰ T. Dąbrowska 1988, 44; M. Grygiel, R. Grygiel, W. Stasiak 2019, 305, 307.

¹⁰⁴¹ M. Grygiel, R. Grygiel, W. Stasiak 2019, 307.

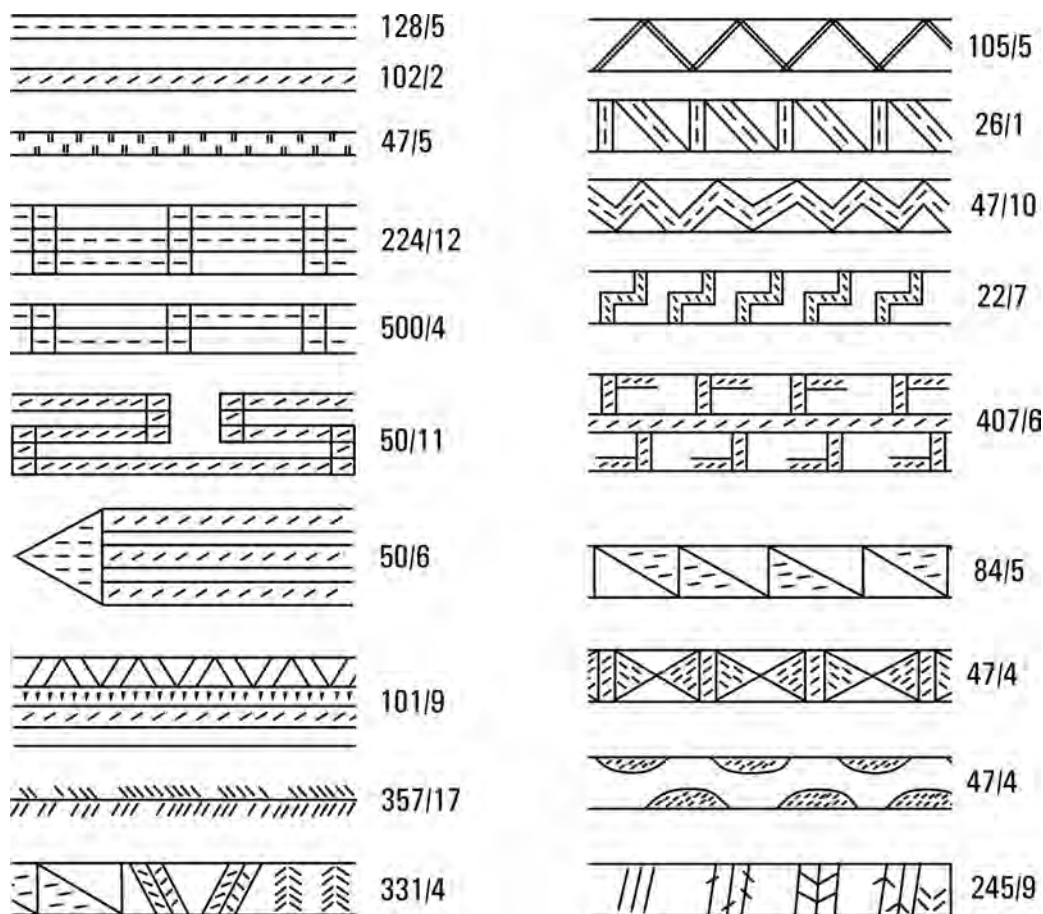


Fig. 53. Examples of ornamental motifs on vessels from phases I-III of the cemetery's use. Drawn by M. Woźniak.

tical ribs was discovered in feature 37 (37/3), dated to phases I-IIa of the cemetery's functioning. However, the fragmentary state of preservation does not allow reconstructing the full character of the ornament and the vessel shape. Vessels with applied vertical strips, dated to the late pre-Roman period, are known from several sites of the Przeworsk culture, mainly in Mazovia. They are mugs corresponding in shape to specimens of group I. They have recently been named the *Czersk* type, after the town where they have been discovered in greatest numbers.¹⁰⁴²

In grave 331, dated to phases II-III, there were large fragments of a tripartite vase decorated with an engraved horizontal band and relatively wide vertical stripes drawn in red paint (331/4). The painted part was preserved only on one fragment of the vessel, while on another fragment - from the opposite part of the vase - it was completely destroyed as a result of burning. The

emulsion pigment was iron oxide (hematite),¹⁰⁴³ perhaps obtained from powdered red ochre. The paint was applied after the engraved ornament was made, probably after the initial drying of the vessel. This way of decorating pottery is unusual in the Przeworsk culture. Only a few painted vessels, usually preserved in small fragments, are known from its territory.¹⁰⁴⁴ Most are covered with nondescript black patterns. Apart from the Kleszewo specimen, red paint was probably used to decorate a vessel from grave 57 from Kołoząb, site 3.¹⁰⁴⁵ The decoration of the Kleszewo artefact refers to the ornamentation of Celtic vessels made on a potter's wheel. One such specimen, painted in red and white stripes, was also found at Kleszewo (see below). However, it is not a direct imitation of the La Tène designs.

¹⁰⁴³ Raman spectroscopy was performed by dr hab. inż. Grażyna Zofia Żukowska (Faculty of Chemistry, Warsaw University of Technology).

¹⁰⁴⁴ Cf. T. Dąbrowska 2008, 74-75.

¹⁰⁴⁵ The artefact has been lost, the colour of the paint was described as *brownish-blackish* (T. Dąbrowska 2008, 146).

¹⁰⁴² K. Wateborska-Rakowska 2014, 264, fig. 2.

Celtic vessels were decorated differently – paint covered their entire surface, or colourful stripes and lines were painted horizontally or in complex patterns, e.g., resembling a grid.¹⁰⁴⁶

Phases IV–V

The pottery discovered in Przeworsk culture graves from the early Roman period has been divided into four groups, encompassing 23 types and subtypes, distinguished on the basis of the shape of the body, size and the presence or absence of a defined rim.¹⁰⁴⁷

Group A consists of tripartite vessels with a plastically defined neck. It has been divided into three types: A.1 – vases or tall bowls with a cylindrical neck, usually located just above the maximum body circumference; their rim diameters measure over 13 cm and are about one and a half times larger than their height; A.2 – vases with a conical neck and rounded body profile; rim diameters measure 13–16 cm; A.3 – small bowls with a short neck, rounded body and rim diameter of fewer than 13 cm. The most numerous are specimens of type A.1, which were found in several graves (e.g., 200A/4, 352/4, 521B/8.9). They are medium-sized or large vessels. Some have a single handle (e.g., 537/9). Several specimens are decorated with a row of diagonal strokes on or near the maximum body circumference (e.g., 352/6, 537/12). These vessels originate from “pre-Roman” vases of group IV (see above), which they closely resemble in a few cases. Therefore, when it was not possible to precisely determine the dating of features with tripartite vases on the basis of other artefacts, the vessels in question were classified within both these variants (e.g., 125/1). Vases of type A.1 are characteristic primarily of phase IV of the cemetery’s use (e.g., graves 200B, 352, 521B), while isolated examples were also discovered in graves from stage Va (grave 537). Type-A.2 vessels were found in graves from phases III–V (e.g., 141/4, 146/10, 232/9). One of them, from grave 146, is decorated on the body with an elaborate zigzag band (146/10). Vessels of type A.3¹⁰⁴⁸ come from

¹⁰⁴⁶ Cf. e.g., F. Maier 1970, 44–62; Z. Woźniak 1990, 22–23; P. Poleska 2006, 39–40.

¹⁰⁴⁷ The characteristic features of individual types are presented here in a simplified manner. The full description of the distinguished forms can be found in the introduction to the Catalogue.

¹⁰⁴⁸ All specimens are fragmentarily preserved, missing their lower parts. Thus, it cannot be ruled out that these were forms with rounded or concave bases, in which they would meet the criteria defined for group D (see below). However, neither of the graves contained base sherds shaped in this way, whereas flat bases were present (e.g., 472/4). Therefore, I assume that the vessels in question had flat bottoms.

two graves (129/4–6, 472/2), dated to phases IV–Va (?). One of them is decorated with a row of hatched triangles (129/4), and the other – with circular depressions (129/6).

Group-A pottery finds analogies at other Przeworsk culture cemeteries. This applies especially to specimens of type A.1, for which a number of parallels can be indicated among vessels of type II/1 in the classification of Przeworsk culture pottery by T. Liana,¹⁰⁴⁹ type A.1 in the typology of vessels developed for Kamieńczyk,¹⁰⁵⁰ and subtype IA2 in the taxonomy of vessels from Nadkole, site 2.¹⁰⁵¹ Forms similar to the Kleszewo types A.2 and A.3 are less frequently recorded. The former most resembles the vases of subtype A.3.1 from Kamieńczyk¹⁰⁵² and, in a broader perspective, Liana’s type I/2.¹⁰⁵³ Tripartite bowls with flat bottoms, similar to type A.3, are known from graves 135 and 249 from Modła.¹⁰⁵⁴ In the Przeworsk culture, larger vessels with distinct necks are dated to the early Roman period.¹⁰⁵⁵ In eastern Mazovia and Podlachia, like at Kleszewo, they are characteristic primarily of its older section and are recorded much less frequently in features from phase B₂.¹⁰⁵⁶ The pottery of northern Mazovia developed in a different way; thus, tripartite forms are recorded there in large numbers in graves from subphase B_{2b}.¹⁰⁵⁷

Group B covers vessels with bipartite bodies – rounded or biconical – and with a defined rim. This is the largest and most diverse group of early Roman vessels from Kleszewo. Based on the body shape, it has been divided into five types, each with usually two size variants. In many cases, the fragmentary state of preservation of vessels made it impossible to reconstruct their complete shape; thus, they were assigned to two types or variants (e.g., vessels of type B.1 or B.3 – 46/1, 103B/1, 200A/6).

Type B.1 consists of biconical bowls whose maximum body circumference is located in its upper part. Depending on the rim diameter (above or below 17 cm), two size subtypes have been distinguished: B.1a (bowls) and B.1b (small bowls). Type-B.1 vessels were discovered in 25–28 graves (e.g., 2/2, 218/2, 259/3,

¹⁰⁴⁹ T. Liana 1970, 439.

¹⁰⁵⁰ T. Dąbrowska 1997, 104.

¹⁰⁵¹ J. Andrzejowski 1998a, 88.

¹⁰⁵² T. Dąbrowska 1997, 104.

¹⁰⁵³ T. Liana 1970, 438–439.

¹⁰⁵⁴ J. Andrzejowski 2009, 143, 201, pl. 3.61/132:2, 3.124/249:16.

¹⁰⁵⁵ T. Liana 1970, 438–439, pl. I:7–9, II:1.4.8.

¹⁰⁵⁶ Cf. T. Dąbrowska 1973, 503–504, pl. LII; 1997, 104–105; J. Andrzejowski 1998a, 88, 106–107, fig. 10; K. Czarnecka 2007, 102.

¹⁰⁵⁷ E.g., Brudnice (A. Szela 2021, 95–98), Niedanowo (W. Ziemińska-Odojowa 1999a, 122–123).

363/18, 493/2). They are often decorated with a surrounding groove on the maximum body circumference or directly above it (e.g., 13/9, 65/66/1, 968/9). Other engraved ornaments are rarely recorded, e.g., a row of diagonal strokes (358/1). Some specimens have defined bases (e.g., 13/9, 65/66/1, 363/18). Type-B.1 vessels were found in assemblages dated to phases IV–V of the cemetery's functioning, with all of the more precisely dated specimens coming from graves from phase V (e.g., 118/14, 121/7, 363/18).

Vessels of type B.2 are bowls with a rounded body whose largest circumference is usually located in its upper part. The rim diameter of individual specimens is usually one and a half times greater than their height. This is a small group of six to eight specimens (e.g., 5/2, 352/8, 521B/10), undecorated and usually with undefined bases. Their chronology covers phases III–V of the cemetery's use, and they are most often recorded in graves from phases IV and V (e.g., 352/8, 521B/10, 678/2).

Type B.3 is represented by biconical vases with the maximum body diameter located near or above 2/3 of the body height and rim diameter close to the body height. It groups about 25 vessels. The large specimens, with rim diameters greater than 17 cm (subtype B.3a) and, usually, with smooth, black surfaces were used as cinerary urns (e.g., 42/5, 121/5, 864/1). Some of them have one (e.g., 354/8, 365B/9, 537/11) or, less often, three handles (e.g., 32/8, 132/44), attached under the rim. The walls of the lower part of their bodies are straight or slightly concave ("undercut"), and the bottoms are sometimes defined (e.g., 132/44, 537/11). These vessels are usually decorated on the upper part of the body with an engraved band of ornament, e.g., a meander (e.g., 132/44, 452/2), row of hatched or dotted triangles (e.g., 383/11, 365B/9) or chevrons (e.g., 537/11). Small vases with rims measuring less than 17 cm (subtype B.3b) usually do not have handles (e.g., 363/19, 429/8, 678/3) or, exceptionally, have only one handle (e.g., 191/3). They are modestly decorated with a groove around the maximum body circumference and under the rim (e.g., 352/5, 383/12.14). Of the vessels assigned to subtype B.3b, one specimen, recovered from grave 282 (282/6), stands out. It is a vase on a conical foot, hollow at the bottom. The vessel's height, proportions, ornament (meander and chevron band), as well as its function in the grave (urn), bring it closer to the group of vessels of subtype B.4a, from which it differs only in the higher-positioned maximum body circumference (see below). Type-B.3 vases first appear in phase IV of the cemetery's use. However, only two of the 26 specimens (231B/2, 352/5) are dated this way.

The others were discovered in features from phase V, stage Vb in particular.

Type B.4 consists of vase-like vessels with the maximum body diameter located usually slightly above its mid-height. Large specimens, over 17 cm high, distinguished as subtype B.4a, are represented, among others, by the finds from graves 363, 403, 515 and 605 (363/17, 403/3, 515/9, 605/3). Small specimens, measuring less than 17 cm in height (subtype B.4b), were discovered, among others, in graves 5, 21, 121, and 352 (5/1?, 3/3?, 121/6, 352/9). All vessels of subtype B.4a are decorated with engraved ornaments. The artefacts from graves 363 and 515 have a decoration in the form of a circumferential band on the upper part of the body (e.g., 363/17, 515/9); the vessel from grave 403 was also ornamented in this way, but the band covers only 1/3 of the body's circumference (403/4). Three vases have handles: the specimens from graves 363 and 515 – one (363/17, 515/9), the vessel from grave 403 – three (403/4). Of note is the partially preserved handle of a vessel from grave 363, which has small, rounded protrusions at both bases and the bend. Plastically decorated handles are very rare in Przeworsk culture vessels. Similar knobs are sometimes interpreted as schematized depictions of animals.¹⁰⁵⁸ Vases of subtype B.4b have no handles (e.g., 21/3, 352/9) or only have one (e.g., 5/1, 121/6). Some are modestly decorated – with a circumferential groove above the maximum body diameter (21/3) or a band of strokes between two lines (121/6). Vessels of subtype B.4a are dated to stage Vb of the cemetery's use, specimens of subtype B.4b – to phases IV–V.

Grave 55 contained a vase with a double bottom, between the levels of which there were several small fragments of burnt stone. Vessels with such bottoms are known from several sites of the Przeworsk culture and at least one of the Wielbark culture.¹⁰⁵⁹ Most of them have been discovered in northern and eastern Mazovia, where the closest analogy to the specimen from Kleszewo also comes from; it is a vase from grave 58A from Nadkole, site 2.¹⁰⁶⁰ Like the Kleszewo find, the vessel from Nadkole served as an urn and had pebbles between the two bottoms. Small stones or lumps of burnt clay were also recorded in the Przeworsk culture vessels from Głogów-Nosocice, Legionowo, Łęg Piekarski, as well as a Wielbark culture beaker from Lekowo.¹⁰⁶¹ Such

¹⁰⁵⁸ J. Rodzińska-Nowak 2006, 12–16; K. Czarnecka 2007, 104–105.

¹⁰⁵⁹ J. Andrzejowski 1998a, 91; M. Woińska 2017, 230–231, pl. 4.

¹⁰⁶⁰ J. Andrzejowski 1998a, 30, pl. XLIII/58A:1.

¹⁰⁶¹ Respectively: A. Błażejowski, M. Bohr, A. Chrzanowska 2020, 86, 153, pl. 44/7:13; M. Woińska 2017, 230, pl. 4:1; E. Petersen 1940, 50, fig. 12; R. Wołągiewicz 1993, 18, pl. 30:5.

vessels-rattles found at cemeteries are believed to have had a magical (apotropaic) function.¹⁰⁶²

Type B.5 are vases or tall bowls with a rounded body whose largest diameter is located in its upper part. This group counts six, possibly eight, vessels, if we include similar specimens from graves 219B and 529. Three of them (154/1, 180/1, 409B/7), with rim diameters of 17 cm or larger, were assigned to subtype B.5a; the remaining two–four (219B/1?, 308/1, 352/7, 529/2?) smaller ones – to subtype B.5b. In most cases, vessels of both forms are decorated, most often – with a circumferential groove near the maximum body diameter and/or under the rim (154/1, 308/1, 352/7), less often – with another pattern (219B/1, 409B/7). Type B.5 is dated to phases IV–V of the cemetery's use.

To conclude, group-B vessels were recorded in features from all sections of the early Roman period, i.e., phases III–V of the cemetery's use, and are most represented in graves from phase V. Individual forms find analogies at many Przeworsk culture sites. In general terms, their closest parallel is the pottery found at eastern Mazovian and Podlachian cemeteries. The similarity concerns, on the one hand, the presence of the same forms, and, on the other hand, the clear dominance of biconical specimens over vessels with gently profiled bodies.¹⁰⁶³ This last feature clearly distinguishes the Kleszewo site from Przeworsk culture cemeteries in northern Mazovia, where bipartite vessels with rounded bodies are very common. In northern Mazovia, there are almost no vases with three handles,¹⁰⁶⁴ like those found at Kleszewo; on the other hand, such specimens are often recorded south of the Narew River.¹⁰⁶⁵

Group C consists of vessels with an undefined rim. Type C.1 is represented by large pots with a bulbous body (subtype C.1a) and small vase-like vessels of similar shape (subtype C.1b). The former are vessels with rim diameters of at least 20 cm and similar or greater body heights. Their surfaces are smoothed or – partially or completely – roughened. These vessels were found in three graves dated to phase V or stage Vb of the cemetery's use (2/1961/2, 364/4.5, 743/2). A pot from grave 48, dated to phase III, also resembles subtype C.1a. The vessels from graves 1/1962 and 702 (1/1962/1,

702/17) were assigned to subtype C.1b. Their rim diameters range from 13 to 15 cm and are larger than their body heights. The specimen from grave 1/1962, with a smooth surface, is dated tentatively to phase V, and the specimen from grave 702, with a partially roughened surface – to phase IV of the cemetery's operation. Type C.2 groups vessels with a biconical body. Only one large pot with a roughened body, found in grave 537 (537/14), was included in subtype C.2a. The feature is associated with stage V of the cemetery's use. Vessels of subtype C.2b are medium-sized or small bowls or vases with rim diameters of less than 16 cm (21/1, 61/10?, 689/4?). They all have smooth surfaces and are dated to phases IV–V. Type C.3 groups mugs with less or more rounded bodies and similar vessels without handles (e.g., 231A/6, 523/2, 538/4). Their rim diameters usually measure less than 15 cm and are close to the height of the body. These vessels have smooth or coarse surfaces. They come from graves dated to phases IV–V of the cemetery's functioning. A flowerpot-shaped vessel from grave 231A (231A/2), dated to phase IV, is also similar to type C.3 but differs from most vessels of said type in the presence of a defined base.

Vessels of subtype C.1a are widespread in the Przeworsk culture. They correspond to pots of T. Liana's group III,¹⁰⁶⁶ which also include some more sharply profiled forms that resemble the Kleszewo subtype C.2a. Good analogies for the latter are pots of K. Czarnecka's type IIIb,¹⁰⁶⁷ I. Marchelak's type B11¹⁰⁶⁸ and W. Siciński's variant A7c.¹⁰⁶⁹ At cemeteries of the eastern zone of the Przeworsk Culture, large vessels corresponding to subtypes C.1a and C.2a are most often recorded in features from phase B₂, and at cemeteries located west of the Middle Vistula – also in the younger Roman period.¹⁰⁷⁰ Specimens of subtype C.1b most closely resemble tall bowls of T. Dąbrowska's type D.2¹⁰⁷¹ or J. Andrzejowski's subtype IIIA2.1.¹⁰⁷² At Kamieńczyk and Nadkole, site 2, such forms are most often recorded in graves from phase B₂.¹⁰⁷³ Biconical vessels of subtype C.2b are similar to bowls of T. Liana's type IV/2.¹⁰⁷⁴ The author of this

¹⁰⁶² J. Andrzejowski 1998a, 91; T. Malinowski 1999, 48.

¹⁰⁶³ E.g., Kamieńczyk (T. Dąbrowska 1997, 105–106), Karczewiec (T. Dąbrowska 1973, 505–506, 516), Krupice (J. Jaskanis 2005, 108–109).

¹⁰⁶⁴ Cf. studies on the early Roman pottery from the northern Mazovian cemeteries at Brudnice (A. Szela 2021, 96–97), Dąbek, site 29 (A. Mistewicz 2005, 221–223) and Niedanowo (W. Ziemińska-Odojowa 1999a, 123–124).

¹⁰⁶⁵ J. Andrzejowski 2001b, 78–81.

¹⁰⁶⁶ T. Liana 1970, 439–440, pl. I:10.11.14.15, II:14.18.21.

¹⁰⁶⁷ K. Czarnecka 2007, 102.

¹⁰⁶⁸ I. Marchelak 2017, 219, fig. 77.

¹⁰⁶⁹ W. Siciński 2019, 97–98, fig. 129.

¹⁰⁷⁰ T. Liana 1970, 440; K. Godłowski 1977, 128; I. Marchelak 2017, 256.

¹⁰⁷¹ T. Dąbrowska 1997, 107.

¹⁰⁷² J. Andrzejowski 1998a, 90, pl. XCVI.

¹⁰⁷³ T. Dąbrowska 1997, 13, 18, 29, 39, 44, 52, 55, 65, 69, 70 (graves 9, 35, 99, 152, 178a, 229, 322, 345, 350); J. Andrzejowski 1998a, 105, fig. 10.

¹⁰⁷⁴ T. Liana 1970, 439.

second classification dates them to phase B₁ and, most often, phase B₂. Similar vessels co-occur also with material from the younger Roman period.¹⁰⁷⁵ Mugs analogous to subtype C.3 are common at Przeworsk culture sites throughout the Roman period.¹⁰⁷⁶

Fragments of thick-walled vessels with rough surfaces were discovered in several more graves from phases IV–V of the cemetery's use (e.g., 21/5, 100/10, 104/12, 526/8). Most probably, they come from vessels of subtypes C.1a and C.2a.

Group D consists of forms with rounded or concave bottoms and rim diameters not exceeding 13 cm. Type D.1 are small, shallow bowls with a tripartite (subtype D.1b – e.g., 365A/1, 521B/7) or bipartite – biconical (subtype D.1a – e.g., 103/8, 522/3?) or rounded (subtype D.1c – e.g., 968/9) – body, with a defined rim. One small bowl, recovered from grave 365A, has a small pseudo-handle under the rim; another specimen, from grave 968, is decorated with a circumferential groove on the upper part of the body. Vessels of subtypes D.1a and D.1c were found in graves from phase V of the cemetery's use, while specimens of subtype D.1b come from features from phases IV–V. Type D.2 is represented by deep vessels with a bipartite (subtype D.2a – e.g., 635/1) or tripartite body (subtype D.2b – e.g., 61/11?, 238/10, 525B/5?). A fragmentarily preserved specimen from grave 61 is decorated with groups of vertical grooves on the lower part of the body, which may be the remains of an ornament inspired by the decoration of glass ribbed bowls.¹⁰⁷⁷ Clay imitations of Roman *Ripenschalen*, with varyingly reproduced “ribs”, are widespread in the Przeworsk culture.¹⁰⁷⁸ Bowls most resembling the Kleszewo specimen are known from grave 639 at Niedanowo, which is dated to subphase B_{2b}.¹⁰⁷⁹ Type D.3 is represented by the cups from grave 523 (523/1) and, possibly, 582 (582/3) and 711 (711/5).¹⁰⁸⁰ The first one is decorated with a band consisting of a row of diagonal strokes between two lines, under which there are “hanging” triangles filled with small incisions (523/1). Another one is ornamented with a wide (from the rim to the base) zigzag band composed of a row of diagonal strokes between two grooves (582/3). The cup from grave 523 is dated to phases IV–V (?) of the cemetery's use, the other two – to phase III.

¹⁰⁷⁵ J. Szydłowski 1964, 15, fig. 1:1; M. Dzięgielewska, M. Kulczyńska 2008, 67.

¹⁰⁷⁶ T. Liana 1970, 439; K. Godłowski 1977, 144–145.

¹⁰⁷⁷ Cf. M. Hegewisch 2006, 201–210.

¹⁰⁷⁸ M. Hegewisch 2006, 209, fig. 6A; A. Mistewicz 2006; J. Schuster 2016, 150–153; 2017a, 136–141.

¹⁰⁷⁹ W. Ziemińska-Odojowa 1999a, 109, pl. CCXXVIII/639:16.17.

¹⁰⁸⁰ Both vessels can also be assigned to “pre-Roman” type VII.5.

It is possible that the medium-sized, thick-walled bowl with a hemispherical body from grave 383 (383/15) also represents type D.3. Its unambiguous classification is impossible due to the lack of the base. The specimen is decorated with a row of diagonal lines near the rim. Grave 383 comes from stage Vb (?) of the cemetery's use.

Additionally, a dozen or so undoubtedly small vessels were recorded in Przeworsk culture graves from the early Roman period (e.g., 104/9.11, 404/3, 525B/4, 582/4). The state of preservation of most of them and, above all, the lack of bottoms make their typological identification impossible.

Vessels of group D correspond to specimens of T. Liana's group VI, which includes various types of small bowls and cups with rounded or concave bottoms.¹⁰⁸¹ These vessels are frequently found at the cemeteries of northern and eastern Mazovia. At Nadkole, site 2, there were over 50 of them, at Kamięńczyk – over 40, at Niedanowo – nearly 60.¹⁰⁸² Against this background, the cemetery at Kleszewo, with only a dozen or so specimens, seems unusual.

Other vessels

From grave 522 comes a large pot with a rounded body and an almost cylindrical, flanged rim. The surface of the body is rough below its greatest diameter and smooth above it. In shape, the vessel corresponds to pots of T. Liana's group V.¹⁰⁸³ This form is rarely recorded at Przeworsk culture cemeteries in northern and eastern Mazovia and Podlachia.¹⁰⁸⁴ This is due, on the one hand, to its late chronology¹⁰⁸⁵ and, on the other hand, to a clear preference for using vase-like vessels as urns. The artefact from Kleszewo is decorated with an engraved chevron band, which is unusual for this group of vessels. The fact that the decoration is located on the rim is equally unique.

Fragments of a biconical vessel with the rim placed directly above the greatest body circumference were found in two graves: 409B (409B/8) and 410 (410/1). The original location of the vessel is uncertain. The larger number of its fragments found in grave 410 indicates that it likely came from this feature. In shape, it resembles bowls of T. Liana's type IV/1 or W. Ziemińska-

¹⁰⁸¹ T. Liana 1970, 440.

¹⁰⁸² T. Dąbrowska 1997, 107 (group E); J. Andrzejowski 1998a, 90 (group V); W. Ziemińska-Odojowa 1999a, 125 (group E).

¹⁰⁸³ T. Liana 1970, 440

¹⁰⁸⁴ E.g., K. Czarnecka 2007, 102

¹⁰⁸⁵ Cf. T. Liana 1970, 439. Such vessels were the most popular in the younger Roman period, i.e., after Przeworsk culture settlement disappeared from the areas to the east of the Middle Vistula.

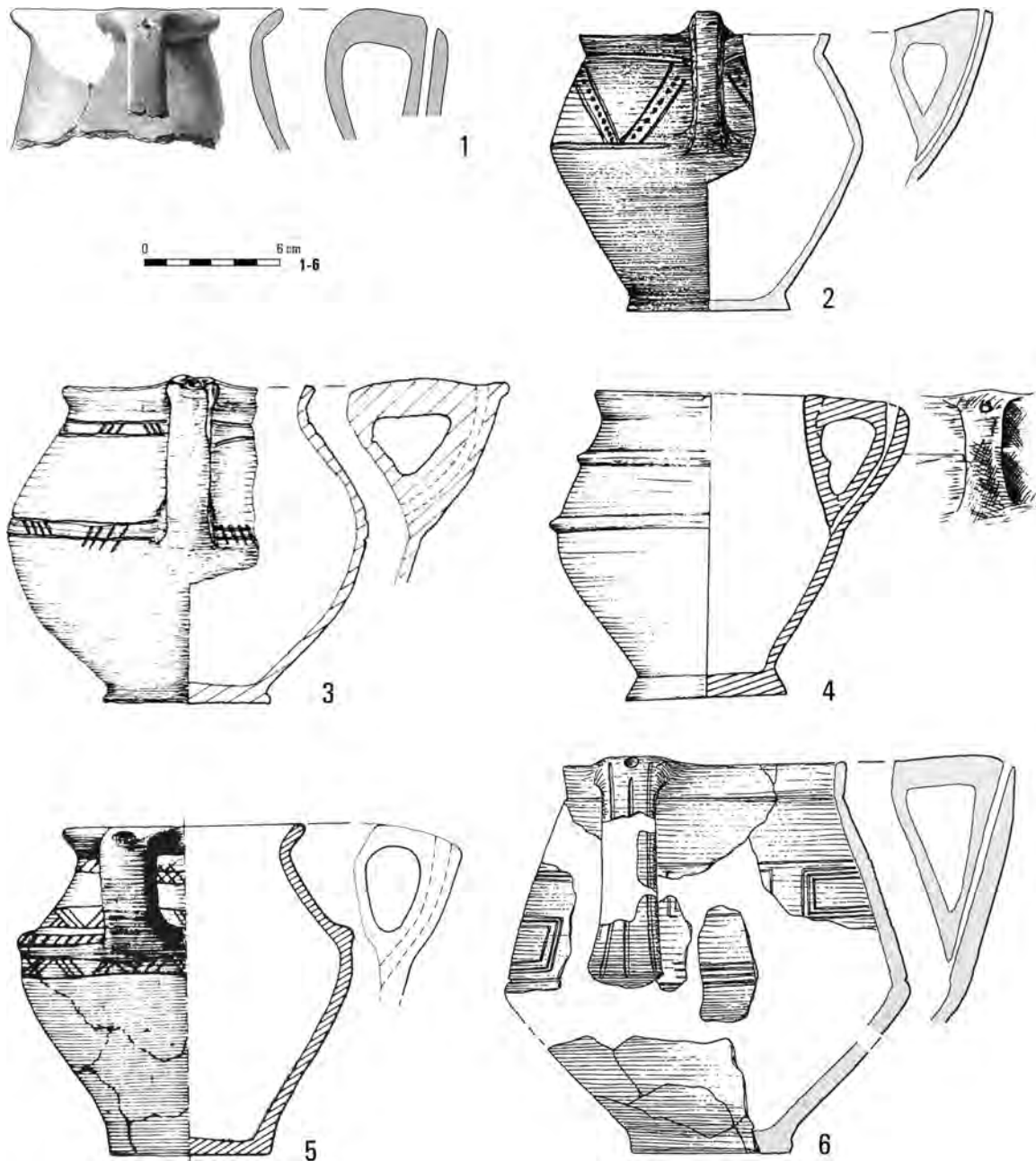


Fig. 54. Jars with a handle with an inner canal from the Przeworsk culture areas.

1 – Kleszewo, grave 61; 2 – Oblin, grave 3a; 3 – Nadkole, site 2, grave 120; 4 – Garwolin, grave 68; 5 – Kamieńczyk, grave 76; 6 – Kołacz, grave 41. After: A. Niewęglowski 1991 (4), T. Dąbrowska 1997 (5), J. Andrzejowski 1998a (3), T. Dąbrowska 2002 (6), K. Czarnecka 2007 (2), M. Woźniak 2021 (1).

Odojowa's type B.1.¹⁰⁸⁶ Both forms are most often dated to phase B₁, which may support narrowing down the dating of the Kleszewo feature to phases III–IV of the cemetery's use.¹⁰⁸⁷

Grave 242 from stage Vb contained fragments of a large bowl with an undefined rim and slightly rounded walls (242/2). I do not know of an identical form discovered at a Przeworsk culture cemetery from the Ro-

¹⁰⁸⁶ W. Ziemińska-Odojowa 1999a, 123.

¹⁰⁸⁷ In the Catalogue, grave 410 is dated broadly to phases III–V.

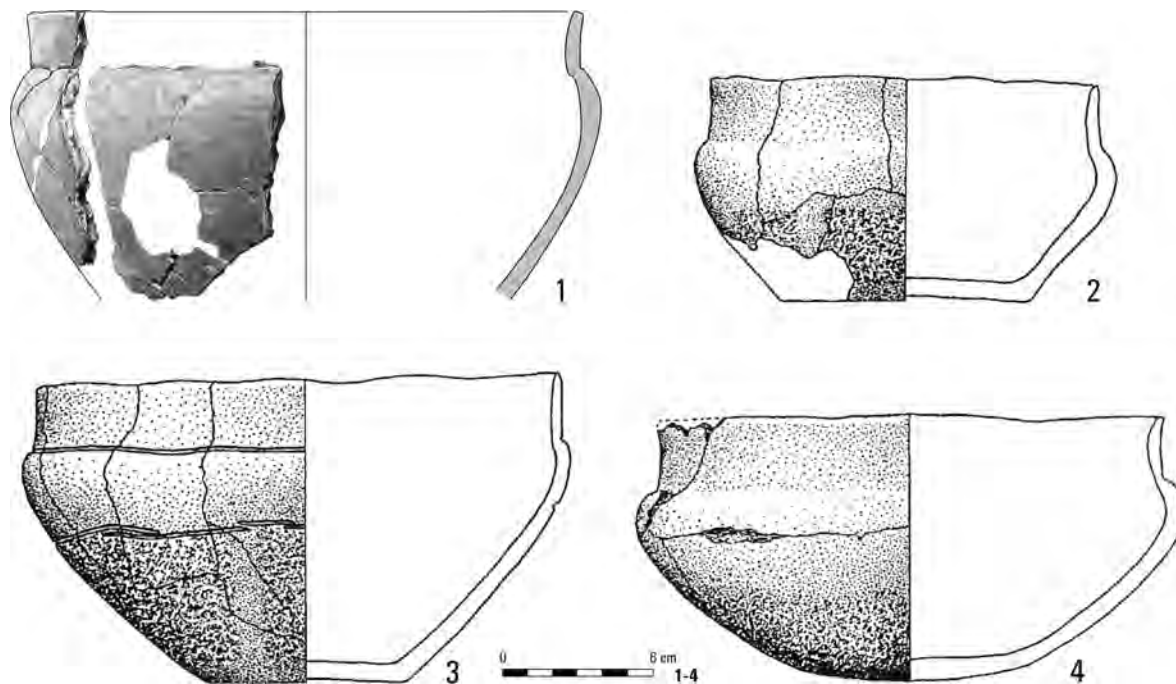


Fig. 55. Kleszewo bowl and its “Balt” analogies.

1 – Kleszewo, grave 253; 2 – Wyszembork, grave 191a; 3 – Bartlikowo, grave 7; 4 – Wyszembork, grave 191b.

After: P. Szymański 2000 (2–4), M. Woźniak 2021 (1)

man period. Less or more similar bowls are recorded at settlements.¹⁰⁸⁸

Grave 61 yielded fragments of a jar with a tall, cylindrical neck and a knee-shaped handle with an inner canal (61/7). It is possible that fragments of a globular body decorated with a meander band (61/8) come from the same vessel. Vessels with handles with an inner canal are most often interpreted as containers for the production of alcohol.¹⁰⁸⁹ They are known from many areas of barbarian Europe.¹⁰⁹⁰ In Poland, they have been discovered in the Wielbark and Przeworsk culture areas.¹⁰⁹¹ The oldest of them come from features from the end of phase B₁,¹⁰⁹² the youngest – from phases C_{1b}–C₂.¹⁰⁹³ The finds from Mazovia and Podlachia that can be associated with the Przeworsk culture (Fig. 54) are

usually dated to phase B₂,¹⁰⁹⁴ which supports narrowing down the dating of the Kleszewo grave to phase V of the cemetery’s operation.¹⁰⁹⁵

Grave 253 contained a bowl with a rounded body and a tall rim defined by a sharp break (253/4). I do not know any analogy for this artefact from the eastern zone of the Przeworsk culture. A similar specimen, albeit much smaller, was found at the settlement of this group at Ludwinowo in Kuyavia.¹⁰⁹⁶ The most similar vessels are commonly found at Bogaczewo culture sites (Fig. 55:2–4). Their chronology covers the entire Roman period. It is, therefore, possible that the vessel from Kleszewo was imported from Masuria. The presence of a Bogaczewo culture form at the discussed cemetery is not necessarily surprising, as Balt material has been recorded at northern Mazovian cemeteries of the Przeworsk culture.¹⁰⁹⁷ It is usually dated to the later section of the early Roman period, which matches the

¹⁰⁸⁸ E.g., M. Machajewski 2016, 230; M. Stasiak-Cyran 2016, 69; I. Marchelak 2017, 211, 253–254.

¹⁰⁸⁹ In more detail: M. Hegewisch 2003, 44–49, with an overview of concepts regarding the function of the vessels in question.

¹⁰⁹⁰ M. Hegewisch 2003, 56, map 1.

¹⁰⁹¹ A. Niewęglowski 1991, 95; R. Wołagiewicz 1993, 16; W. Bender, T. Dąbrowska 2012, 199.

¹⁰⁹² Wymysłowo, grave 328 (S. Jasnosz 1952, 217–220, fig. 337).

¹⁰⁹³ E.g., J. Andrzejowski, T. Rakowski, K. Watemborska 2011, 56–58, fig. 15, 16.

¹⁰⁹⁴ E.g., Garwolin, graves 4, 41 and 68 (A. Niewęglowski 1991, 95, fig. 6:j, 20:a, 42:a), Kamieńczyk, graves 76, 108 and 109 (T. Dąbrowska 1997, 25, 31, pl. XL/76:3, LVII/108:10, 109:2), Oblin, graves 3a and 118 (K. Czarnecka 2007, 103, pl. V/3a:1, CX-VII/118:4).

¹⁰⁹⁵ In the Catalogue, the grave is dated broadly to phases IV–V.

¹⁰⁹⁶ I. Marchelak 2017, 210, 252, fig. 74:A31/3.

¹⁰⁹⁷ J. Andrzejowski, A. Cieśliński 2007, 289.

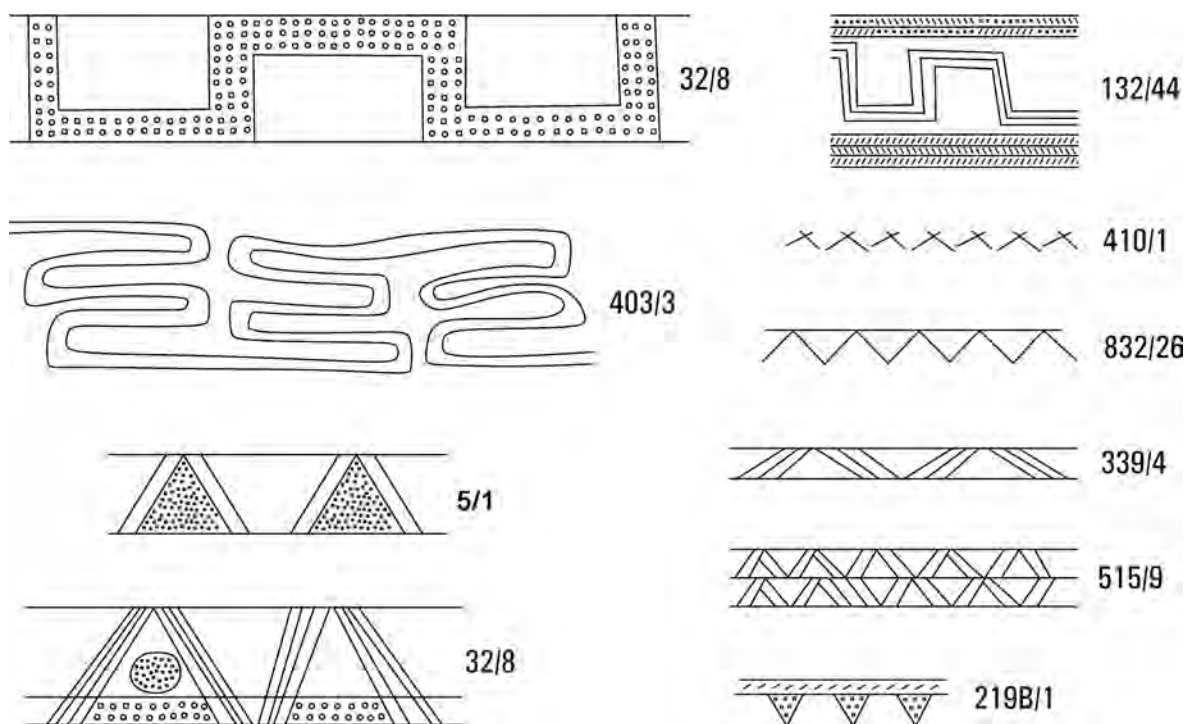


Fig. 56. Examples of decorative motifs on vessels from phases IV-V of the cemetery's use. Drawn by M. Woźniak.

chronology of the Kleszewo feature (stage Vb of the cemetery's functioning).

A miniature vessel with an undefined rim, slightly biconical body and base formed into a low, circular foot was found inside the urn from grave 132 (132/43). The feature is dated to stage Vb. Miniature vessels are rarely found at early Roman cemeteries of the Przeworsk culture in Mazovia and Podlachia. They are of various shapes and are sometimes provided with lids.¹⁰⁹⁸

From grave 133 come fragments of a vessel on a tall, cylindrical foot, hollow on the inside and decorated with two circumferential grooves (133/4). The specimen is dated to phase V of the cemetery's use, which corresponds to the chronology of vessels with a hollow foot. In northern and eastern Mazovia and Podlachia, they are usually dated to phases B₂ and B₂/C₁.¹⁰⁹⁹

Ornamentation

The early Roman vessels from Kleszewo were decorated with engraved, impressed and plastic ornaments. The decoration is located on the greatest body circumference or, usually, on the upper part of the body, exceptionally

– near the base. It usually forms less or more elaborate bands running around the body of the vessel (Fig. 56). In the case of one of the urns, the handles divide the ornament into three segments, one of which has a different composition (32/8). Similar vase-like vessels with three handles, decorated with a changing pattern, are characteristic of the eastern zone of the Przeworsk culture, however, in their case, the decoration of each segment is usually different.¹¹⁰⁰ In contrast, the main decorative motif on the vessel with three handles from grave 403 (403/3) covers only 1/3 of the circumference. It is possible, however, that the pattern is unfinished, as suggested by the horizontal grooves enclosing it at the bottom and top, which are carved around the entire body.

The simplest and, at the same time, most common ornament is limited to a single line above the greatest body circumference (e.g., 13/9, 21/3, 352/5). Other frequently encountered decorations include several basic motifs that differ in the complexity of their composition, although more than one of them can sometimes be found on the same vessel. The least complicated patterns are narrow bands composed of a row (e.g., 121/5, 352/6, 689/2) or rows of strokes (e.g. 103B/1, 336/11), sometimes placed between two circumferential grooves (e.g., 525B/6, 537/12) or on applied strips (e.g., 477/1, 857/1). One frequently observed motif consists of a wide band

¹⁰⁹⁸ Recently, M. Woińska 2017, 228–229, pl. 1:7.8, 5:3.4.

¹⁰⁹⁹ E.g., vessels of types IIA2.1 and IIC2 from Nadkole, site 2 (J. Andrzejowski 1998a, 88–89, 108, fig. 10), and footed vases and bowls of different variants of type B.4 from Kamieńczyk (T. Dąbrowska 1997, 106).

¹¹⁰⁰ J. Andrzejowski 2001b, 80–82, fig. 21a, 22.

of diagonal lines forming a less or more elaborate zigzag (e.g., 410/1, 832/26, 515/9) or chevron band (e.g., 32/8, 339/3, 678/1); both motifs are sometimes supplemented with rows of circular impressions (282/6) or short incisions (e.g., 5/1, 365B/9, 146/10). A meander is also a popular pattern (e.g., 61/8, 363/17, 403/3, 718/2). Less frequently encountered are bands of “hanging” triangles, usually filled with strokes or points (129/4, 219/1), triangles made out of rows of lines (363/16, 383/11); double, V-shaped, marks¹¹⁰¹ (605/3), grids (62/4, 201/4) and circular depressions (129/6, ZL/237) are observed in exceptional cases only. Regarding that last motif, of note is the ornament on a vessel from grave 129 that may be a remnant of a pattern typical of northern Mazovia, consisting of three depressions.¹¹⁰² However, the state of preservation of the artefact does not allow clear identification of the ornament in question.

The Kleszewo pottery is rarely decorated on the lower part of the body. The exceptions include the specimen from grave 133 with two circumferential grooves on a cylindrical foot (133/4) and the bowl from grave 61 (61/11) ornamented with groups of vertical lines under the greatest body diameter. The latter motif may be reminiscent of the decoration of Roman glass vessels (see above).

Applied decorations include circumferential strips and so-called pseudo-handles. The former are located on the upper part of the body (e.g., 477/1, 718/2, 857/1) or near the foot (73A, 73B/10, 244/5). The so-called pseudo-handles were recorded in graves 219B, 365A and 689 (219B/6, 365A/1, 689/6). Currently, only one – from grave 365A – is attached to a vessel; the rest are broken off and it is impossible to match them to any of the vessels found with them.

The ornamentation of the early Roman vessels from Kleszewo is typical of pottery decoration of the eastern zone of the Przeworsk culture. It most resembles the one found on forms from sites located in the Bug and Narew basins;¹¹⁰³ it has less in common with pottery decoration patterns from northern Mazovia.¹¹⁰⁴

Technology of Przeworsk culture pottery

Most Przeworsk culture vessels from the late pre-Roman period and the Roman period are made of clay

mixed with fine-grained temper and, in the case of larger vessels, medium-grained mineral admixture (crushed stone, sand). In a few cases, the porous structure of the clay body suggests the use of an organic admixture that burned out (201/2 and, perhaps, 205/1¹¹⁰⁵). Most vessels have smooth, less or more carefully treated and, sometimes, burnished surfaces. Specimens with coarse surfaces are rarely recorded and are mainly mugs of types I.4 and C.3, bowls of type II.3 and large vessels, e.g., of type VI. Forms with roughened surfaces are rare among the Kleszewo vessels. However, fragments of such pottery were discovered in graves from all phases of the cemetery's use by the Przeworsk culture people. For example, the surface of the early Roman vessels of subtypes C.1a, C.1b and C.2a was prepared in this way. The clay body and surface texture of the Kleszewo pottery correspond to the characteristics of Przeworsk culture earthenware from other Mazovian-Podlachian cemeteries of this unit.¹¹⁰⁶

WIELBARK CULTURE

Clay vessels or their fragments were found in 89 graves and features of the Wielbark culture. In this assemblage, approx. 240 vessels, usually residually preserved, and nearly 2,200 nondescript potsherds have been identified. The vessels were classified following R. Wołągiewicz's division.¹¹⁰⁷ Most are forms typical of “late Roman” pottery of the Wielbark culture.

The most numerous forms of the Wielbark culture vessels from Kleszewo are bowls with bipartite bodies and defined rims of group VI and their miniatures of group XVIII.¹¹⁰⁸ Among them, specimens of the main series of type VIC (e.g., 158/48, 163A/4, 356/6) and XVIIIIC (e.g., 257/4.5, 597/16.17, 651/1) dominate. They are biconical vessels whose wall line is concave above the greatest body diameter and convex below it.

Other types of groups VI and XVIII: with a rounded (type XVIIIA – e.g., 177/4) or biconical body (type XVIIIIB – e.g., 607/8, 917/11) and with a step at the base of the upper part of the body (type VIE – e.g., 917/10), are represented by at most three specimens each. Some of them are decorated with simple ornamental motifs.

¹¹⁰⁵ The dating and cultural attribution of this feature have not been determined.

¹¹⁰⁶ Cf. A. Niewęglowski 1991, 91–92; J. Andrzejowski 1998a, 95; A. Maciałowicz 2006, 313–316; A. Mistewicz 2005, 226–227.

¹¹⁰⁷ R. Wołągiewicz 1993.

¹¹⁰⁸ The groups differ in the size of rim diameters, which, in the case of group VI specimens, exceeds 15 cm and, in the case of bowls of group XVIII, does not exceed this value (R. Wołągiewicz 1993, 14).

¹¹⁰¹ Cf. E. Bugaj, T. Makiewicz 1995, 115–116, fig. 21.

¹¹⁰² Cf. J. Okulicz 1983, 175, table 1; W. Ziemińska-Odojowa 1999a, 122–125.

¹¹⁰³ E.g., Kamieńczyk (T. Dąbrowska 1997, 108), Nadkole, site 2 (J. Andrzejowski 1998a, 91–95).

¹¹⁰⁴ Cf. Brudnice (A. Szela 2021, 93–99), Niedanowo (W. Ziemińska-Odojowa 1999, 122–126), Dąbek, site 29 (A. Mistewicz 2005, 224–225).

Among the vessels of types VIC and XVIIIIC, there are a few specimens (e.g., 887/5.7, 953/4) that are characterised by a rippled upper part of the body. R. Wołagiewicz identified such bowls as a special series. They are known from several sites located mainly by the Lower Vistula and in Podlachia (Fig. 57). The specimens from Kleszewo are the first finds of this series from Mazovia.¹¹⁰⁹

Bowls of groups VI and XVIII are long-lasting forms, dated to phases B₂/C₁-D.¹¹¹⁰ Gently profiled specimens of type XVIIIA are found more often in the oldest section of the younger Roman period; biconical vessels of types VIB-E and XVIIIIB-E, which dominate at Kleszewo, are most abundantly recorded in graves from phases C₂-D. At Kleszewo, bowls of groups VI and XVIII were discovered in graves from phases VI and VII of the cemetery's use, which corresponds to the general chronology of these forms.

Mugs of group XV were discovered in five graves (174/3, 356/7, 720/32, 808/6, 919/8). They represent all three types distinguished by R. Wołagiewicz, i.e., with an S-shaped profile (type XVA), wide-mouthed (type XVB) and barrel-shaped (type XVC). Among them, one specimen from grave 808, decorated in the lower part of the body with a wide band of unevenly engraved long strokes, stands out. The upper part of its body is slightly defined near the handle, which gives the vessel a tripartite form. Thus, the vessel resembles small vases of type XVIA. However, the latter are generally more carefully made. Mugs are commonly found in the Wielbark culture.¹¹¹¹ The specimens from Kleszewo date to phase VI (graves 356 and 808), phase VII (graves 720 and 919?) and phases VI-VII (grave 174) of the cemetery's functioning. This is consistent with the chronology of vessels of group XV.

Jars with a squat body, type IXA, were found in graves 355 (355/5) and 524 (524/11), dated to phase VI of the cemetery's use. The first one is a sharply profiled specimen with a large, cylindrical handle. The shape of the body visibly resembles that of type-VIC bowls. The second one is a miniature specimen with a squat body and

a partially preserved handle with an inner canal. This specimen's shape and dimensions also resemble squat vessels of group XVII. Jars of group IX are relatively rare in Mazovia, with a dozen or so recorded specimens, most of which were discovered at the Podlachian cemetery at Jartypory. Most specimens with a handle with an inner canal have also been found at the same site.¹¹¹² In Mazovia and Podlachia, jars of group IX are dated to the younger Roman period, and none of them are present in features from phases C₃-D.¹¹¹³

Bowls of subtype XaA with a biconical body and an almost cylindrical upper part were found in graves 636 (636/2) and 917 (917/12), dated respectively to phase VI and stage VIIa of the cemetery's use. These forms are commonly found at Wielbark culture sites and are dated to phases B₂/C₁-D.¹¹¹⁴

Small bowls with rounded bodies and undefined rims were recorded in graves 411 (411/6) and 600 (600/37). The first one is dated to stage VIIa, and the second one – to phases VI-VII of the cemetery's functioning. Both can be assigned to type XIIA.¹¹¹⁵ These vessels find numerous analogies at other sites of the Wielbark culture. They are dated to the entire Roman period and the beginning of the Migration period.¹¹¹⁶ The small, deep vessel with an almost cylindrical body from grave 916 (916/5), which is dated to phases VI-VIIa, is also similar to group XII.

Group XIV is represented by three vessels. One bowl with a slightly cylindrical upper part of the body (158/49) was classified as type XIVA, and the bowls with gently profiled bodies (158/47, 386/95) – as type XIVB. Vessels of group XIV are among the most common forms found at Wielbark culture cemeteries. In Mazovia and Podlachia, they are dated within phases B₂/C₁-D.¹¹¹⁷ The Kleszewo specimens were found in graves from phase VI of the cemetery's use.

A gently profiled pot with a defined rim, type ID, was found in grave 257 (257/3), dated to phases VI-VII of the cemetery's use. Similar specimens are known from several Mazovian-Podlachian sites of the Wielbark culture, where they are dated to phases B₂/C₁-D.¹¹¹⁸

A squat vessel with a concave bottom, similar to type XVIIB, was found in grave 524 (524/10). It also

¹¹⁰⁹ R. Wołagiewicz included in the special series of type VIC the vessels from Bornice, Malbork-Wielbark, Osiek nad Notecią, Rostoły, Skiwy Małe, Jeziórka and Modła. That last vessel, however, is a bowl of type XaA with a non-rippled body (cf. J. Andrzejowski 2009, 157, pl. 3.77/163:25). Moreover, the vessels from Jeziórka deviate from the model examples of the special series, such as the Kleszewo specimens, in terms of morphology – their body profiling is limited to three, relatively shallow, grooves directly under the maximum body circumference (cf. K. Hahuła 1988, pl. III:2, IV:5).

¹¹¹⁰ R. Wołagiewicz 1993, 26, lists 6A-E.

¹¹¹¹ R. Wołagiewicz 1993, 26, 31, map 17, lists 15A-C.

¹¹¹² R. Wołagiewicz 1993, 16, 30, map 10; J. Andrzejowski, T. Rakowski, K. Watemborska 2011, 56-58.

¹¹¹³ R. Wołagiewicz 1993, 26, list 9A.

¹¹¹⁴ R. Wołagiewicz 1993, 26, list 10aA.

¹¹¹⁵ In the Catalogue, the vessel was mistakenly classified as type XIIIB.

¹¹¹⁶ R. Wołagiewicz 1993, 26, list 12B.

¹¹¹⁷ R. Wołagiewicz 1993, 26, lists 14A, 14B.

¹¹¹⁸ R. Wołagiewicz 1993, 26, list 1D.

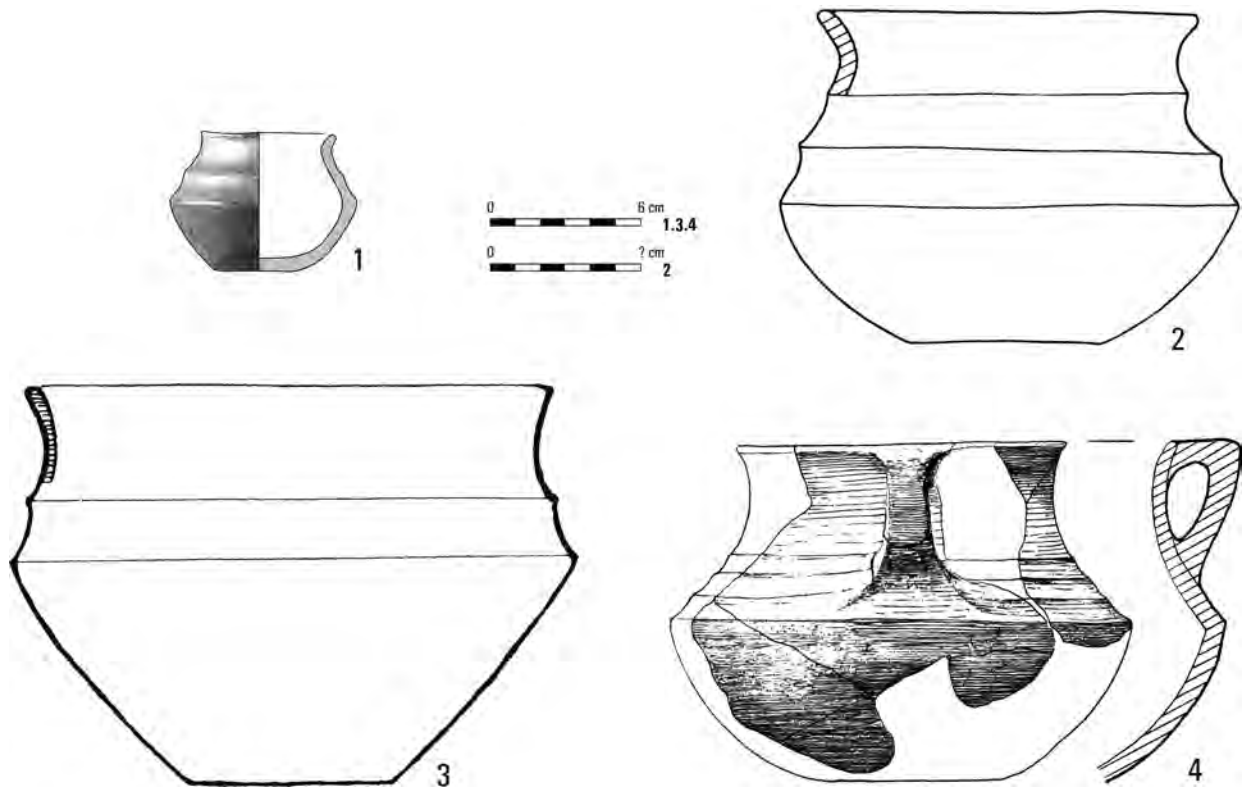


Fig. 57. Bowls of the special series of types VIC and XVIIIIC.

1 – Kleszewo, grave 887; 2 – Osiek nad Notecią, feature 399; 3 – Malbork-Wielbark, grave 1328; 4 – Rostolty, barrow II; 5 – Bornice, grave 1. After: R. Schindler 1940 (23), R. Wołągiewicz 1993 (2), A. Cieśliński 2010 (5), J. Jaskanis 2012 (4), M. Woźniak 2021 (1)

resembles wide-mouthed cups of type XIII A. The grave is dated to phase VI of the cemetery's use. Vessels included in group XVII are rarely discovered in Mazovia and Podlachia and are usually taller and more gently profiled than the Kleszewo vessels. A specimen somewhat similar to the artefact in question is known from Kołoząb.¹¹¹⁹ The chronology of vessels of group XVII covers phases B₂/C₁–C₂; cups of type XIII A are also found in the early Migration period.¹¹²⁰

From grave 158 come fragments of a vessel with an undefined rim and rounded body whose greatest diameter is located in its upper part (158/50). In shape, it resembles short, chronologically late variants of type-IA pots and hemispherical bowls of type XaB.¹¹²¹ The former, like the specimen from Kleszewo, have roughened surfaces, while bowls of type XaB are usually smooth, although this does not provide sufficient grounds for their classification, as other types of bowls with roughened surfaces were also recorded at Kleszewo (see be-

low). East of the Middle Vistula, vessels of types IA and XaB are dated to phases B₂/C₁–C₂.¹¹²² This corresponds to the chronology of the Kleszewo artefact, which comes from a grave assigned to phase VI of the cemetery's use.

A small biconical vessel with a defined base was discovered in grave 887 (887/8), which is dated to stage VI-Ia. Its entire body is covered with irregular rows of engraved lines, strokes and circular depressions. In shape, the vessel somewhat resembles mugs of type XVA (see above), but it lacks a handle.

Typological classification of other vessels is not possible due to their poor state of preservation. The most numerous among them are biconical vessels with a defined rim, most of which are probably the remains of bowls of groups VI, X and XVIII.

Ornamentation

Wielbark culture vessels are decorated with engraved, impressed and plastic ornaments. In most cases, the decorations are typical of "late Roman" forms, which

¹¹¹⁹ Kołoząb, site 3, grave 255 (I. Tomaszewska 1988, fig. 9:1).

¹¹²⁰ R. Wołągiewicz 1993, 26, 31, map 19, lists 17A–C.

¹¹²¹ R. Wołągiewicz 1993, 12–13, pl. I.

¹¹²² R. Wołągiewicz 1993, 26.

were distinguished by R. Wołagiewicz as ornamental motifs of groups 2 and 3.¹¹²³

Plastic decorations of the Kleszewo vessels are limited to a strip located in the upper part of the body (640/20, 953/6). Engraved motifs were recorded on several specimens. The simplest ones are represented by one to three circumferential grooves, usually located near the greatest body circumference (257/7, 356/6, 385/49) and exceptionally – near the base (524/11). Sometimes, a single (158/48) or double zigzag (601/2), or a band of diagonal lines with a row of imprinted points (597/18) is engraved between two surrounding lines. The vessels from graves 588 (588/2) and 808 (808/6) are decorated with an irregular band of uneven, approximately vertical lines. In the first case, the ornament is located on the maximum body circumference, in the second – it covers the entire surface of the body below its greatest diameter. A row of diagonal lines is also found on the maximum body circumference of the vessel from grave 1027B (1027B/2), but it is more regular than in the cases mentioned above, with deeper and wider grooves.

The bowls of the special series of types VIC and XVI-IIC from graves 887 (887/5) and 953 (953/4) are decorated with wide wavy bands. The motif on the vessel from grave 887 consists of several alternating grooves and depressions. The main decoration of the vessel from grave 953 is composed of a single groove running around the lower part of the body, a parallel row of incisions and circular depressions. I do not know of similar ornamentation on Wielbark culture vessels. A similar pattern to the one found on the artefact from grave 887 is known from the Przeworsk culture cemetery at Opatów.¹¹²⁴ Irregular lines and circular holes cover almost the entire body of another vessel from grave 887 (887/8). This specimen has a defined base, which is decorated with a double row of small incisions. A row of circular depressions, probably made with a fingertip, is located below the greatest body circumference of the vessels from graves 177 and 918 (177/4, 918/2). Fingerprints were also found on a fragment of pottery from grave 918 (918/7). The vessels from graves 884 (884/268), 918 (918/6) and, perhaps, 636 (636/2) are ornamented with fingernail imprints, which are rarely recorded on Wielbark culture pottery.¹¹²⁵

Fragments of vessels decorated with stamp ornaments were found in graves 640 (640/20), 918 (918/5) and as stray finds (ZL/345.346). The simplest pattern, in the form of quadrangular impressions, can be found

on a vessel from grave 918. The motif of a gridded circle and/or palmette was recorded on the fragments from grave 640 and the site's surface. Stamp ornaments, including elaborate patterns such as palmettes, rosettes, and gridded circles, are characteristic primarily of the final stage of development of the Wielbark culture, i.e., phases C₃–D,¹¹²⁶ which is also confirmed by the material from the discussed cemetery.

Technology of Wielbark culture vessels

In terms of technological traits, the pottery from Kleszewo corresponds to the general characteristics of Wielbark culture vessels, described by R. Wołagiewicz.¹¹²⁷ Almost all vessels can be classified as thin-walled (group 1) or medium-walled (group 2). This is typical of the Mazovian-Podlachian cemeteries of the Wielbark culture used at a similar time as Kleszewo, i.e., in phases C₂–D. The vessels are made of clay tempered with fine-grained or medium-grained sand or crushed stone. No pottery with a porous structure, which indicates the use of an organic admixture, was recovered from Wielbark culture graves. Predominantly, the vessels have smooth surfaces, which, in the case of unburnt specimens, can be less or more shiny. The vessels with coarse surfaces were less numerous and included, e.g., mugs of group XV and specimens with a roughened surface. In the latter case, a part of the body, e.g., the middle (720/32) or the bottom (953/5), was usually treated in this way, while the remaining surface was smooth.

2.7.2. VESSELS MADE ON A POTTER'S WHEEL

Vessels made using a potter's wheel were found in 23–25 graves, on the surface of the site and in a secondary context, i.e., in the fills of medieval graves. Almost all of them are secondarily burnt and preserved in smaller or larger fragments. In total, about 340 sherds from several dozen (30–40?)¹¹²⁸ vessels were discovered.

¹¹²⁶ E.g., Brudnice, grave 337 (A. Szela 2017b, 575, fig. 1:1), Cecele, graves 283 and 285 (J. Jaskanis 1996, 43, pl. XXXV/283:5, XXXVI/285:17), Niedanowo, graves 130, 141, 142, 543, 549, 553 (W. Ziemińska-Odojowa 1999a, 30, 32, 95, 96–97, pl. XXXVII/130:6, XXXIX/141:6, XL/142:8, CXCVI/543:14.15.20, CXCIX/553:5).

¹¹²⁷ R. Wołagiewicz 1993, 11–12.

¹¹²⁸ It is impossible to establish the exact number of vessels. The pottery in question is burnt, often bloated to a smaller or larger degree or split, which makes it difficult to identify individual vessels coming from a single feature. Moreover, fragments of one vessel could (and did) come from different graves. Therefore, in the case of assemblages of nondescript sherds found in one feature, I arbitrarily assumed they were the remains of a single vessel.

¹¹²³ R. Wołagiewicz 1993, 19–23.

¹¹²⁴ R. Madyda-Legutko, J. Rodzińska-Nowak, J. Zagórska-Telega 2011a, 18, fig. 16/P:a.

¹¹²⁵ M. Woźniak 2011, 195.

Graves 613, 614, 615 and 627 contained burnt sherds of probably one vessel painted in red and white stripes (613/3, 614/3, 615/17, 614.615/7, 627/3). The specimen was probably originally deposited in grave 615, where most of its fragments (i.e., approx. 40 pcs.) were found. The other pits located nearby yielded several pieces of the same vessel each; the sherds could have been moved there by accident, e.g., when one pit was disturbed by another, which we observe in the complex of graves 614, 615 and 627, and/or as a result of contemporary agricultural activity.¹¹²⁹ The preserved sherds do not provide any grounds for reconstructing the shape of the artefact. Grave 615 is dated to stage IIB or phase III of the cemetery's use; the chronology of the other features is similar (i.e., phases II and/or III). Painted pottery made on a potter's wheel was made at that time, i.e., at the end of the La Tène/pre-Roman period and the beginning of the Roman period, by the Celts.¹¹³⁰ The workshops closest to Kleszewo that manufactured this type of wares were located in Lesser Poland, in the Tynieć group area.¹¹³¹ This region is also likely the place where the Kleszewo vessel was made. The physicochemical tests¹¹³² of the paint on the analysed specimen showed that iron oxide (hematite) was used as the red pigment.¹¹³³ The origin of the white paint dye could not be determined.¹¹³⁴ Analyses of paints found on vessels from the Kraków region indicate that it could have been obtained from kaolinite clays¹¹³⁵ or dolomite mixed with phosphate or fluorite.¹¹³⁶

In Poland, outside the settlement zone associated with the Celts, scarce painted vessels made on a pot-

ter's wheel have been recorded only in the Przeworsk culture: in Greater Poland, Kuyavia and Mazovia.¹¹³⁷ These areas quite often yield other elements of La Tène culture craftsmanship.¹¹³⁸ In the Przeworsk culture, such vessels are found in features from phases A₃–B_{1a}.¹¹³⁹

Sherds of unpainted pottery made on a potter's wheel appear in three more graves of the Przeworsk culture, dated to phases II–III of the cemetery's use (583/14, 704/7, 705/5). The first two contained one fragment each, the third – nine pieces. All of them, apart from one rim sherd from grave 705, which will be discussed later, are burnt, nondescript body fragments, usually grey in colour. The population of the Przeworsk culture at the end of the pre-Roman period and the beginning of the Roman period did not make vessels using a potter's wheel, hence, these fragments should also be considered imports, most likely Celtic. In this light, imported workshop pottery, painted or not, would have been found in seven Przeworsk culture features from the end of the late pre-Roman period or the initial phase of the Roman period. This is quite a large number; in fact, this is the largest collection of such pottery found at a single cemetery, at least in Mazovia.¹¹⁴⁰ However, the fundamental question is whether the unpainted fragments from graves 583, 704 and 705 should even be associated with Przeworsk culture graves, and my opinion is that they should not.

Graves 704 and 705 were significantly disturbed by younger pits: grave 705 – by a Wielbark culture grave from phase VII of the cemetery's use (708), grave 704 – by a grave from the Middle Ages (698). Fragments of the same vessels made on a potter's wheel (graves 705 and 708) or workshop pottery of identical parameters, such as colour, surface texture and clay body (graves 704 and 698¹¹⁴¹), were recorded in both the Przeworsk cultures graves as well as those that disturbed them; the number of fragments in the features of later chronology was, in fact, much higher. It seems that, in both cases, some of the material originally deposited in the younger features was assigned to the older graves. The reason for this was probably the inability to separate the fills of the intersecting pits. It is more difficult to interpret the presence of the sherd from grave 583, which came from the upper part of the pit. It is highly prob-

¹¹²⁹ Graves 613, 614, 615, 627 are located next to one another, and their adjoining top levels are heavily damaged; in all pits, fragments of the same (?) objects were recorded.

¹¹³⁰ Recently, M. Grygiel 2022, 183–188.

¹¹³¹ Z. Woźniak 1990, 30; P. Poleska 2006, 35–38; 2011; M. Grygiel 2022, 186–187.

¹¹³² The SEM-EDS measurements were taken by Jan Mizeracki (Institute of High-Pressure Physics, PAS), the Raman spectroscopy was performed by dr hab. inż. Grażyna Zofia Żukowska (Faculty of Chemistry, Warsaw University of Technology).

¹¹³³ Comparable results have been obtained for the paint found on Celtic pottery from Lesser Poland (M. Wirchska-Parachoniak 1980, 74, 77, 90, table 2; J. Trąbska, A. Wesełucha-Birczyńska, B. Trybalska, M. Przybyła, M. Brylska-Fudali 2016, 242).

¹¹³⁴ The SEM-EDS measurements, in addition to silicon and aluminium, showed the presence of magnesium, iron and phosphorus; the Raman spectra did not show bands that would allow identifying the pigment.

¹¹³⁵ M. Wirska-Parachoniak 1980, 74, 90; P. Poleska 2006, 37.

¹¹³⁶ J. Trąbska, A. Wesełucha-Birczyńska, B. Trybalska, M. Przybyła, M. Brylska-Fudali 2016, 242.

¹¹³⁷ M. Grygiel 2022, 188, fig. 73.

¹¹³⁸ T. Bochnak 2014, *passim*.

¹¹³⁹ T. Bochnak 2014, 165; M. Grygiel 2022, 188.

¹¹⁴⁰ Cf. T. Dąbrowska 2008, 73–75.

¹¹⁴¹ In the case of medieval grave 698, it applies only to the ancient pottery that was found in its fill in a secondary context.

able that it was also found in a secondary context.¹¹⁴² To sum up, I believe that the fragments of vessels made on a potter's wheel mentioned here should most likely be associated with the Wielbark culture. Their presence in the Przeworsk culture graves is a result of post-depositional processes.

Workshop pottery was found in 16–18 graves of the Wielbark culture (428/1, 474/1, 505/2, 514/1?, 578/8.9, 579/4.5.8, 597/15, 609/1, 640/17–19.32, 641/5–7.17, 708/33, 721B/5, 724/2, 881/20, 884/267.273, 919/16?, 954/3, 1027A.1027B/3). Most (if not all) of the fragments discovered on the surface of the site and in the fills of medieval graves (ZL/361–367.370) are most likely associated with this cultural unit. More than 200 sherds, which came from no less than twenty vessels, were found in Wielbark culture graves; another 70 fragments from several or a dozen or so vessels were stray finds or came from a secondary context. In individual features, the number of identified vessels ranged from one to three.

A completely preserved specimen was found in inhumation grave 884. It is a tripartite vase with a globular body and cylindrical neck. This specimen can be assigned to group B in A. Kokowski's classification of Wielbark vessels made on a potter's wheel,¹¹⁴³ which consists of large or medium-sized vases. I cannot point to a direct analogy among the artefacts discovered in the Wielbark culture areas. A clearly defined neck is characteristic of vase-like vessels of type B2 from the Masłomęcz group territory¹¹⁴⁴ and of some short vases from the Chernyakhov culture, representing B.V. Magomedov's variant 1a.¹¹⁴⁵ I do not know of such forms from the Przeworsk culture areas.¹¹⁴⁶

The remaining Kleszewo vessels are much more badly preserved. They are all defragmented and most often heavily burnt. Therefore, their original shape could be determined in a few cases only. Fragments of one bowl with a cylindrical central part of the body were found in graves 579 and 597 (579/4, 597/15). Following the division proposed by A. Kokowski, the vessel should be assigned to cups (group E), which are miniatures of vases (group B).¹¹⁴⁷ However, the specimen does not find good analogies in the areas of the Wielbark cul-

ture. Vessels with a body cylindrical at the level of its greatest diameter can most often be found among vase-like specimens made by the people of the Przeworsk culture, especially in Silesia.¹¹⁴⁸ However, they are not identical to the Kleszewo specimen. Similar vessels are also rarely recorded in the areas of the Chernyakhov and Sântana de Mureş cultures.¹¹⁴⁹

Fragments of a biconical bowl (?) were found in grave 579 (579/8). Its body is slightly flattened on the outside at the level of its greatest circumference, in which it resembles the shape of the specimen discussed above. Biconical bowls are one of the most common forms, found throughout almost all of barbarian Europe in the younger and late Roman periods and the early Migration period.¹¹⁵⁰

Grave 708 contained fragments of a vessel with a flanged rim (708/33) and roughly cylindrical upper part of the body. The state of preservation of the artefact does not provide grounds for reconstructing its form. The flanged rim indicates that it could have been a vase or possibly a bowl, because such vessels usually have similarly shaped edges.¹¹⁵¹

Fragments of biconical vessels were found in graves 724 (724/2) and 881 (881/3) and in a secondary context – in the fill of a medieval grave (ZL/363). Fragments of vessels with ring-shaped bases come from grave 579 (579/4) and a medieval grave (ZL/366), and sherds of specimens with flat bottoms were recovered from graves 579 and 640 (579/5, 640/19) and a medieval grave (ZL/367). The remaining vessel fragments are represented by rim sherds (640/18, 954/3.4, ZL/361.362) and nondescript body sherds.

Some of the vessels in question are ornamented. The specimens from graves 724 and 881 have engraved circumferential lines on the upper part of the body. The item from grave 579 was decorated with an applied strip under the rim (579/8), and the vessels from graves 641 and 884 were decorated with burnished patterns: the first one – with a mesh (641/6), the second one – with a wavy-zigzag line on a roughened band (884/267). Such decorative elements are recorded relatively often on workshop pottery from central and eastern Europe.¹¹⁵² One vessel discovered in a second-

¹¹⁴² This possibility is indirectly suggested by a sherd of a medieval wheel-thrown vessel, also found in this grave, which, as can be inferred from its field inv. no., came from the bottom part of the pit.

¹¹⁴³ A. Kokowski 1988, 163, 165–166.

¹¹⁴⁴ A. Kokowski 1995, 17, fig. 6d.

¹¹⁴⁵ B.V. Magomedov 2001, 49, fig. 32:1–5.

¹¹⁴⁶ Cf. H. Dobrzańska 1990, 29–48; 2008; J. Rodzińska-Nowak 2006, 73–106.

¹¹⁴⁷ Cf. A. Kokowski 1988, 165–166.

¹¹⁴⁸ T. Pazda 1980, 195, 213, fig. 36:1, 42:3; H. Dobrzańska 1980, 94, 108–109; 1990, 34; W. Łęcki 2008, 171–172, fig. 4.

¹¹⁴⁹ E.g., Mihălânşeni, grave 28 (O.C. Şovan 2009, 23, pl. 19/C:7).

¹¹⁵⁰ E.g., E.O. Simonovič 1983, 27–33; H. Dobrzańska 1990, 29–34; A. Kokowski 1988, 166, 170–171.

¹¹⁵¹ E.O. Simonovič 1983, 32–34; H. Dobrzańska 1990, 36–37; J. Rodzińska-Nowak 2006, 101–104.

¹¹⁵² Cf. E.A. Symonovič 1964, 285–288, 306–307; J. Rodzińska-Nowak 2006, 152–157.

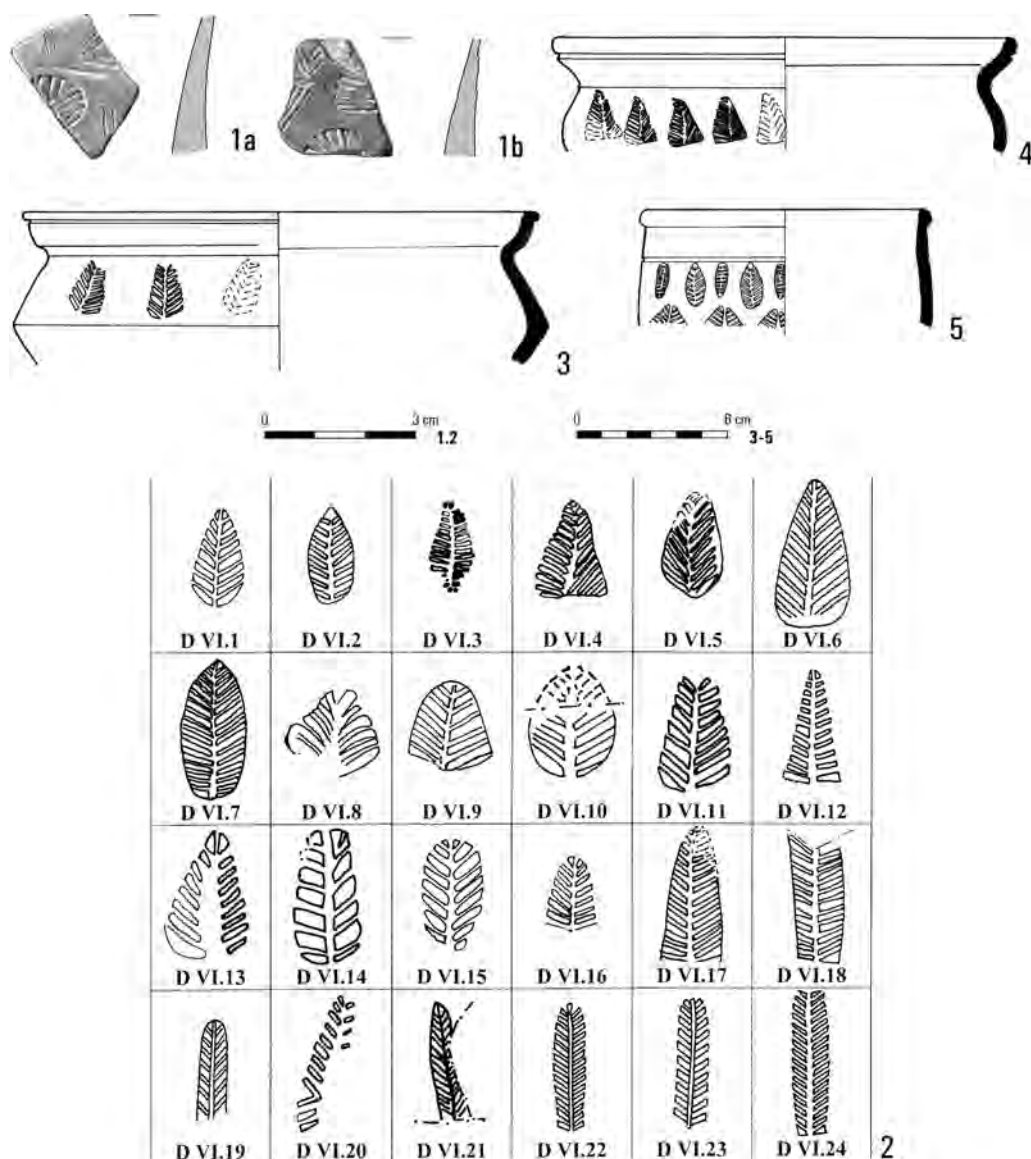


Fig. 58. Sherds of a vessel from grave 640 at Kleszewo (1a.b) and a selection of ornamental motifs (2) and examples of vessels decorated with them from *Porolissum* (3–5). After: C.-C. Filip 2008 (2–5), M. Woźniak 2021 (1).

ary context, in the fill of a medieval grave, was also ornamented with a burnished mesh pattern (ZL/364). In its case, the main motif was embellished with rows of impressed concentric circles. Stamp ornamentation was also recorded on the vessels from graves 640 and 641 and one stray find (ZL/365). The decoration consists of rows of rounded depressions resembling spring imprints (641/7), rosettes (641/6, ZL/365) and a motif similar to a palmette/rosette (640/17). Impressed ornaments are rarely recorded on “wheel-thrown” pottery from the Polish lands.¹¹⁵³ They are most often found on

vessels from the areas of the Chernyakhov and Sântana de Mureş cultures¹¹⁵⁴ and, above all, on pottery from Przeworsk culture sites in the northern part of the Carpathian Basin¹¹⁵⁵ and on ceramics made in the Roman (and post-Roman) workshops in *Porolissum* (and its branch centres).¹¹⁵⁶ It was perhaps in this last region that the vessel whose fragments were discovered

¹¹⁵⁴ È.A. Symonovič 1964, 310–319.

¹¹⁵⁵ W. Kotygoroshko 1997; E. Soós 2019; 2020, 153–158.

¹¹⁵⁶ N. Gudea, C. Filip 1997; C. Filip 2008; V.-A. Lăzărescu, K. Sidó 2018, 34–37.

¹¹⁵³ H. Dobrzańska 1990, 52; J. Rodzińska-Nowak 2006, 158; M. Kurzyńska 2013, 59–60.

in grave 640 was manufactured, as this is where we find the best analogies for its decoration (Fig. 58).

Workshop pottery is relatively rare in the Wielbark culture areas.¹¹⁵⁷ It forms a diverse assemblage that has many features in common with the pottery of the Chernyakhov and Sântana de Mureş cultures.¹¹⁵⁸ Hence, Wielbark vessels made on a wheel have long been interpreted as imports from the southeast.¹¹⁵⁹ Very numerous new finds from the settlement complex at Ulów, located in the borderland between the Wielbark and Chernyakhov cultures, indicate the possibility of manufacture of such pottery also in the southern zone of the Wielbark culture.¹¹⁶⁰ On the other hand, it is possible that some of the vessels were made by the people of the Przeworsk culture. The existence of such a direction of influence is indicated by the vessels decorated with stamps from Kleszewo (640/17) and Jartypory,¹¹⁶¹ which were probably imported from the northern part of the Carpathian Basin or Dacia. They likely arrived in the Wielbark culture territory from the Przeworsk culture areas, from where more such vessels are known.¹¹⁶² It is possible that an inflow of forms made in Przeworsk culture workshops located in Poland also came from this direction.

East of the Middle Vistula, vessels made on a potter's wheel were discovered at over a dozen cemeteries of the Wielbark culture.¹¹⁶³ The number of features with such

pottery at individual cemeteries ranges from several to over a dozen. In northern Mazovia, workshop pottery is characteristic mainly of phases C₃–D. All better-dated specimens from Kleszewo also come from this period (phase VII of the cemetery's use). The further one moves to the south-east (eastern Mazovia, Podlachia), the more the frequency of "wheel-thrown" vessels from the developed section of the younger Roman period increases. The vessels known from Mazovian-Podlachian sites of the Wielbark culture are specimens that can be described as tableware, consisting mainly of bowls and vases, as well as, in exceptional cases, other forms. Absent¹¹⁶⁴ is pottery with coarse surfaces, such as pots common in the Chernyakhov and Sântana de Mureş cultures.¹¹⁶⁵ Presumably, the areas of the Wielbark culture, at least those located east of the Middle Vistula, received wares that had been selected with respect to this aspect.¹¹⁶⁶

¹¹⁵⁷ In the last compilation of vessels made on a potter's wheel, R. Wołagiewicz (1993, 35–36, list 20A) lists about 50 specimens from 26 sites. These data are obviously outdated. The map of the finds increased in density but not significantly enough to constitute a radical change to the previous picture. The exception is the settlement complex near Ulów, in the south-eastern Lublin region, where the remains of almost 100 vessels were found (B. Niezabitowska-Wiśniewska 2014).

¹¹⁵⁸ A. Kokowski 1988, 169–171; R. Wołagiewicz 1993, 35; J. Andrzejowski, R. Cędrowski 2015, 341.

¹¹⁵⁹ R. Schindler 1940, 65–66; J. Okulicz 1970, 458; A. Kokowski 1988, 171. Against this background, the uniform group of vase-like vessels, found at several cemeteries located to the east of the Middle Vistula, clearly stands out. It indicates the existence at the end of the 2nd and beginning of the 3rd century CE of a local workshop manufacturing pottery for the local market (M. Natuniewicz-Sekuła 2005; 2008). However, such forms are not recorded in Mazovia and Podlachia.

¹¹⁶⁰ B. Niezabitowska-Wiśniewska 2014, 163.

¹¹⁶¹ Fragments of at least two such vessels were found in eleven graves (J. Andrzejowski, A. Przychodni 2008, 175).

¹¹⁶² J. Andrzejowski, A. Przychodni 2008, 175, footnote 87.

¹¹⁶³ E.g., Cecele (J. Jaskanis 1996, 108), Dąbek, site 9 (A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 186–187), Jartypory (J. Andrzejowski, R. Cędrowski 2015, 341), Kitki (J. Okulicz

1965a, pl. 94:2, 95:1; 1965c, 115, 125), Kozłówko (M. Woźniak 2011, 196–197), Kołożąb, site 3 (I. Tomaszewska 1988, 113–114); Łązówek (J. Andrzejowski, R. Cędrowski 2015), Modła (J. Andrzejowski, R. Cędrowski 2015, 341), Nadkole, site 1 (J. Andrzejowski, A. Żórawska 2002, 51), Niedanowo (W. Ziemińska-Odojowa 1999a, 135), Sarnaki (PMA collection, inv. no. IV/5564), Starawieś (W. Radig 1942, 204), Warszawa-Kawęczyn (B. Jankowska 1962, 336). "Late-Roman" workshop pottery has also been found in the context of the Przeworsk culture (T. Rakowski 2020, 328, 342, fig. 8:20, 13:5).

¹¹⁶⁴ This remark applies to the published artefacts.

¹¹⁶⁵ Cf. E.O. Simonović 1981.

¹¹⁶⁶ It is possible that this picture is somewhat deformed due to the lack of advanced excavations at settlement sites; kitchenware may not have been deposited in graves.

3. CHRONOLOGY

3.1. PERIODISATION

An attempt at creating the periodisation of the Kleszewo cemetery based on the co-occurrence in features of selected artefact forms has been illustrated in Diagrams 1 and 2.¹¹⁶⁹ To avoid information noise, I omitted from the compilation those artefacts that, in light of the current state of knowledge, are characterised by a rather broad chronology, for example, most beads, spindle whorls, needles, awls, hand-built pottery of the Wielbark culture, etc. In specific cases, some artefact types have been treated as a single item, because, as a group, they usually better document the rhythm of transformations concerning grave goods. Considered as individual types/patterns/variants, they would only expand the diagram, making it less legible, while contributing little in terms of meaningful data. This approach was adopted for the pottery of the late pre-Roman style, tripartite early Roman vessels (group A and subtype D.2b), fibulae of the 2nd series of Almgren group VI and the scarce weapons. Most pottery of the late pre-Roman period (groups I–VI) has been consolidated, as proposed by T. Dąbrowska,¹¹⁷⁰ into two sets, so-called ceramic phases. The first phase groups vessels with thickened, usually distinctly faceted rims whose width is either greater than their height¹¹⁷¹ or, most often, of similar size.¹¹⁷² The second ceramic phase is characterised by vessels with less or more thickened rims whose height

is greater than their width and which are not faceted at all or only slightly.¹¹⁷³

The diagrams were prepared based on the grave goods from 104 graves and 67 select artefact forms.¹¹⁷⁴

¹¹⁷³ Rims resembling T. Dąbrowska's type c (1997, 101).

¹¹⁷⁴ Artefact forms included in Diagrams 1 and 2: 1. Brooches of types A–C. 2. Weapons (swords, scabbards, spearheads). 3. Brooch of Late La Tène construction. 4. Brooch of type K. 5. Vessels of the so-called first ceramic phase. 6. Brooch of type H. 7. Hinged belt hook. 8. Vessels of the so-called second ceramic phase. 9. Vessels of group VIII. 10. Brooch of Almgren type 65. 11. Crescent-shaped knife. 12. Iron pin. 13. Brooch of type J (bowl-shaped). 14. Brooch of type M-a. 15. Iron brooch of type M-a/N-a. 16. Iron brooch of type N-a. 17. *Knotenring*. 18. Ring-shaped bead (*Rinperle*). 19. Brooch of the *Jezerine* type. 20. Bronze brooch of type N-a. 21. Bronze brooch of type N-a or brooch of Almgren type 2aI. 22. Brooch of Almgren type 18. 23. Brooch of Almgren type 2aII. 24. Vessels of group A or subtype D.2b. 25. Vessels of type B.1. 26. Brooch of Almgren type 68. 27. Brooch of Almgren type 74–75. 28. Vessel of type B.3. 29. Vessel of type B.5. 30. Rod bracelet with round terminals. 31. Brooches of Almgren types 52 and 53. 32. Belt buckle of type C 13. 33. Vessel of type C.3. 34. Vessel of type C.1. 35. Brooches of types 60 and 61. 36. Brooches of types 57 and 58–59. 37. Prussian-series eye brooches of undetermined typology. 38. Vessel of type B.6. 39. Vessel of type B.4. 40. Bracelet of the *Kamieńczyk* type. 41. Rod bracelet with polygonal terminals. 42. Brooch of the 7th series of Almgren group V. 43. Brooch of the 8th series of Almgren group V. 44. Brooch of Almgren type 78. 45. Casket fittings or a key. 46. Brooch of the 10th series of Almgren group V. 47. Profiled strap-end. 48. Pin of B. Beckmann's group IV. 49. Belt buckle of R. Madyda-Legutko's type D 1. 50. Banded pendant. 51. Ring-shaped belt fitting. 52. Brooch of Almgren type 38–39. 53. Brooch with features of Almgren groups II and IV. 54. Brooch of the so-called Mazovian variant. 55. Brooch of Almgren type 162 with a slender, knee-shaped bow. 56. Belt buckle of R.

¹¹⁶⁹ As there is no correlation between the Przeworsk and Wielbark culture material, a separate diagram has been prepared for each group.

¹¹⁷⁰ T. Dąbrowska 1988, 30–31.

¹¹⁷¹ Rims of variants A.1 and A.2 defined by A. Mistewicz, A. Maciałowicz and M. Woźniak (2021, 166–167).

¹¹⁷² Rims of variants B.1 and B.2 defined by A. Mistewicz, A. Maciałowicz and M. Woźniak (2021, 166–167).

Table 11. Dating of graves and other features found at the Kleszewo cemetery

Culture	Dating (phases and stages)	Feature/grave no.	Number of features
Przeworsk	I	13?, 27, 45, 68, 92?, 111, 117, 122, 144?, 203, 283, 402, 476?, 798?, 830	15
	I-IIa	3, 9, 10, 12, 22, 28, 29, 37, 38?, 41, 47, 51, 59, 63, 64, 70, 73B?, 74, 77, 81, 89, 102, 103A, 110, 128?, 147, 157, 165, 200C?, 200D?, 212, 236, 314?, 407, 409A, 591, 596A, 606, 608, 620, 637, 655, 692, 713, 714, 717, 797, 832, 837, 885, 920, 946, 985	53
	I-II	11, 58, 67, 98?, 116, 208A?, 222?, 305?, 306?, 345, 400, 415B, 521A, 530, 532, 592, 956, 1044D2?	18
	I-III	54?, 730, 1028	3
	I-V	15?, 36?, 76?, 82?, 107?, 137?, 145, 155?, 303?, 337?, 479?, 525A?, 542?, 604?, 631?, 645?, 700?, 731, 855?, 864A?, 867?, 1021, 1049?	23
	IIa	20, 101, 200B, 224, 357	5
	IIb	1/1961, 361?, 949?, 967, 1024A, 1024C, 1025, 1047	8
	II	26, 85/86?, 140, 153, 202, 219A, 245, 406, 451, 500, 518, 576, 593?, 613?, 697, 850?, 860, 970, 1019, 1020, 1022, 1024B, 1026B, 1030, 1035, 1051?	26
	IIb-III	536, 615, 627, 705	4
	II-III	84, 114, 187, 188?, 190, 237?, 255?, 267, 277, 331, 340?, 347, 348?, 399?, 401, 450?, 520, 583, 585?, 587, 614, 625?, 656, 660, 704, 722, 1023, 1029	28
	II-IV	55?, 125	2
	II-V	136, 405?	2
	III	48, 91, 113, 231B, 232, 238, 351, 533, 582, 657, 701A, 706, 711, 859, 1026A, 1048	16
	III-IV	131B?, 199, 239?, 332, 335?, 338?, 342, 404?, 861, 869	10
	III-V	39, 56?, 95, 130, 138?, 142?, 225, 250, 333, 410, 477?, 611?	12
	IV	83, 141?, 200A, 231A, 352, 521B, 525B, 702, 718	9
	IV-Va	129, 472?, 529	3
	IV-V	5, 6, 7?, 19, 23, 44, 46, 49, 50, 61, 65/66, 100, 103B, 154, 160?, 211, 218, 219B, 243?, 308, 358, 371?, 379, 493, 517?, 523?, 689, 740?, 832, 857, 930	31
	Va	262, 282, 284?, 537	4
	Vb	2, 32, 34, 42, 43, 118, 121, 132, 240, 242, 253, 339?, 354?, 363, 364, 365B, 383?, 403?, 413, 429, 515, 516	22
Vc	969	1	
Va-b	104, 105, 201, 248, 288, 353, 397?, 452, 538, 856, 862, 979	12	
Vb-c	370, 378, 527	3	
V	2/1961?, 1/1962?, 21, 62, 73A?, 115, 133, 146, 148, 180?, 191, 251?, 259?, 261, 300?, 336, 360, 365A, 396, 398, 408?, 409B, 522, 526, 605, 635?, 678, 734?, 738?, 743?, 834?, 839, 864, 968	34	
Wielbark	VI	150, 158, 184, 186, 355, 356?, 359, 380, 386?, 524, 621, 636, 750, 808	14
	VI-VIIa	915, 916, 916A	3
	VI-VII	163A, 166, 174, 175, 177, 179, 182?, 183?, 185, 195, 217, 257, 263, 265, 269?, 280, 362?, 412?, 414, 415C, 418, 483?, 534, 577, 588, 600, 601, 619?, 634?, 651, 676?, 690B?, 693, 695, 699, 703, 707, 719?, 721A?, 728, 739?, 851, 858?, 863, 918, 953, 957, 960, 1013, 1027A, 1027B	51
	VIIa	411, 578, 721B, 884, 887, 917, 950	7
	VIIb*	640?, 708?	2
	VII	258, 385, 428?, 474?, 505?, 514?, 579, 597, 609?, 629, 641, 720, 724?, 881, 883, 919?, 954	17
Przeworsk or Wielbark	I-VII	1, 8, 14, 18, 31, 33, 40, 52, 69, 71, 80, 88, 90, 93, 99, 120, 127, 131A, 134, 135, 149, 151, 161, 162, 164, 168, 172, 197, 204, 205, 214, 226, 230, 241, 247, 249, 252, 254, 256, 260, 264, 266, 268, 269A, 275, 285, 297, 299, 304, 307, 313, 317, 334, 343, 344, 349, 377, 381, 382, 395, 416, 471, 478, 489, 501A, 503, 509, 519, 528, 531, 535, 575, 581, 584, 594, 595, 598, 602, 610, 612, 616, 628, 630, 632, 638, 639, 642, 643, 661A, 677, 680, 690A, 691, 694, 696, 710, 716, 716A, 723, 729, 732, 737, 801, 802, 831, 833, 838, 844, 848, 852, 853, 854, 880, 914, 931, 932, 947, 951, 955, 959, 987, 1005, 1014, 1058, 1064	125
	Vb-c lub VI	244	1
	V lub VI-VII	607	1

*In the Catalogue, both features are dated to phase VII.

They made it possible to distinguish seven groups corresponding to the main phases of the cemetery's development. For some of them, it was possible to indicate smaller assemblages illustrating shorter chronological sections. The number and designations of the features assigned to individual phases of the cemetery's functioning have been presented in Table 11. The Kleszewo cemetery is a bicultural site: in phases I–V, the cemetery was used by a Przeworsk culture community, while representatives of the Wielbark culture buried their dead at the site in phases VI and VII.

PRZEWORSK CULTURE

Phase I

Phase I is marked by brooches of types A–C and K. Most¹¹⁷⁵ graves with brooches of type H and elements of weaponry probably also date to this period. Pottery is represented by vessels of the first ceramic phase, groups I–VI. The oldest feature discovered at the cemetery is probably grave 27 containing a fragment of a brooch of type A–C and a pot of group III (inversely pear-shaped) with a thickened, wide rim. The feature can be dated to the younger section of phase A₁ or the beginning of phase A₂ (see Subchapter 2.1.1.). Also, a vessel fragment with Jastorf culture features (ZL/322) may belong in the same horizon. However, there were no objects found at Kleszewo that would indicate the functioning of the cemetery in phase A₁, e.g., long fibulae of types A and B.¹¹⁷⁶ Other artefacts typical of phase I of the cemetery's functioning are generally considered to be forms characteristic of phase A₂ in the Przeworsk culture.¹¹⁷⁷ Therefore, it seems to me that the above-mentioned material of potentially early chronology should also be associated with said phase. Consequently, I correlate phase I of the cemetery's use with phase A₂.

Phase II

Phase II of the cemetery's use is the horizon of occurrence of type-M brooches. This fibula form is a mar-

Madyda-Legutko's type D 29 or D 30. 57. Brooch of Almgren type 168. 58. Belt buckle of R. Madyda-Legutko's type H 11 or 12. 59. "Late" brooch of the 1st series of Almgren group VI. 60. Brooch of Almgren type 158. 61. Brooch of the *Gródek 64* pattern. 62. Pottery made on a potter's wheel. 63. Brooch of Almgren type 172. 64. Belt buckle of R. Madyda-Legutko's type H 35. 65. Brooch of the 2nd series of Almgren group VI. 66. Polyhedral stone bead. 67. Antler comb with a bell-shaped back.

¹¹⁷⁵ Cf. the description of phase II of the cemetery's use.

¹¹⁷⁶ Cf. M. Grygiel 2018, 93–95.

¹¹⁷⁷ Cf. T. Dąbrowska 1988, 29–30, pl. III; 2008, 26–28, 44, 48; M. Grygiel 2018, 95–98.

Table 12. Co-occurrence of brooches in features from phases I–II of the Kleszewo cemetery. The red colour marks stage IIa

	K	H	J	M-a	Jezerine	N-a
K		••				
H	••		•	•		
J		•		•		
M-a		•	•		•	••
Jezerine				•		•
N-a				••	•	

ker of phase A₃ in the Przeworsk culture,¹¹⁷⁸ with which phase II of the cemetery's functioning is synchronised. The rich and diverse material from this section made it possible to distinguish two stages of narrower chronology: the older one – stage IIa, and the younger one – stage IIb.

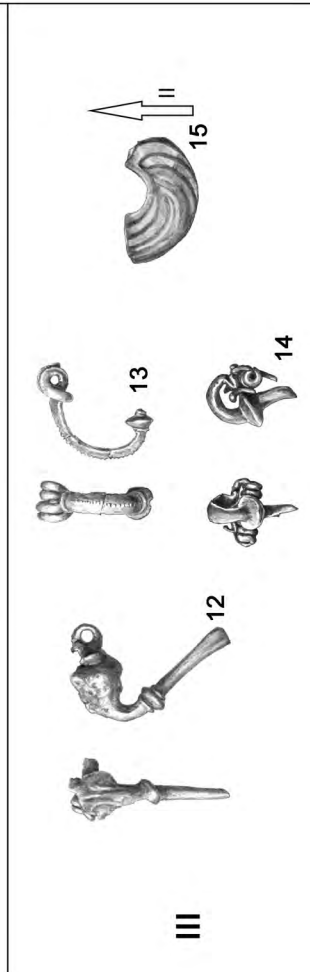
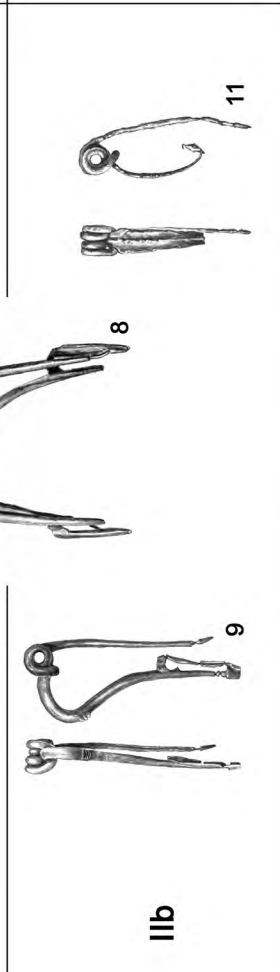
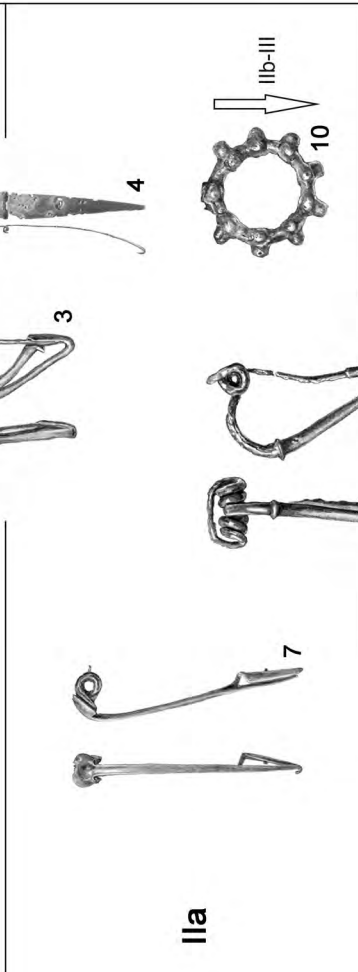
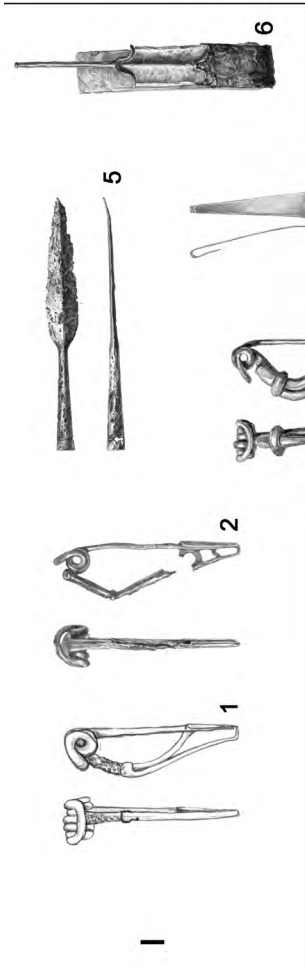
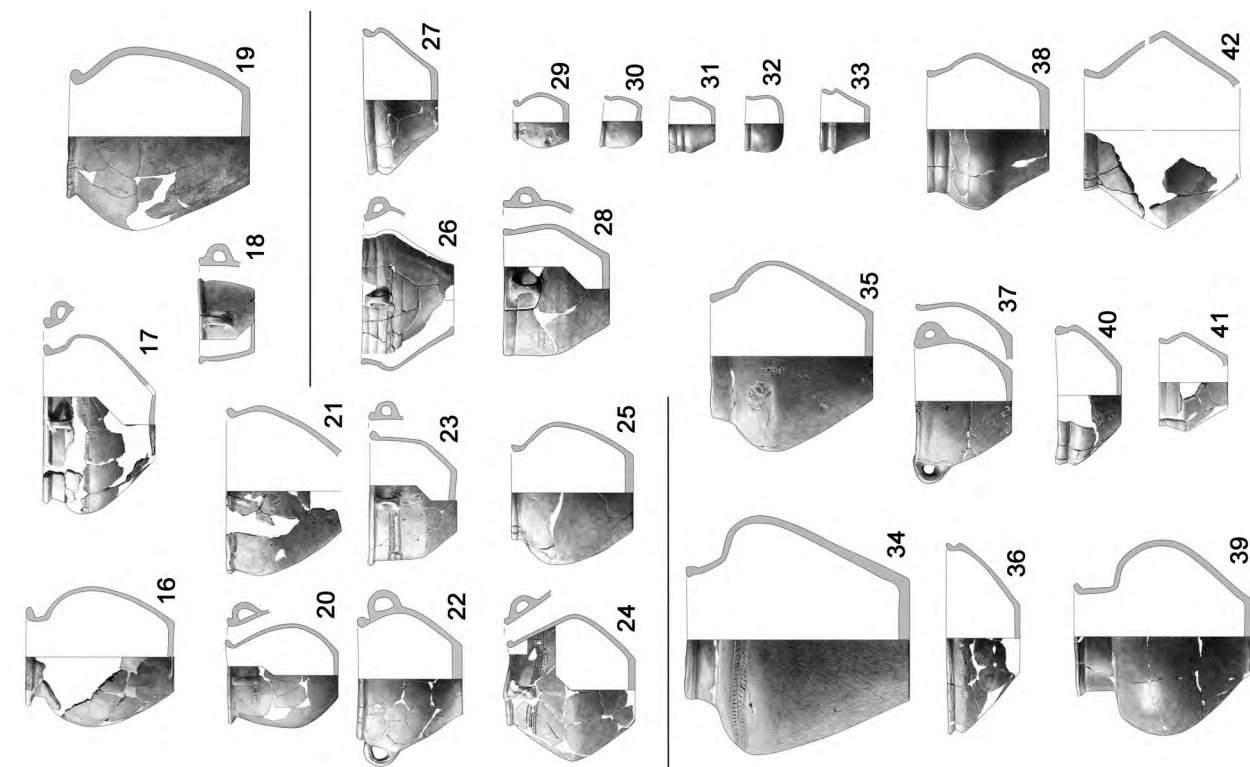
Stage IIa is marked by bowl-shaped brooches (type J). This period is characterised by the co-occurrence of forms specific to phase II and elements of the older style, e.g., brooches of types H and M-a (Table 12). In stage IIa, a key component of grave assemblages are vessels of the first ceramic phase. Next to them, there are forms heralding the arrival of a new style (the second ceramic phase, vessels of group VII), whose full development falls on stage IIb. The markers of stage IIb are iron fibulae of type N-a. During this stage, vessels of the first ceramic phase practically no longer appear.

In stage II of the site's use, Celtic and Roman imports, indicating contacts between the local community and the South, start appearing in graves in greater numbers; such items include glass beads, *knotenrings* and bronze fibulae, e.g., of the *Jezerine* type.

The presence of type-H fibulae in features dated to stage IIa causes difficulties in dating graves in which these brooches were not accompanied by objects of a narrower chronology (graves 13, 92, 144, 476, 798). As this type most often occurs in Mazovia and Podlachia in graves from phase A₂,¹¹⁷⁹ I think it is more likely that the graves with the artefacts in question come from phase I of the cemetery's use (see above). All features

¹¹⁷⁸ T. Dąbrowska 1988, 35–344; 2008, 30–31.

¹¹⁷⁹ Cf. Subchapter 2.1.1.



with weapons, some of which are dated to phases I–IIa (graves 147 and 655), should probably also be associated with the same section. This is indicated by the fact that no weapons were discovered in the graves dated confidently to phase II.

The presence of vessels of the first ceramic phase in graves from stage IIa complicates the determination of the chronological position of approx. 50 poorly furnished pits. These features cannot be dated more precisely than within phases I–IIa. The upper chronological limit proposed here should be treated conventionally. It is not certain whether the fundamental change in the ceramic style coincided with the end of stage IIa or happened a little later but still before the first appearance at the cemetery of features with type-N-a brooches, in which vessels of the first ceramic phase no longer occur. We also encounter an analogous situation at other sites in the region.¹¹⁸⁰

I correlate stage IIa with early stage A₃, which is identical to phase A₂/A₃ defined by A. Maciałowicz¹¹⁸¹. Stage IIb covers the developed and late sections of phase A₃.

Phase III

The markers of phase III are Almgren-2aII and Almgren-67a brooches. The latter form was not included in the diagram due to the lack of other well-dated artefacts in the graves with these fibulae. Unfortunately, while a characteristic feature of grave inventories from this period is the presence of one or two fibulae, they most often represent the same type. For this reason, I referred to the findings from other cemeteries of the Mazovian-Podlachian settlement zone of the Przeworsk culture. In their light, fibulae of Almgren types 2aII and 67a are contemporaneous (see Subchapter 2.1.1). The assemblage of brooches from the period discussed is complemented by a few specimens of Almgren type 18. Clay vessels are represented by forms typical of the second ceramic phase. Next to them, there are early Roman vases and cups of groups A and B. Phase III is the last horizon of occurrence of objects of Celtic provenance at the site. The chronological section under discussion correlates with the earliest section of the Roman peri-

od, i.e., stage B_{1a}. It is, to some extent, synchronous with phase A₃/B₁ defined by T. Dąbrowska.¹¹⁸²

Due to the fact that phases II and III of the cemetery's use are characterised by similar ceramic forms, it was not possible to precisely date more than 30 of the more poorly furnished features. The chronological position of grave 536 with a bronze brooch of type N-a is also unclear. It may be dated to stage IIb or phase III (see Subchapter 2.1.1).

Phase IV

Phase IV is represented by features with heavily profiled brooches of Almgren type 68, eye fibulae of the main series and a single specimen of an early trumpet brooch of Almgren type 74–75. These artefacts in their respective features were accompanied by a buckle with a round frame, rod bracelets with terminals of round cross-section, and vessels from groups A and B. In phase IV, we no longer record ceramic forms that have analogies in graves from the late pre-Roman period. I correlate phase IV with stages B_{1b} and B_{1c}, as it is connected to the former by the older variants of eye brooches of the main series, Almgren types 45 and 46, and to the latter – by the late forms of the same series, i.e., Almgren types 52 and 53.

Phase V

Phase V is the last stage of use of the cemetery by the people of the Przeworsk culture. It has been divided into three stages, with the middle stage (Vb) most clearly represented by the largest number of artefacts. The other two stages have only a few features confidently assigned to them. The huge disproportion in the number of graves dated to stage Vb compared to those associated with stages Va and Vc results from the fact that most of the forms considered to be precise chronological markers of stage V were found together. This resulted in the emergence in Diagram 1 of a large set of homogeneous characteristics, within which it is difficult to identify distinctive subsets (see Table 13). This was undoubtedly influenced by the specificity of the site, which, in the period in question, is characterised by the presence of grave goods of a “feminine” nature. The great importance of weapons for the studies on the relative chronology of the Przeworsk culture in Mazovia has been confirmed by the results of research at Kamięńczyk and Nadkole, site 2.¹¹⁸³

The only reliable markers of stage Va are eye brooches of the Prussian series, Almgren types 57 and 58–59.

¹¹⁸⁰ T. Dąbrowska 1973, 516, pl. LII, LIII; 1988, 35; 1997, 114; W. Ziemińska-Odojowa 1999a, 121, 138.

¹¹⁸¹ A. Maciałowicz 2017, 91–94.

¹¹⁸² T. Dąbrowska 2008, 7–9.

¹¹⁸³ Cf. phase 7 at Kamięńczyk (T. Dąbrowska 1997, 118–119) and phase 2a at Nadkole, site 2 (J. Andrzejowski 1998a, 107).

←
Fig. 59. Chronological markers of phases I–III of the use of the Kleszewo cemetery.

Table 13. Co-occurrence of brooches in features from phase V at the Kleszewo cemetery

	A. 57–59	A. 60	A. V, 7	A. V, 8	A. V, 10	A. IV, 2	A. 38–39	A. II/IV
A. 57–59		•••						
A. 60	•••						•	•
A. V, 7				?	•	•		
A. V, 8			?		•			
A. V, 10			•	•			•	
A. IV, 2			•				•	
A. 38–39		•			•	•		
A. II/IV		•						

Most of them were found together with eye fibulae of Almgren type 60. Perhaps some of the brooches of the 7th series of Almgren group V and slender examples of trumpet fibulae of Almgren type 78 can also be associated with the discussed stage. However, all the forms listed, apart from the fibulae of Almgren types 57–59, are also recorded with objects typical of stage Vb. Tripartite vessels (group A) characteristic of stage IV are sometimes also recorded in graves from stage Va; however, they are not present in features dated confidently to stage Vb or Vc. Moreover, during the stage in question, iron elements of caskets equipped with a *Siemianice*-type lock and rod bracelets decorated with punched circles appear in graves for the first time. Stage Va corresponds to subphase B_{2a}, perhaps mainly to its older section.

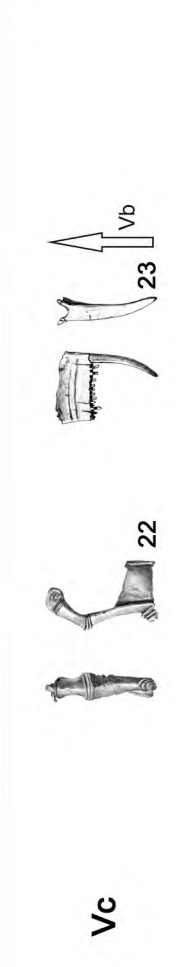
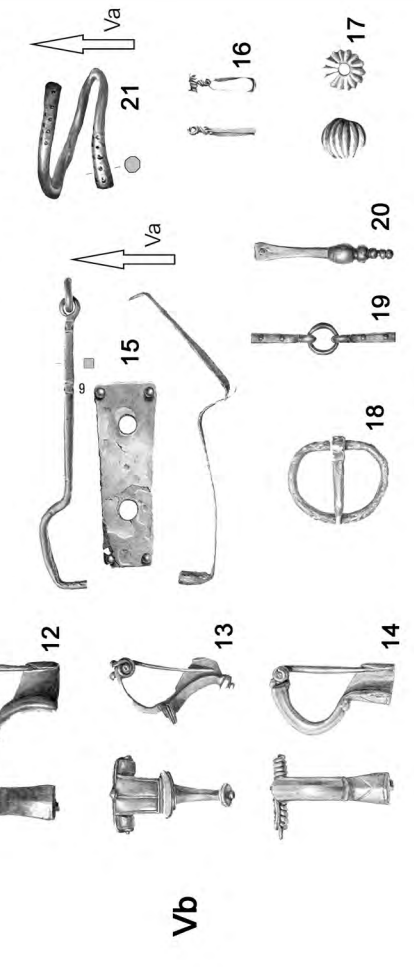
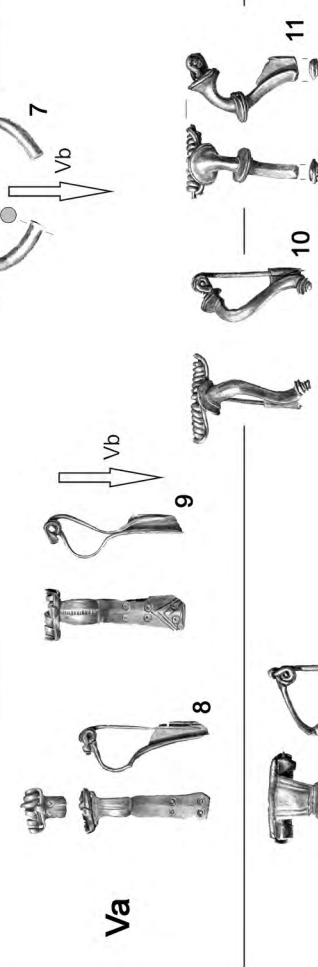
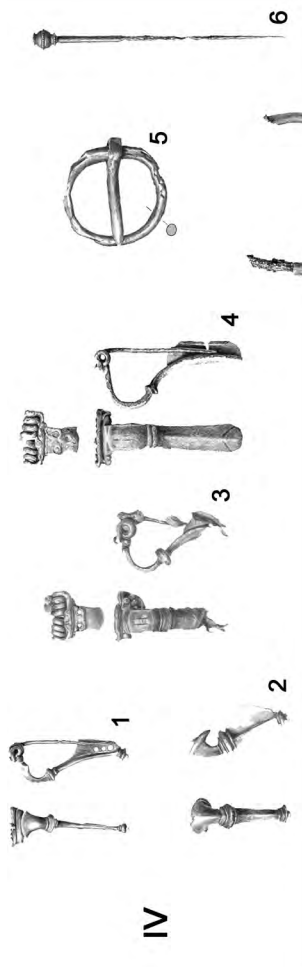
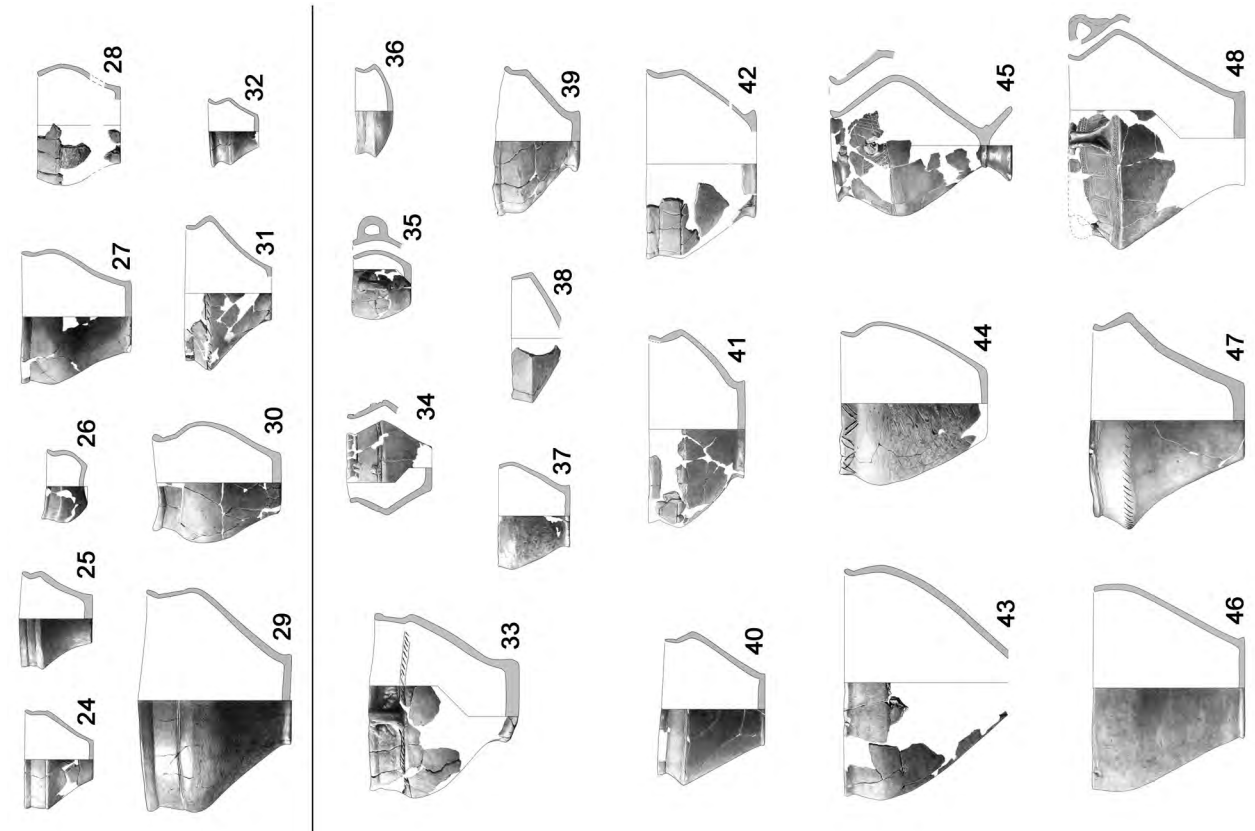
Stage Vb is the period of the cemetery's operation richest in archaeological material. Numerous dress accessories, decorations and utility items were recorded in many graves. Among the fibulae, spring-cover brooches of Almgren type 38–39 and those with features of Almgren groups II and IV, as well as massive examples of trumpet fibulae of Almgren types 78 and 79, specimens of the 10th series of group V and – also known from stage Va – eye brooches of Almgren type 60, are dominant. The assemblage of brooches from stage Vb is complemented by fibulae with a crest on the head of Almgren type 120 and examples of the 7th series of Almgren group V. The last two forms may

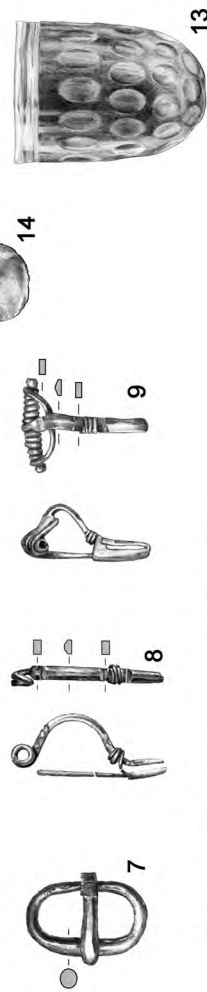
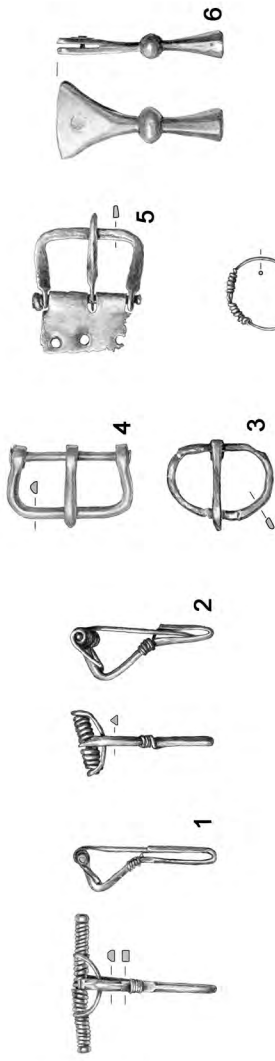
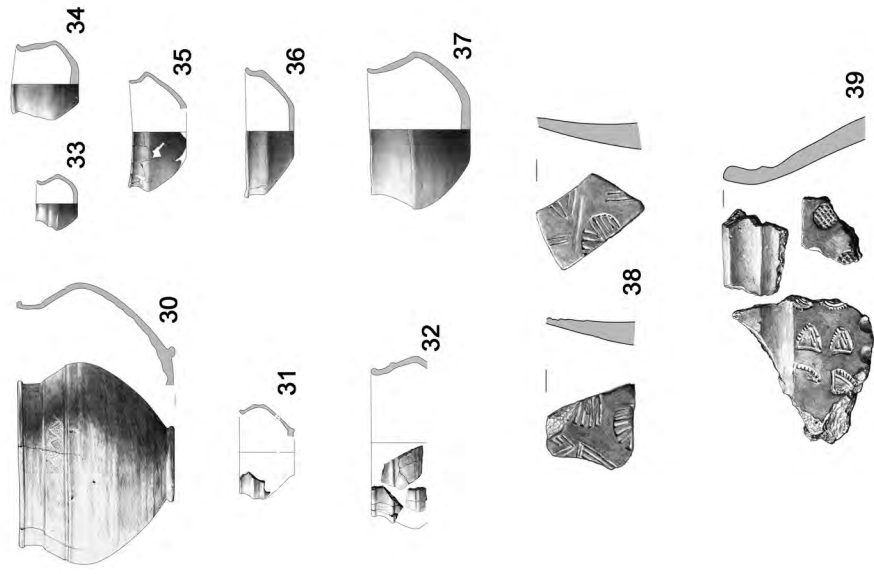
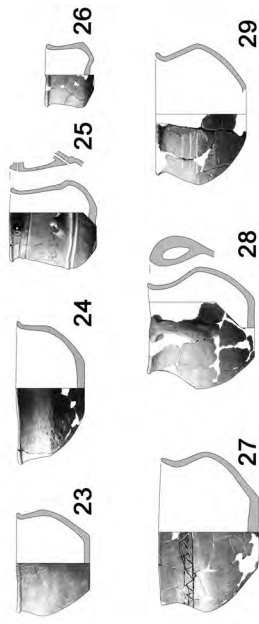
occupy a slightly earlier chronological position within the stage under discussion, i.e., they precede the horizon of spring-cover brooches, which was also the case observed at other Mazovian sites.¹¹⁸⁴ However, it is impossible to verify this hypothesis in the case of Kleszewo. Decorations typical of the stage in question include necklaces composed of various pendants, including banded ones, and/or melon beads made of the so-called Egyptian faience. The remains of belts rich in metal elements were recorded in several graves. Moreover, common in stage Vb were metal casket elements and rod bracelets with decorated, usually polygonal terminals, known already from stage Va. The ceramic inventory of this stage consists mainly of biconical vessels of group B, and pots of group C are also recorded; however, there are no medium-sized or large tripartite forms, such as vases and bowls. I correlate stage Vb mainly with subphase B_{2b}, and it probably also includes the late section of subphase B_{2a}.

Stage Vc is the final stage of the functioning of the Przeworsk cemetery at Kleszewo. Only grave 969, with

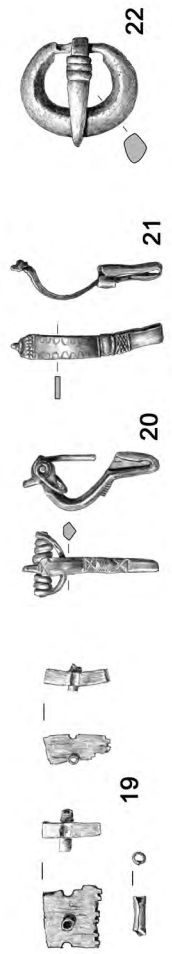
¹¹⁸⁴ Cf. Kamińczyk (T. Dąbrowska 1997, 118–119), Nadkole, site 2 (J. Andrzejowski 1998a, 107–108).

Fig. 60. Chronological markers of phases IV–V of the use of the Kleszewo cemetery.





VIIa



VIIb

Table 14. Synchronisation of the phases of use of the Kleszewo cemetery with the relative chronology of the Przeworsk and Wielbark cultures

Phases of use of the Kleszewo cemetery		Relative chronology of the Przeworsk and Wielbark cultures	Culture
I		A ₂	Przeworsk
II	a	early A ₃ (A ₂ /A ₃)	
	b	late A ₃	
III		B _{1a} (A ₃ /B ₁ -B _{1a})	
IV		B _{1b} -B _{1c}	
V	a	B _{2a}	
	b	B _{2b} (late B _{2a} ?-B _{2b})	
	c	B ₂ /C ₁ -C _{1a}	
VI		C ₂ (C ₁ ?-C ₂)	Wielbark
VII	a	early C ₃ -D (C ₃ ?)	
	b	late C ₃ -D (D ₁ ?)	

the so-called stylistically late brooches of the Mazovian variant, is confidently associated with this section. Some features containing single-layer, multi-piece combs may also belong in this period. Stage Vc falls on the initial phase of the younger Roman period. The small number of graves from this horizon indicates that the Kleszewo cemetery ceased to be used by the Przeworsk culture community at the end of the early and the beginning of the younger Roman period.

WIELBARK CULTURE

The Wielbark culture cemetery is much smaller than the Przeworsk culture one that preceded it. Most features contained relatively poor grave goods. They usually lacked items that could be considered chronological markers, or they contained only one such artefact. As a result, when attempting to periodise the Wielbark phase of the use of the Kleszewo site, the contents of only ten features could be referred to. They made it possible to distinguish two chronological phases of the site's use (phases VI and VII). For the latter one, it was

possible to divide it into an older and a younger section (stages VIIa and VIIb).

Phase VI

The markers of phase VI are brooches of Almgren type 162 with slender, knee-shaped bows, and fibulae of Almgren type 168. The collection of forms distinctive for this phase also includes belt buckles with bipartite, D-shaped frames of types D 29 and 30. A strap-end of type O 15, recovered from grave 359 and not included in the diagram, should also be assigned to this section. The pottery assemblage is composed solely of hand-built vessels. This material allows correlating phase VI of the Kleszewo cemetery with phases C_{1b}-C₂ in the Wielbark culture. The cemetery lacks forms usually associated with stage C_{1b}, such as brooches of Almgren types 167 and 170, flat strap-ends resembling K. Raddatz's types J II 3-4, Roman imports of the so-called Danish wave, etc., which indicates that phase VI of the cemetery fell primarily on phase C₂.

Phase VII

The markers of phase VII are late variants of brooches with a returned foot – with a wide bow, brooches of Almgren type 172 and specimens of pattern ZG 64 that resemble them, brooches with a solid catchplate, and different variants of belt buckles with a thickened frame. Graves from this section quite often yield vessels made

←
Fig. 61. Chronological markers of phases VI-VII of the use of the Kleszewo cemetery

with the help of a potter's wheel. Some features contained polyhedral chalcedony beads. Phase VII covers the late Roman period and the early Migration period. In the Wielbark culture, the former is characterised by the presence of buckles with thickened, oval frames, types H 11–12 and 15. The latter is distinguished by combs with bell-shaped backs, large, massive buckles similar to types H 25–27, and tongue- and beak-shaped strap-ends. Based on the presence of some of these forms in the Kleszewo graves, phase VII was divided into two chronological sections – stage VIIa, which can be synchronised with the late Roman period (phase C₃), and stage VIIb, likely corresponding to the oldest section of the Migration period (phase D₁).

The periodisation of the Kleszewo cemetery and its correlation with the systems of relative chronology of the Przeworsk and Wielbark cultures¹¹⁸⁵ have been presented in Table 14.

3. 2. HORIZONTAL STRATIGRAPHY

The reconstruction of the spatial development of the cemetery was based on features dated to, at most, two phases of the site's development (Table 11). Thus, approximately 125 Przeworsk culture graves, which are dated more broadly, and all features of undetermined cultural attribution were omitted from the analysis. This approach made it easier to trace changes in the development of the burial field. The features/graves not included in the deliberations were located across the entire site, in parts used during different periods.

Originally, the cemetery covered an area of approx. 7,000 m². The area occupied by graves had a roughly oval outline, elongated along the NW-SE axis. The northern part of the cemetery was largely destroyed during gravel extraction on an industrial scale. Judging by the density of features around the extraction pits, I estimate that they probably consumed several dozen graves, which accounted for over a dozen per cent of all burials.

PRZEWORSK CULTURE

Graves from phase I occupy the central and northern parts of the site (Fig. 62). All features with brooches of types A, C and K, most graves with fibulae of type H (Fig. 63), and all graves with elements of weaponry

were located there. Most of the features dated, on the basis of vessels from the first ceramic phase, to phases I–IIa of the cemetery's use were also discovered in the area in question. The cemetery expanded its reach in phase II (Fig. 64 and 65). New graves began to be sited to the east, west and south of the concentration of features from phases I and I–IIa or at its edge. The exception is the north-eastern part of the site, where burials from phases I–IIa, IIa and II occur next to each other. It should be noted, however, that there are no features in this zone that can be confidently dated to stage IIb. Unlike other parts of the cemetery, no features with type-M-a and N-a brooches typical of the said stage were discovered there (Fig. 65). Moreover, almost all graves recorded in the area discussed that may come from phase II can also be dated to phase III (graves 593,¹¹⁸⁶ 614, 615 and 627) or, possibly, phase I–IIa (grave 613). Therefore, it is possible that the discussed part of the cemetery was used in phases I–IIa, and then, after a break, only in phase III. However, this hypothesis cannot be verified due to the extensive destruction of this part of the cemetery. Graves from stage IIa were discovered in the eastern part of the cemetery, i.e., in the zone functioning in phase II (graves 200B, 224 and 357) and in the north-western part, at the edge of a cluster of graves of broad chronology encompassing phases I–IIa (graves 20 and 101).

Determining the full extent of the site in phase III is difficult, because a number of less well-furnished features can also be dated to phase II. Graves that can be confidently assigned to phase III were found mainly in the area used in phase II of the cemetery (Fig. 64 and 66). They are most often located near stage-IIb features. A separate group consists of the previously mentioned burials from the north-eastern edge of the cemetery, which could have been established in an area that had not been used since stage IIa.

The largest number of graves associated with phase IV of the cemetery's operation was located in the south-western part of the cemetery, near a concentration of graves from phase III (Fig. 66 and 67). Isolated burials from the section discussed were also discovered in the north-western and south-eastern parts, likewise near graves from phase III. However, there is a noticeable lack of features from this phase in the previously occupied north-eastern part. This picture – apart from the small density of features – is not changed by including features dated to phases III–IV and IV–Va.

¹¹⁸⁵ Cf. T. Liana 1970, T. Dąbrowska 1981a; 1981b; 1988; K. Godłowski 1992; R. Wołgiewicz 1993; A. Maciałowicz 2017.

¹¹⁸⁶ The presence in this grave of fragments of vessels from the first ceramic phase may be a result of post-depositional processes, i.e., the displacement of archaeological material by a plough.

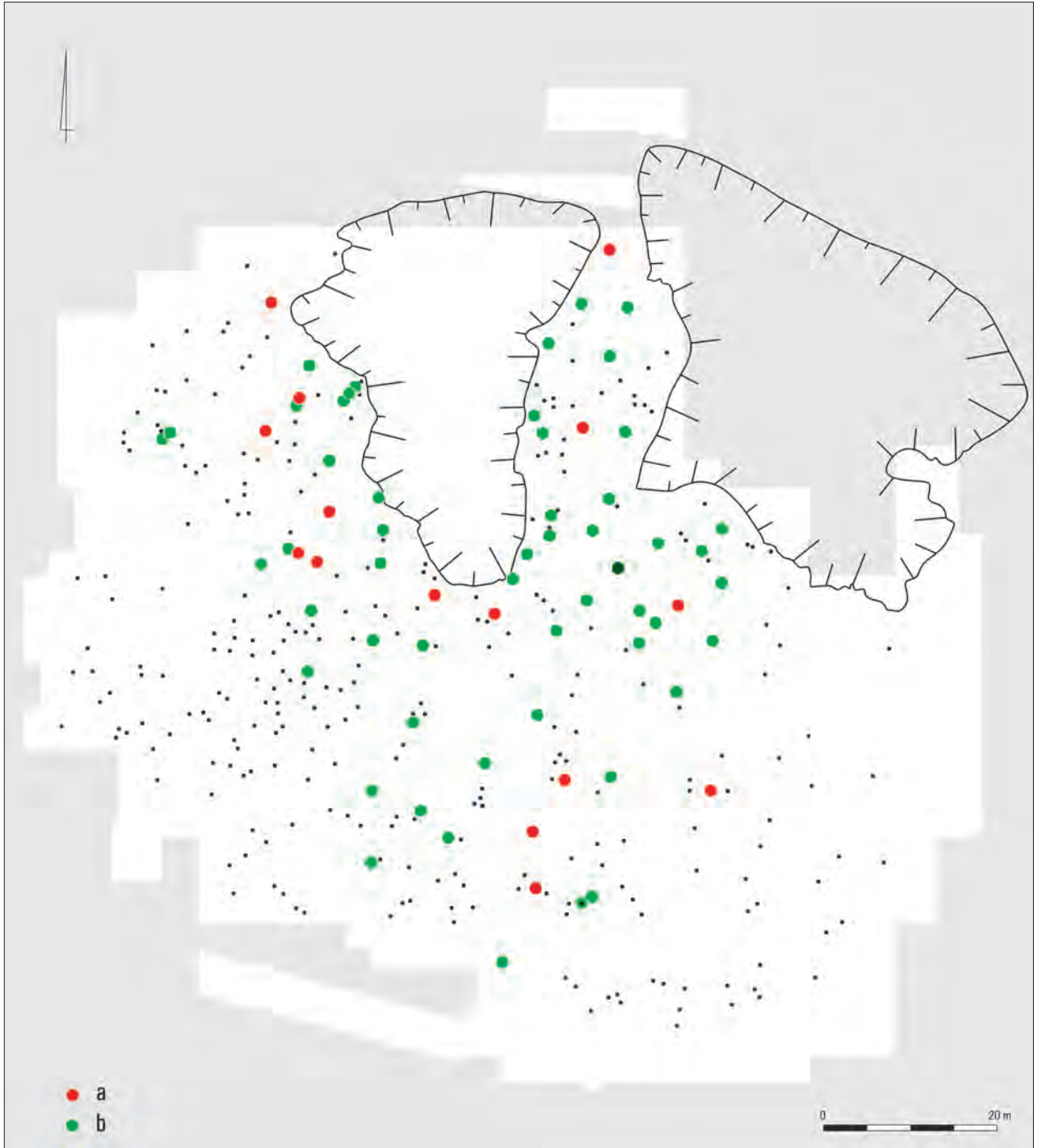


Fig. 62. Location of graves and other features from phase I (a) and phases I-IIa (b) of the cemetery's use

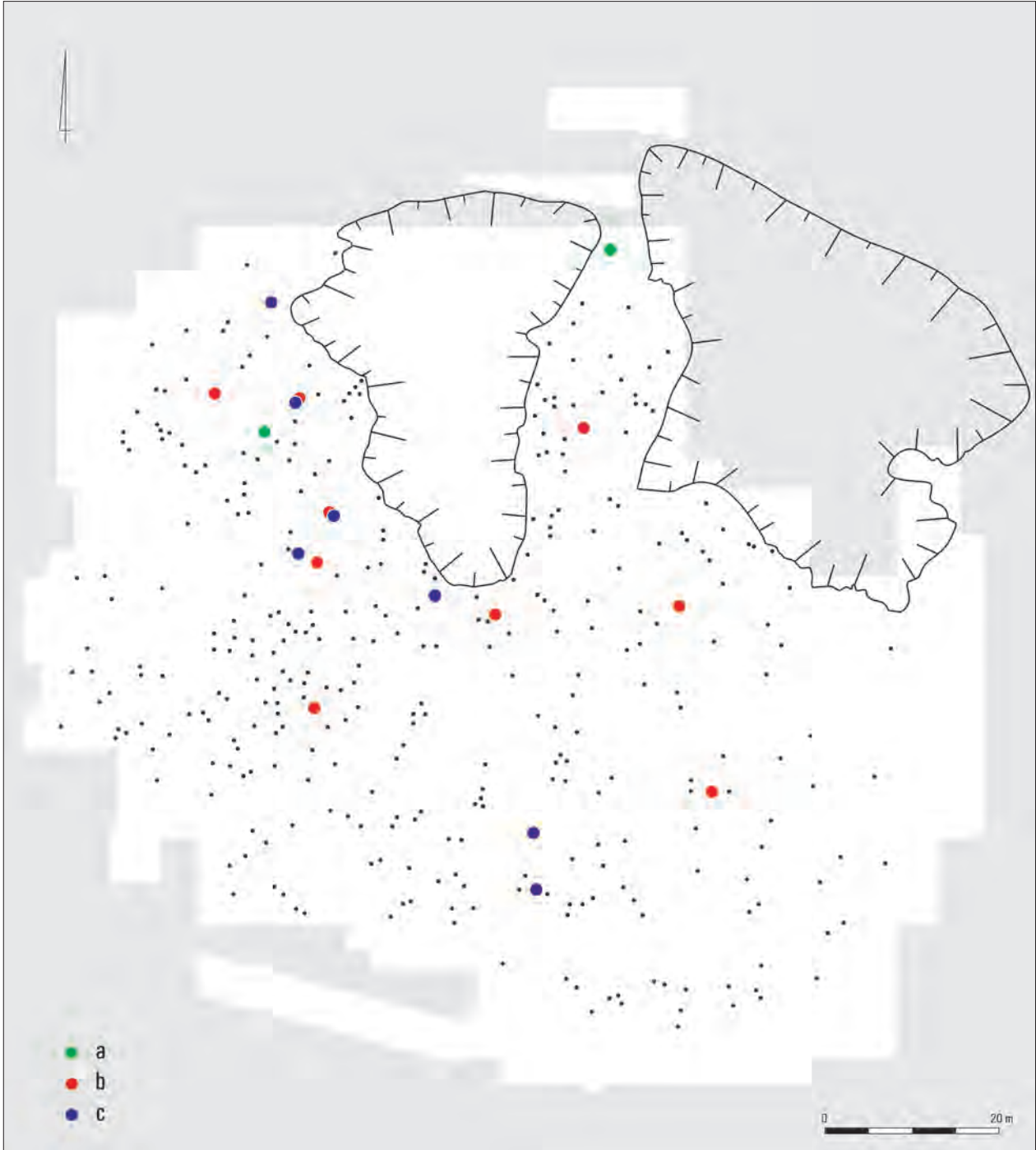


Fig. 63. Location of graves with brooches of types A–C (a), K (b) and H (c) against the backdrop of all Przeworsk culture features (black dots)

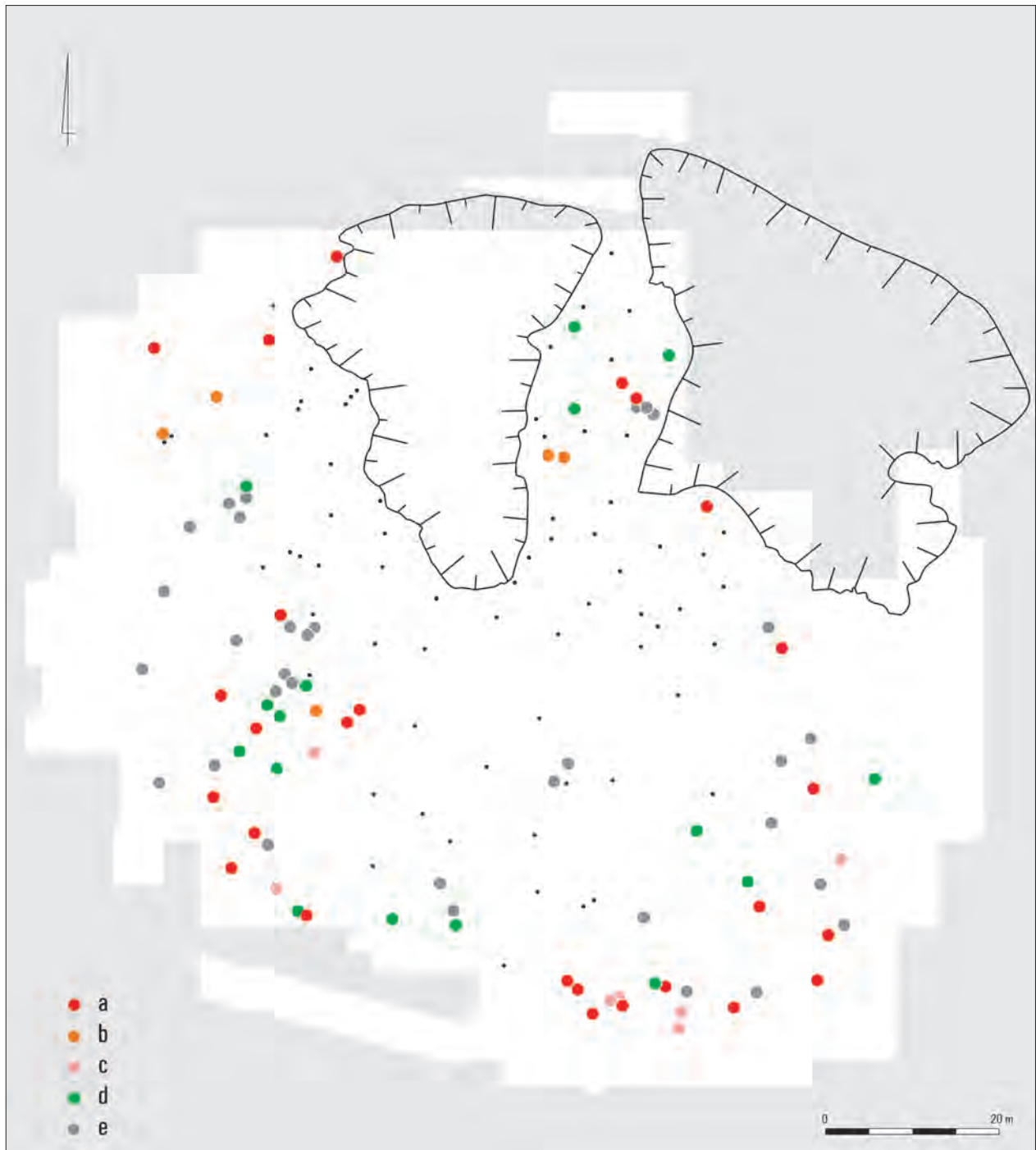


Fig. 64. Location of graves and other features from phase II (a), stages IIa (b) and IIb (c), phase III (d) and phases II-III (e) against the backdrop of features from phases I and I-IIa (black dots)

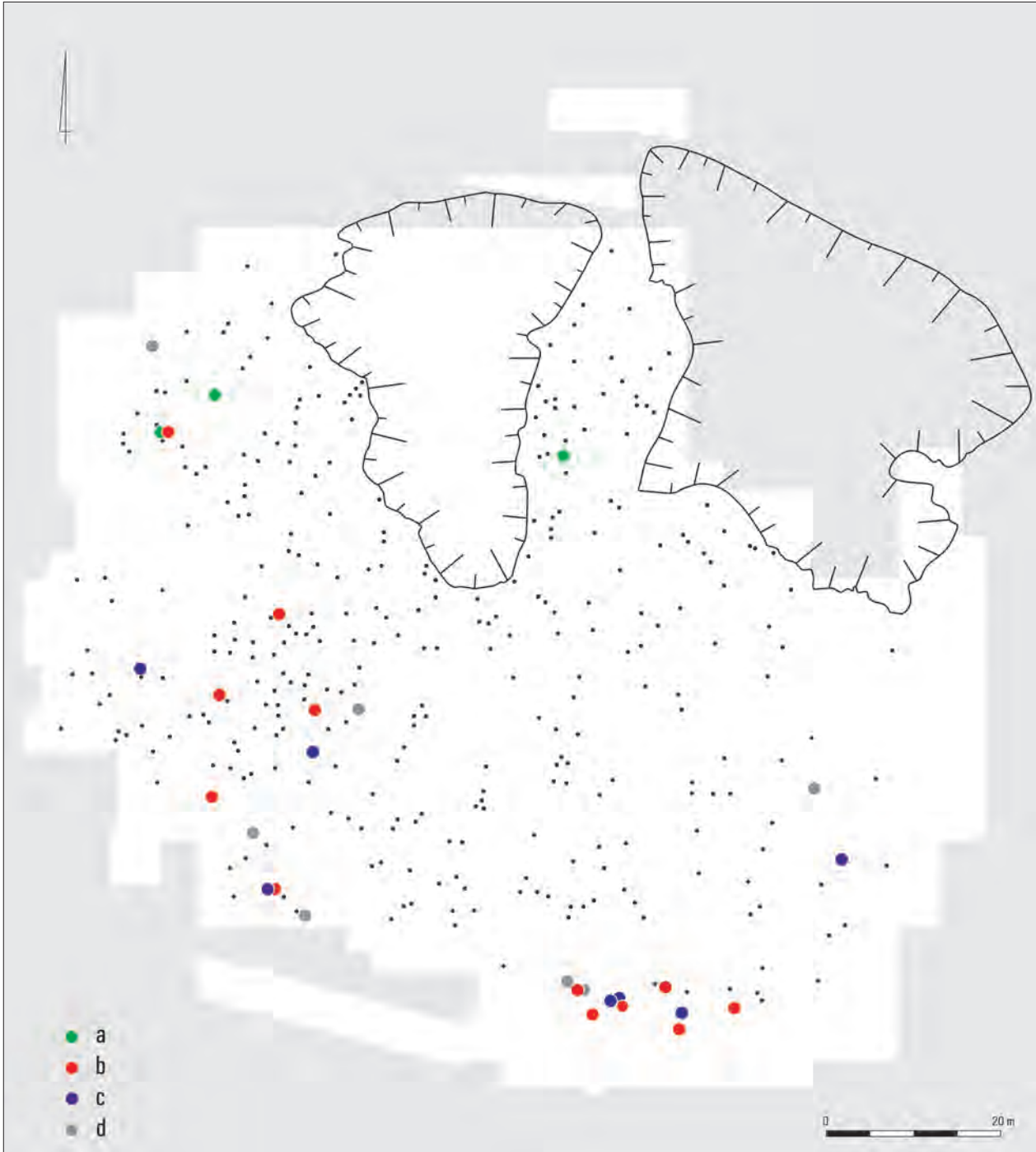


Fig. 65. Location of features with brooches of types J (a), M-a (b), N-a (c) and M-a/N-a (d) against the backdrop of all Przeworsk culture features (black dots)

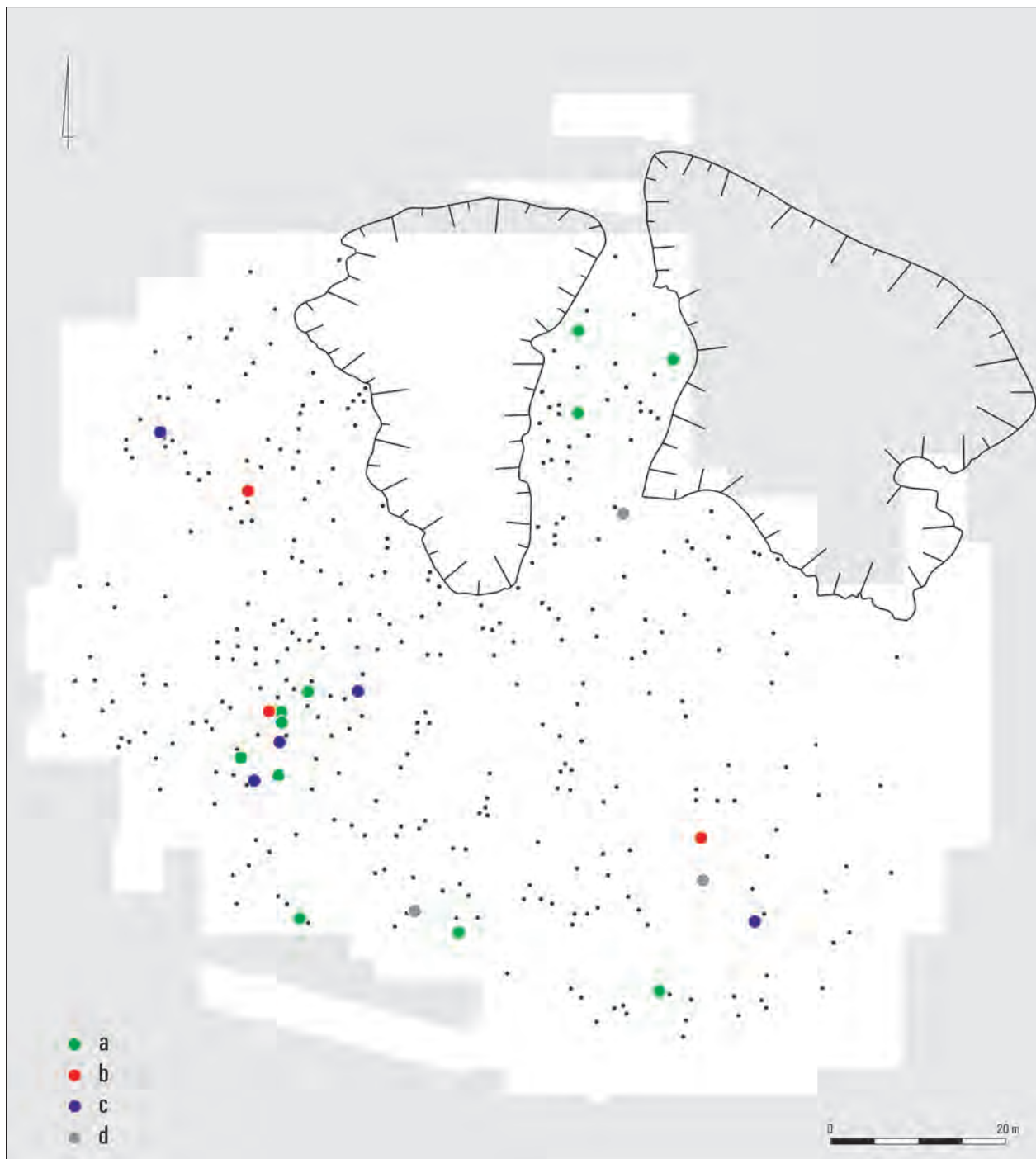


Fig. 66. Location of features with brooches of types Almgren 2 (a), Almgren 67 (b), Almgren 68 (c) and eye fibulae of the main series (d) against the backdrop of all Przeworsk culture features (black dots)

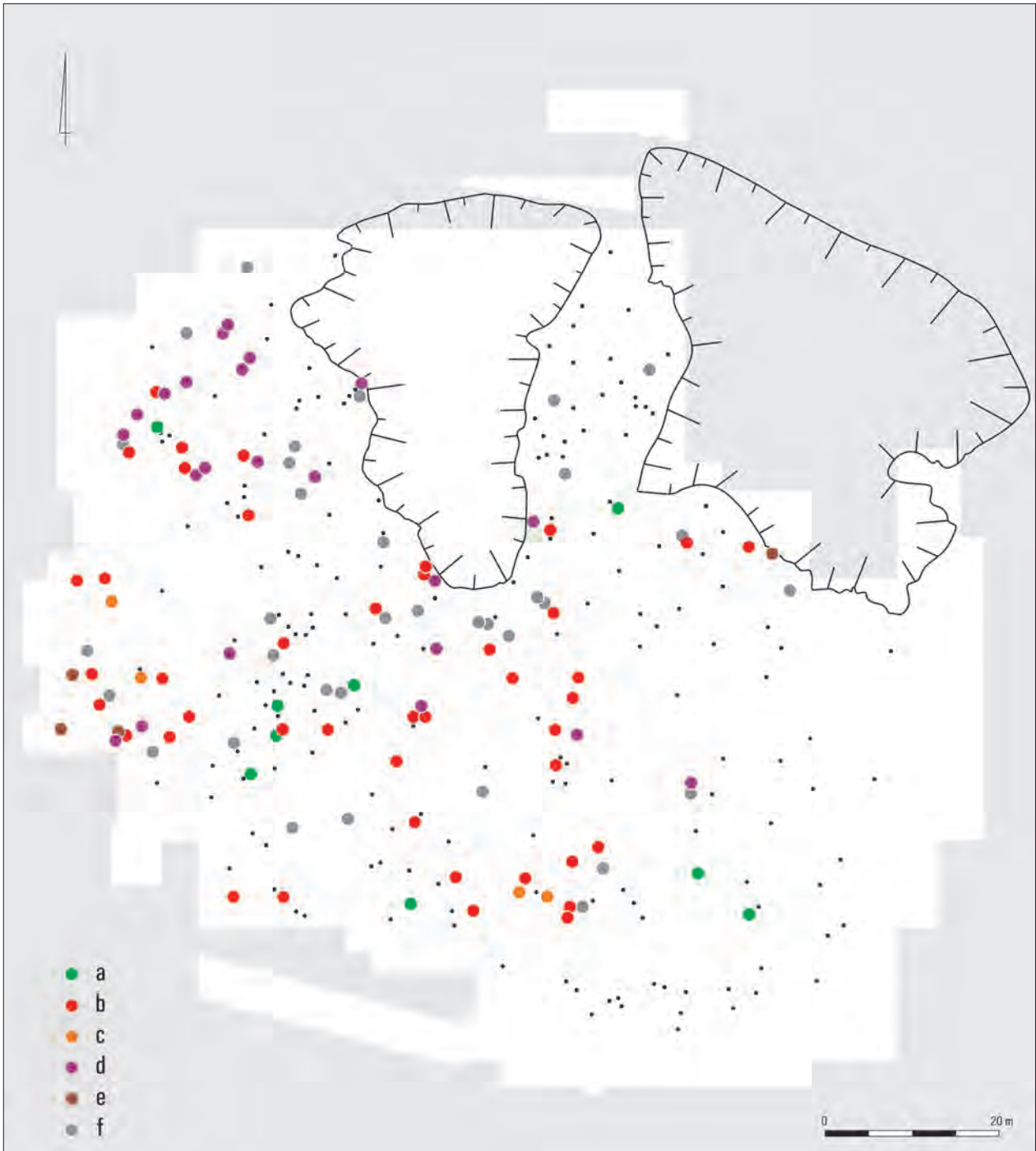


Fig. 67. Location of graves and other features from phase IV (a), phase V (b), stage Va (c), stage Vb (d), stage Vb-c or Vc (e) and phases IV-V (f) against the backdrop of features from phases I-III (black dots)

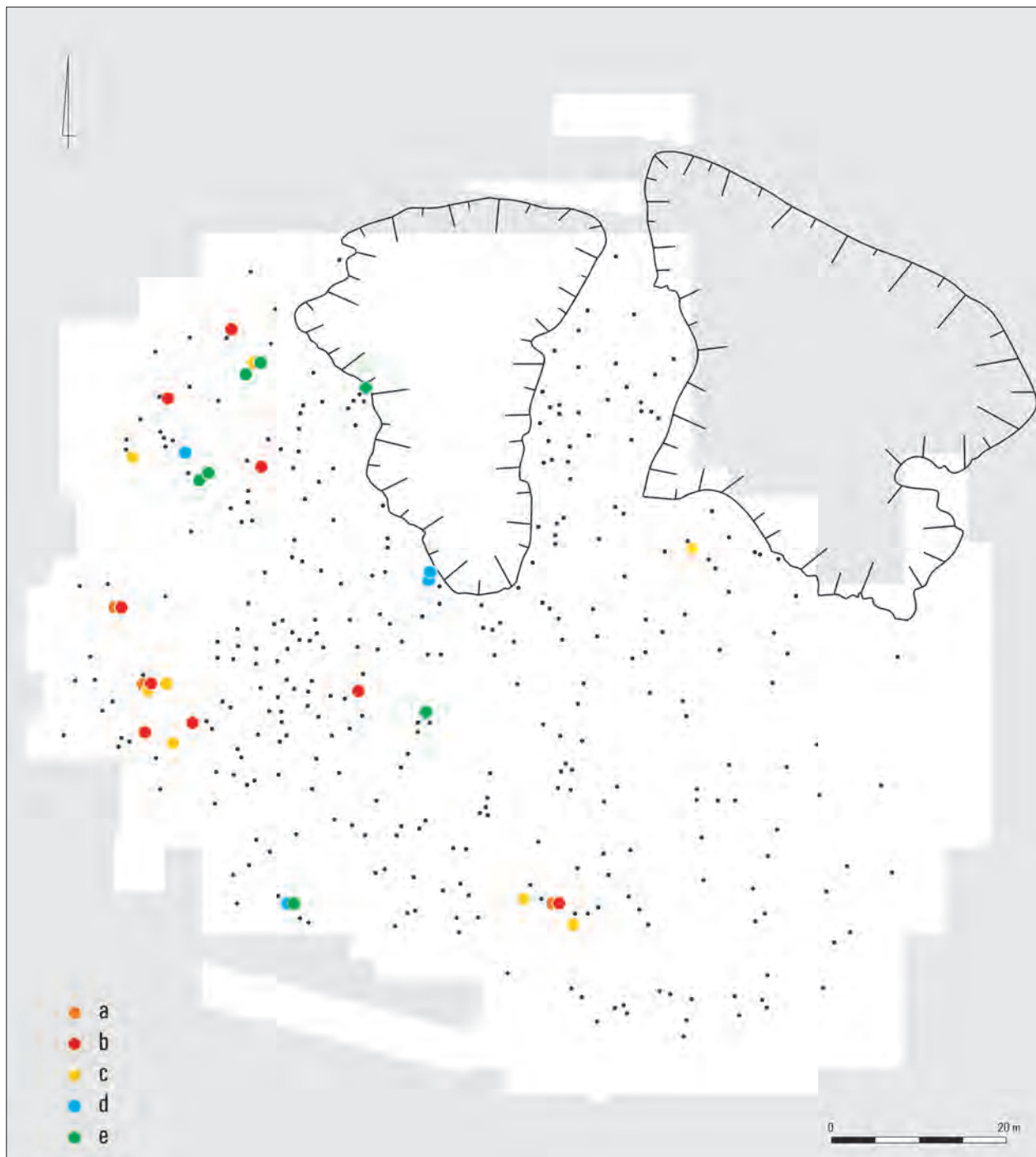


Fig. 68. Location of features with brooches of types Almgren 57–59 (a), Almgren 60–61 (b), broadly classified eye fibulae of the Prussian series (c), brooches of Almgren types 78–79 (d) and of the 7th series of Almgren group V (e) against the backdrop of all Przeworsk culture features (black dots)

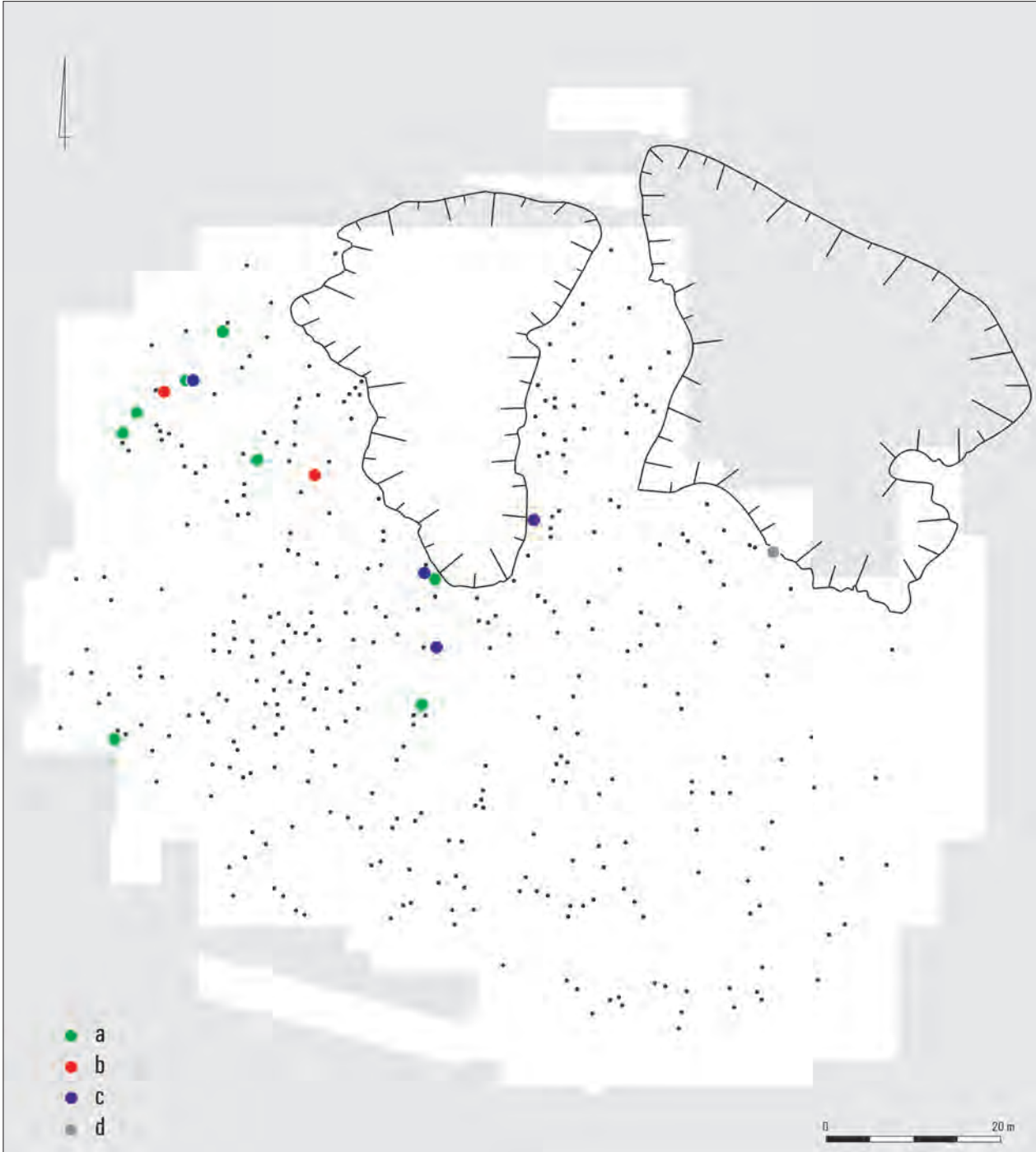


Fig. 69. Location of features with brooches of Almgren types 38–39 (a) and with features resembling Almgren groups II and IV (b), fibulae of the 10th series of Almgren group V (c) and a heavily profiled fibula of the Mazovian variant (d) against the backdrop of all Przeworsk culture features (black dots)

In phase V, the cemetery expanded towards the west, reaching its maximum reach in that direction (Fig. 67–69). The second vector of development was the central part of the cemetery, which had been used in phases I and I–IIa. Several cases of graves from the late pre-Roman period having been disturbed by early Roman burials were recorded there (e.g., 409A and 409B, 832). Graves from stage Va were located mainly at the southern and western edges of the cemetery. Features from stage Vb were found mainly in its north-western and western parts. In phase V, the dead were not buried in the southern and, apart from a small area in its central part, eastern part of the cemetery. From the latter area comes the youngest Przeworsk culture feature at the cemetery – grave 969 from stage Vc. It is also the easternmost feature from phase V of the cemetery’s use.

The brief discussion on the planigraphy of the Przeworsk culture cemetery at Kleszewo presented above shows that its development can be divided into three temporal and spatial stages. However, it should be remembered that a huge percentage of graves is dated imprecisely, which means that the observations made may be over-interpreted. The first stage of the spatial development of the cemetery took place in phases I and I–IIa, the second – in phases II, III and (?) IV, and the third – in phase V. The first two are related to the establishment of the cemetery and the gradual increase of its area by occupying more and more of the previously undeveloped terrain. The third stage was characterised, on the one hand, by the further expansion of the cemetery (to the west), and, on the other hand, by burials in the oldest part of the cemetery, which had not been used for over 100 years. Explaining this “return” is difficult. It seems that, on the one hand, it could result from a limited possibility of further spatial development of the cemetery “to the outside”. The hill on which the site was located is largely made of hard loamy gravel, which hindered digging up pits in its area. Stefan Woyda drew attention to these soil conditions in the southern part of the site during his excavations. On the other hand, it is also possible that new graves started to appear in the previously abandoned part of the cemetery, as the community that used the burial ground in the late section of the early Roman period had forgotten the extent of the area of the late pre-Roman site.

The clear horizontal stratigraphy of the Przeworsk culture cemetery at Kleszewo resembles those recorded at several other extensive and long-lasting Masovian-Podlachian cemeteries of the Przeworsk culture,

e.g., at Niedanowo,¹¹⁸⁷ Karczewiec,¹¹⁸⁸ Kamieńczyk.¹¹⁸⁹ Each of them, of course, has its own specificity, but the common feature connecting these sites with the Kleszewo cemetery is the gradual development of the burial ground by incorporating new areas while abandoning the old ones.

WIELBARK CULTURE

Almost all graves attributed to the Wielbark culture were recorded in two clusters (Fig. 70). The first one was located in the north-western part of the former Przeworsk culture cemetery used mainly in phase V. The second one was situated in the eastern part of the cemetery that functioned in phases II–IV and Vc. The very few remaining Wielbark culture graves were discovered in the southern part of the site, between both the previously mentioned groups.

The oldest graves (phase VI) are scattered throughout the area of the Wielbark culture cemetery (Figs. 70–72). Nine of them are located in the western cluster, three – in the eastern cluster, and the remaining two were found in the southern part of the site. In phase VII, we observe different proportions in the distribution of graves, with only two so-dated features recorded in the western part, while the remaining 23 features were found in the eastern part of the burial ground, in two – northern and southern – clusters. However, these groupings are only apparent, as, among them, there are several Wielbark culture features dating to phases VI–VII. All features associated with stage VIIa, i.e., containing buckles of types H 11 and 12, were recorded in the eastern part of the site. All features with pottery made using a potter’s wheel (Fig. 72) were also located in the same part of the cemetery. It indicates that, in phase VII, the eastern part of the cemetery was mainly used, while burying the dead in the western part had stopped, most likely at the beginning (?) of phase VII.

The planigraphy of the Wielbark culture cemetery at Kleszewo confirms that the site was most likely established in phase C₂. The lack of graves from phases B₂/C₁–C₁ is not a result of the destruction of the site. Only the eastern part of the cemetery, used during its youngest phase, was degraded, as evidenced by the assemblage of stray finds discovered in this part of the site. Said collection consists almost exclusively of objects characteristic of the late phase of the Wielbark culture.

¹¹⁸⁷ W. Ziemińska-Odojowa 1999a, 128; T. Dąbrowska 2007, 254.

¹¹⁸⁸ T. Dąbrowska 1973, 520–522; 1997, 119–120.

¹¹⁸⁹ T. Dąbrowska 1997, 119–120.

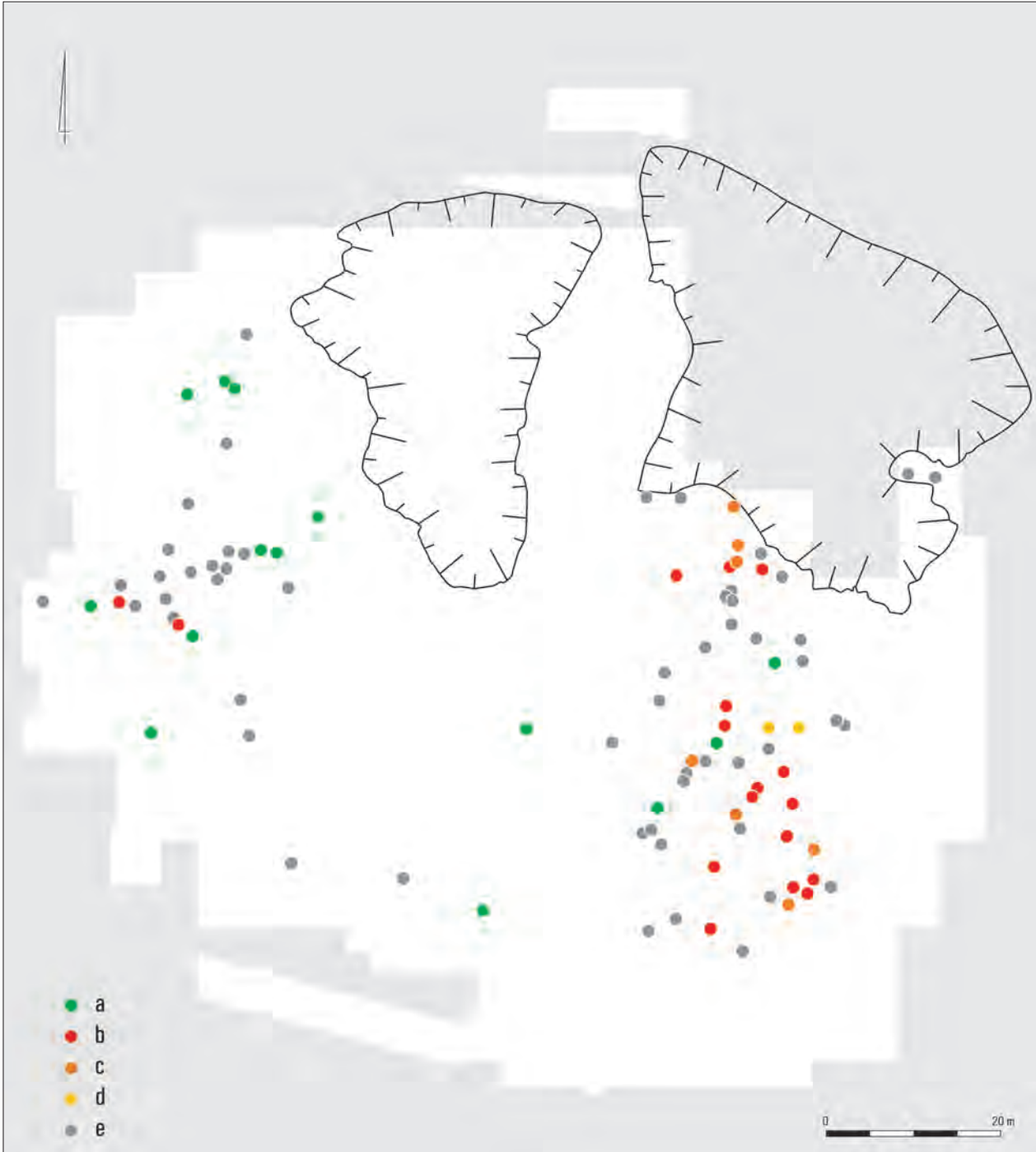


Fig. 70. Location of graves from phases VI (a), VII (b), stages VIIa (c), VIIb (d) and phases VI-VII (e)

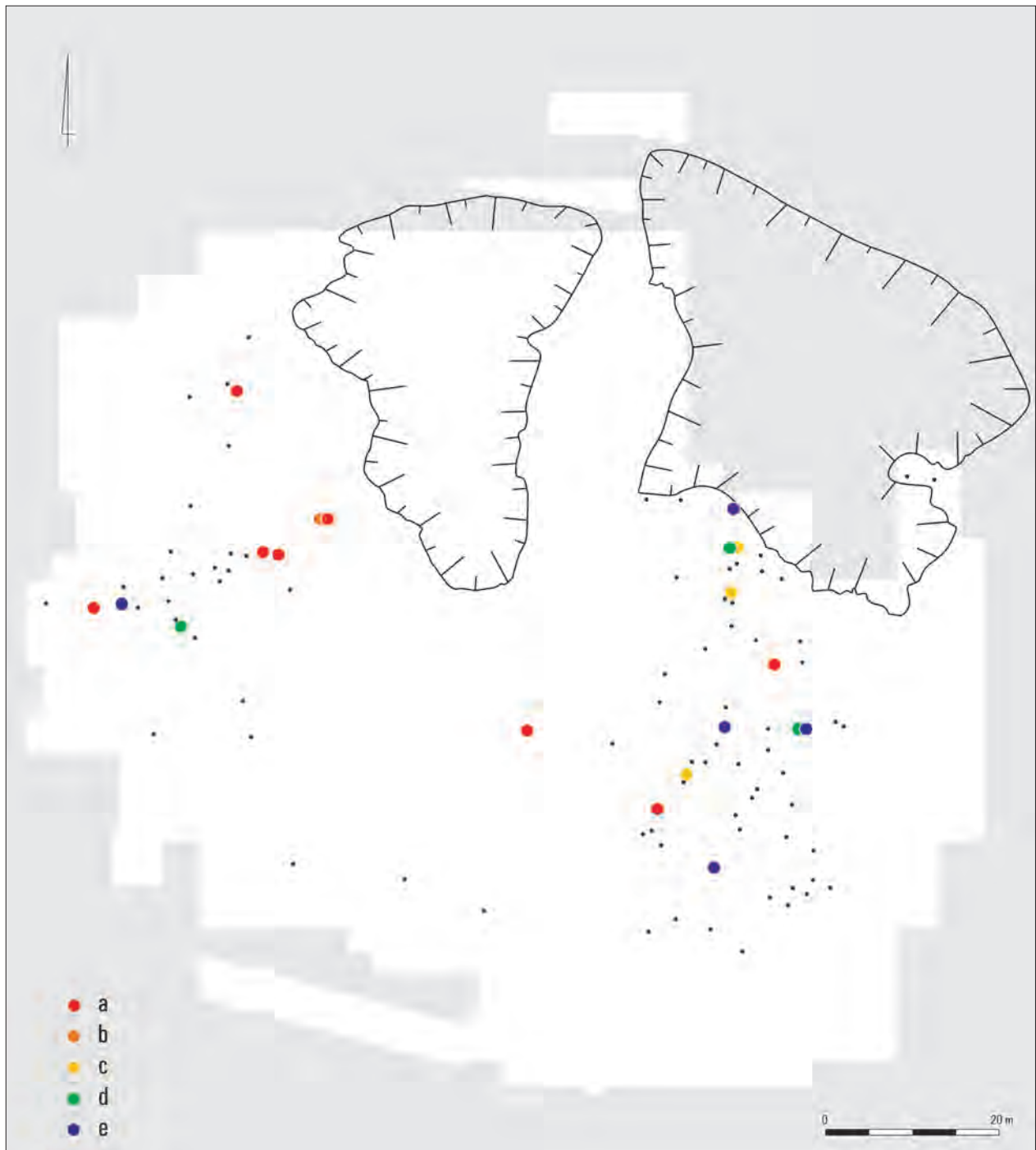


Fig. 71. Location of features with brooches of types Almgren 162 (a), Almgren 168 (b), late variants of types Almgren 162 (c), Almgren 172 (d) and fibulae with a solid catchplate (e)

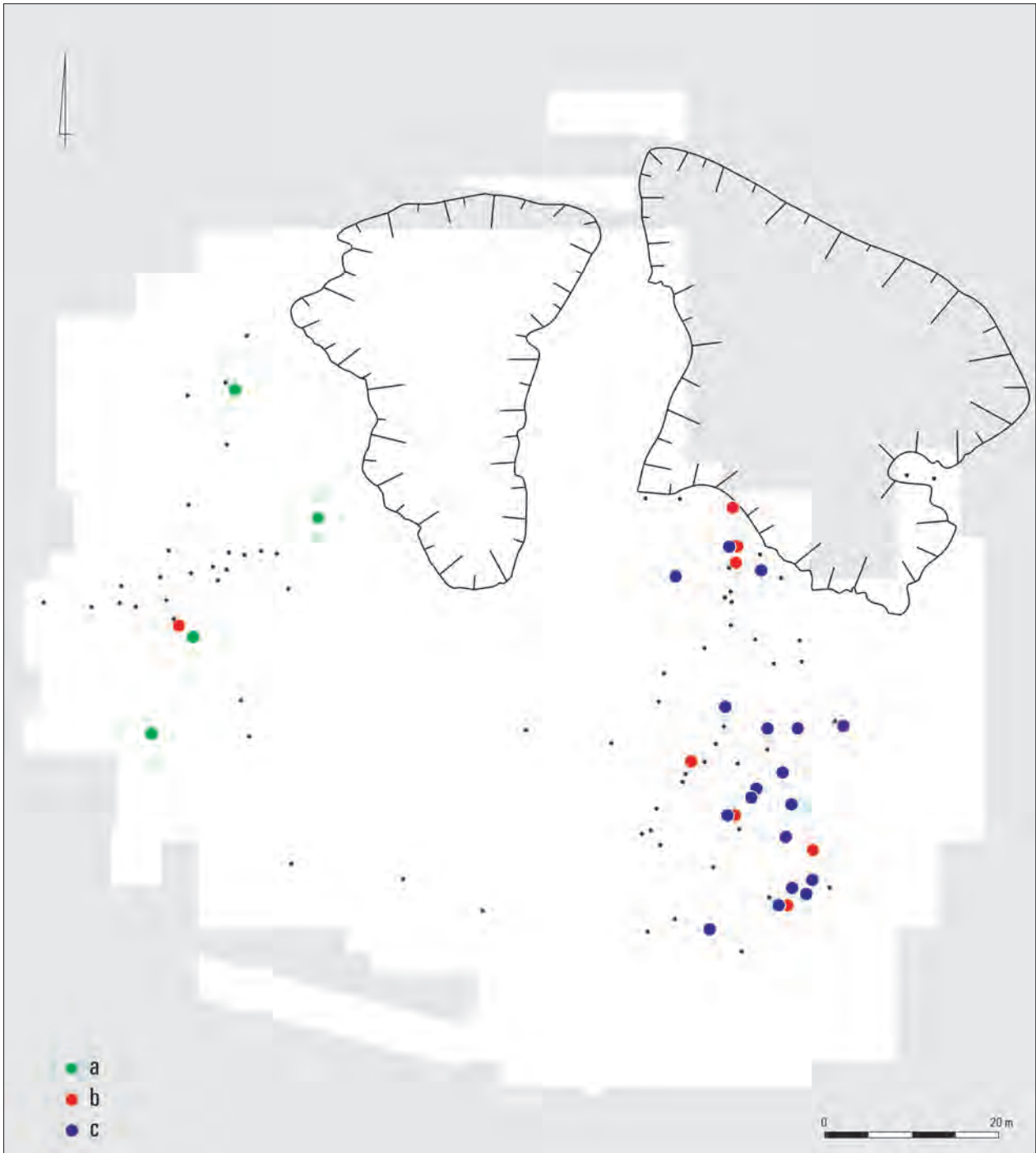


Fig. 72. Location of graves with belt buckles of types D 29–30 (a) or with a thickened frame (b) and/or pottery made on a potter's wheel (c)

4. DESCRIPTION OF FEATURES AND FUNERAL RITES

The site yielded 565 graves and other features of the Przeworsk or Wielbark cultures, out of which 344 were attributed to the former and 93 to the latter unit. The cultural attribution of 128 pits could not be determined due to the absence of grave goods or their nondescript character (Chart 5).

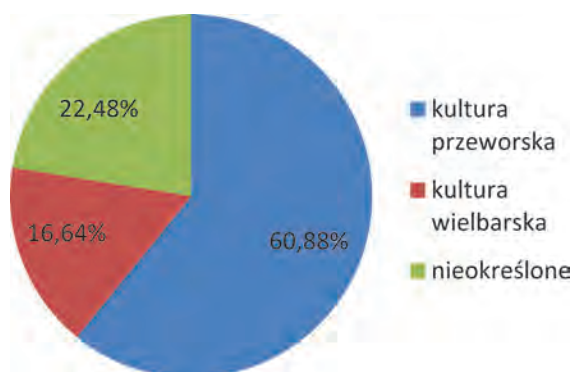


Chart 5. Cultural attribution of graves and other features from the Kleszewo cemetery (n=565)

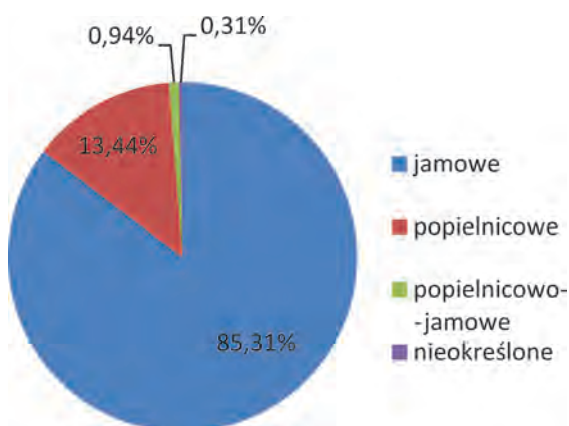


Chart 6. Forms of Przeworsk culture graves (n=320)

Of the total number of the features uncovered, 521 were identified as graves. The fills of cremation graves contained burnt human bones or unidentified bones that had been lost before they could be analysed. In most inhumation graves, human remains had completely decomposed, which is typical of Mazovian-Podlachian cemeteries from the Roman period. The functional classification of such features was based mainly on the unburnt artefacts found in them and, in exceptional cases, on the shape of the pit.¹¹⁸⁶ The term “other feature” was used to describe pits in which no human remains were discovered.

The graves and artefacts were found about 20–30 cm below the ground surface, rarely deeper, which is particularly true of the inhumation burials of the Wielbark culture. The top levels of almost all pits were disturbed by contemporary agricultural activities. Some of them were also damaged by medieval graves and modern pits (gravel extraction pits, ditches, shell-holes).

4.1. PRZEWORSK CULTURE

Of the 344 features associated with the Przeworsk culture, 320 were found to be graves; the function of the remaining 24 features is unknown. All of the Przeworsk culture graves contained cremation burials. Among them, burials in a pit,¹¹⁸⁷ of which 273 were discovered, were the most numerous (Chart 6). Moreover, 43

¹¹⁸⁶ Cf. graves (?) 182 and 183 of rectangular outlines, elongated along the N-S axis.

¹¹⁸⁷ Three small pits completely or almost completely filled with a compact mass of burnt bones (graves 34, 240, 262) were also identified as burials in a pit. It is possible that the bones found in them were originally placed in containers made of organic

Table 14. Compilation of Przeworsk culture graves and other features from phases I–III of the cemetery’s use

Graves				Other features
	pit	urn	urn-and-pit	
with pyre remains	3, 9, 10, 11, 12, 13, 20, 22, 26, 27, 28, 29, 41, 45, 47, 48, 51, 54, 58, 59, 63, 64, 67, 68, 70, 73B, 74, 77, 81, 84, 85/86, 89, 91, 92, 101, 102, 103A, 111, 113, 114, 117, 122, 128, 140, 147, 153, 157, 165, 187, 190, 200C, 200D, 202, 203, 208A, 212, 222, 219A, 224, 231B, 232, 236, 238, 255, 267, 277, 283, 305, 306, 314, 331, 347, 348, 351, 361, 399, 400, 401, 402, 406, 407, 409A, 450, 451, 476, 500, 518, 521A, 530, 532, 533, 536, 576, 582, 583, 587, 591, 592, 593, 596A, 606, 608, 613, 614, 615, 620, 627, 637, 655, 656, 657, 660, 692, 697, 701A, 704, 705, 711, 713, 717, 722, 730, 797, 798, 830, 832, 837, 850, 859, 885, 920, 946, 949, 956, 970, 1028, 1030, 1035, 1044D2, 1048, 1051	1/1961?, 245, 706?, 860, 967, 985, 1019, 1022, 1024A, 1024B, 1024C, 1025, 1026A, 1026B, 1047	200B	37, 98, 340, 345, 415B, 520, 585, 625, 714, 1020, 1023, 1029
without pyre remains	38, 110, 116?, 144, 188, 237?	357	–	

graves with ceramic urns were recorded, three features were considered to be urn-and-pit graves, and the nature of one was not determined.

The funerary rites and grave forms of the Przeworsk culture community have been discussed in detail, and the time the cemetery was used by the group in question has been divided into two horizons. The first horizon covers phases I–III, and the second one – phases IV–V. This procedure has made it easier to describe, as well as to identify, the characteristics inherent to specific stages of the cemetery’s development. The few features that are dated broadly to both horizons, i.e., phases I–V, or those whose chronology falls between the end of the first and the beginning of the second horizon (e.g., phases II–IV, II–IV or III–V), generally do not contribute significant (more precisely: additional) data concerning the issues discussed in this chapter.

Phases I–III

The dating of 164 graves and 12 other features falls in the range of phases I–III of the cemetery’s use (Table 14). That first group consists of 147 pit graves, 16 cremation graves and one urn-and-pit grave (Chart 7).

The pit graves were characterised by a wide variety of shapes, sizes and fills. Most often recorded were features of oval or circular outlines, while those of rectangular (possibly quadrangular) outlines were much

material. Had that been the case, these graves should formally be classified as urned burials.

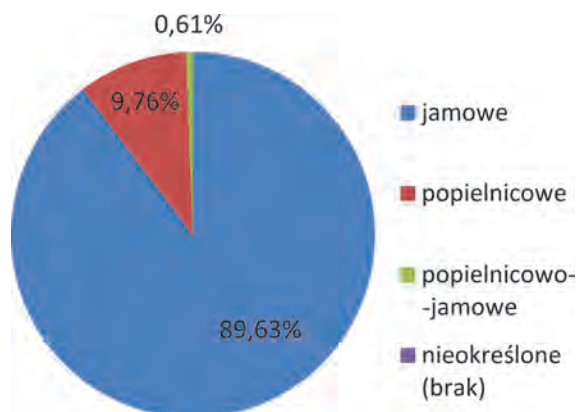


Chart 7. Forms of graves from phases I–III of the cemetery’s use (n=164)

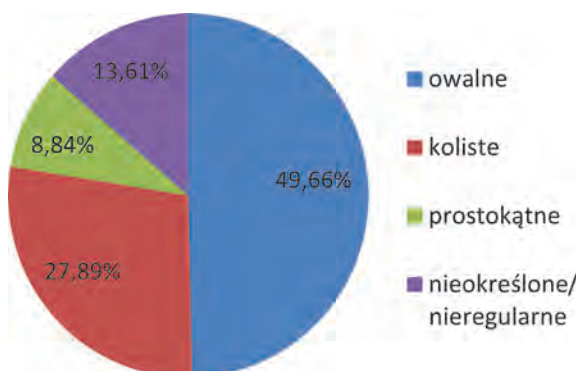


Chart 8. Shapes of pit graves from phases I–III of the cemetery’s use (n=147)

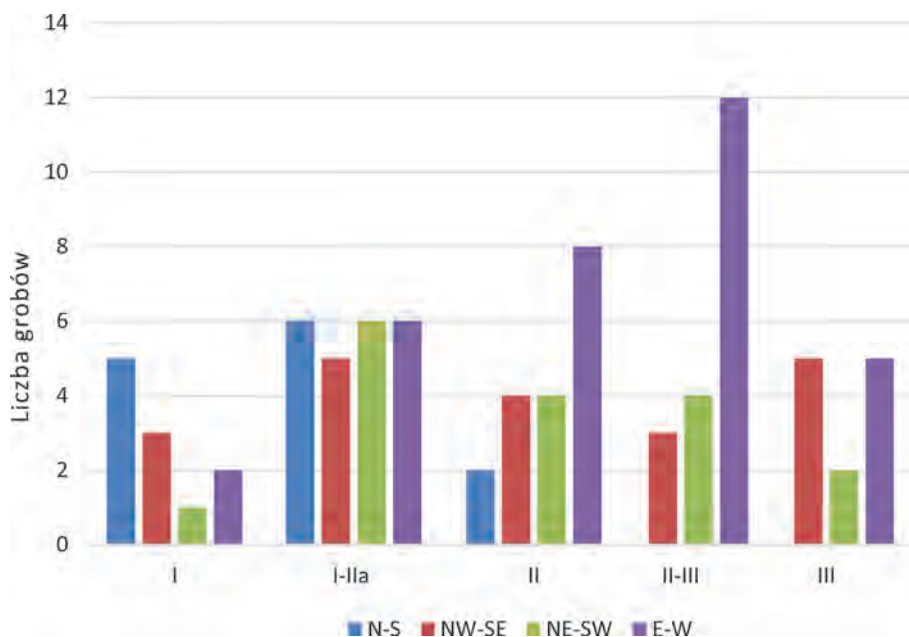


Chart 9. Orientation of pit graves of oval or rectangular outlines in phases I–III of the cemetery's use

rarer. The remaining pits had been destroyed or had irregular outlines (Chart 8).

The dimensions of the pit graves of oval and rectangular outlines ranged from 40×30 cm to 250×110 cm; most often, they fell between 90×60 and 160×110 cm. The orientation of the pits varied. Initially (up to stage IIa), the graves with outlines elongated along the N-S axis were predominant; later, i.e., from phase II onwards, those elongated on the E-W axis became more common (Chart 9). The diameters of the graves of circular outlines measured between 30 and 150 cm, with 60–110 cm being the most common. In section, the pits were basin-shaped, much less often – semicircular, and exceptionally – quadrangular or triangular. Their depths ranged from 10 to 80 cm and usually measured 20–50 cm. The vast majority of the graves were filled with dark grey or black earth with charcoal; only a few pits were characterised by slightly lighter fills – grey, yellow-grey or light grey – with a small amount of charcoal. The notable predominance of pit graves with pyre remains over those with no burnt debris is typical of Mazovian cemeteries of the Przeworsk culture from the late pre-Roman period.¹¹⁸⁸

Some pit graves contained small or medium-sized stones. The former may have found their way there by accident, together with the earth used to fill the pits (e.g., graves 45, 81, 114, 203, 208A). The larger specimens were probably placed there intentionally, e.g., a stone stele (?)

¹¹⁸⁸ T. Dąbrowska 1973, 524; 1997, 111; K. Czarnecka 2007, 107; cf. also A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 191–192, table 5.

from the top level of grave 84 or a flat stone from grave 190 that lay on the border between the dark and light layers of the fill. Cremated human remains were usually scattered throughout the pit, with generally higher numbers found in the parts of the pit most saturated with burnt material. The exceptions are graves 27, 202 and 224, in which the bones were clustered. At present, however, it is impossible to determine whether they were deposited in the graves in containers of organic material, or whether they were dumped in a single area of the burial pit after collecting them from the funeral pyre.

Grave goods, mostly burnt and defragmented, were found in various parts of the burial pits. Potsherds were usually scattered throughout the pit, rarely forming smaller or larger concentrations. In graves 22 and 224, fragments of a vessel or vessels partially lined the walls of the pit. Moreover, several graves contained intact vessels. Some of them were burnt (e.g., 530/1-3.5, 655/7, 1030/2-4), while others bear no traces of having been subjected to high temperatures (e.g., 190/1.2). In some cases, a smaller vessel was located inside a larger one (grave 530), or the vessels were stacked on top of each other (e.g., graves 190, 1035). In grave 967, a small vessel was covered by a mug. In graves 68 and 402, dress elements and/or weapons lay underneath the dark part of the fill, presumably having been pressed into the bottom of the pit. Examples of such practices are known from other Przeworsk culture cemeteries from the late pre-Roman period and the Roman period.¹¹⁸⁹ This

¹¹⁸⁹ E.g., Karczewiec, grave 144 (T. Dąbrowska 1973, 465–466, fig. 86), Lemany, graves 36, 48, 53, 122 (documentation in the

kind of treatment – especially in regard to weapons or sharp tools – is considered to have had symbolic significance.¹¹⁹⁰ The presence of a sword, which was bent several times, in grave 402 can also be ascribed to the sphere of rituals accompanying the funeral. Objects devoid of utility values, i.e. broken, bent, blunted, etc., are relatively frequent finds at Przeworsk culture cemeteries, which is particularly true of elements of weaponry.

Sixteen cremation graves dated to phases I–III of the cemetery's use were uncovered, and one feature (grave 200B) was identified as an urn-and-pit grave.¹¹⁹¹ Most of them (e.g., graves 967, 1024A–C, 1025) had elongated, oval or almost quadrangular outlines, ranging in size from 80×60 to 210×120 cm and usually measuring 100–150×70–110 cm. They were commonly oriented along the NW-SE (e.g., graves 245, 706, 967) or E-W axis (e.g., graves 1019, 1024A, 1026B), in exceptional cases – also along the N-S (grave 1047) or NE-SW (graves 1022, 1024C) axis. A few graves (e.g., 200B, 860) had a circular outline with a diameter of approx. 70 cm. The pits of the cremation graves were usually basin-shaped in section, and their depths ranged from 15 to 50 cm, most often – 30–50 cm. Grave 357 was characterised by a light fill without charcoal; the other graves were filled with dark grey and/or black earth with pyre remains. The dominance of cremation graves with pyre remains over the so-called clean cremation graves, which can be observed at Kleszewo, is typical of large Mazovian-Podlachian cemeteries of the Przeworsk culture from the late pre-Roman period.¹¹⁹²

The function of the urn was most often performed by large or medium-sized vessels of groups III (e.g., 706/5, 1022/8, 1025/5, 1026A/5) or VI (1/1961/3, 357/11, 1019/5). Other forms were used less frequently: mugs of types I.3 (1047/5) or I.4 (200B/12), a bowl of type II.2 (967/4), a vase of group IV (245/10), a jar of group V (985/2) and a bowl of type VII.3 (1024C/6). In grave 1024A, the urn was in the form of a small bowl-shaped

MSHM archive), Kamieńczyk, grave 301 (T. Dąbrowska 1997, 62, pl. CXXXVIII/301).

¹¹⁹⁰ Cf. K. Czarnecka 2021, 197–199.

¹¹⁹¹ The remains of two people were discovered in the grave. Presently, it is not possible to indicate the location of the bones of each individual. If, in both cases, they had been found in both the urn and the fill of the pit, then grave 200B should be classified as a double urn burial in a pit with pyre remains.

¹¹⁹² E.g., Kamieńczyk (T. Dąbrowska 1997, 111), Oblin (K. Czarnecka 2007, 107), Warszawa-Wilanów (J. Marciniak 1957, 160–162). The exception is the cemetery at Dąbek, site 9, where the so-called clean graves constitute a significant share of urned burials (A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 189–190, table 5).

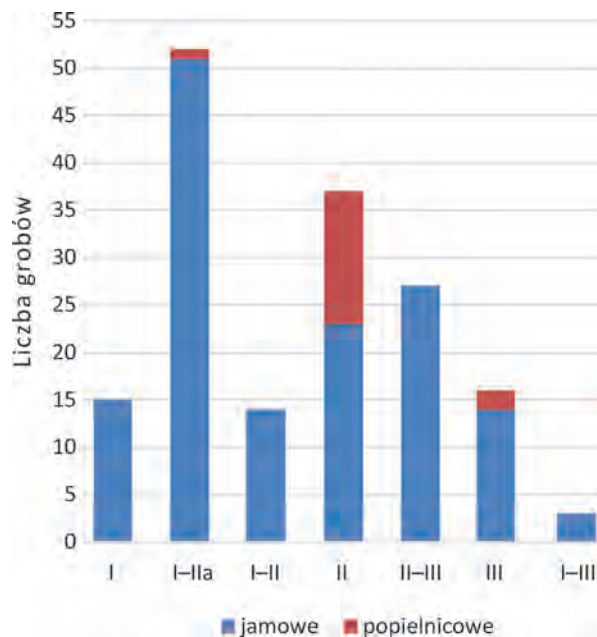


Chart 10. Pit and urn graves from phases I–III of the cemetery's use

“vessel” of unfired or poorly fired clay (1024A/4). Urns were usually placed at the bottom of the pit, either in the centre or, more commonly, at one of the ends. Some urns were covered with an upturned vessel, usually a bowl (graves 357, 985, 1025, 1026A, 1047). The lower part of another vessel was inserted into the mouths of the urns from graves 1022 and 1024A, while the rim of the urn from grave 1026B was covered by other potsherds. The urns from graves 245 and 1024C were placed upside down on top of fragments of other vessels, while grave 1047 contained an upturned urn which was missing a large fragment of its base.

The custom of covering the urn with another vessel in the Przeworsk culture is explained by the influence of the Jastorf culture or the survival of the rituals of the Pomeranian-Cloche Grave circle into the late pre-Roman period.¹¹⁹³ By phases A₃–B_{1a}, this practice had already been well established in the funerary traditions of the people inhabiting eastern Mazovia, as can be inferred from the material from Kamieńczyk and, above all, Oblin.¹¹⁹⁴

The urns from Kleszewo were filled with a dense layer of cremated bones or earth in which human remains

¹¹⁹³ A. Niewęglowski 1981, 28; T. Dąbrowska 1988, 96–97, 99; K. Czarnecka 2007, 107–108; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 194–195.

¹¹⁹⁴ T. Dąbrowska 1997, 23, 56, 61 (graves 65, 260, 297); K. Czarnecka 2007, 107–108.



Chart 11. Weight (in grams) of human bones found in pit and urn graves from phases I–III of the cemetery’s use

were scattered. The earth inside the urn had either the same colour as the fill of the grave pit or was lighter. In the latter case, it contained no, or possibly very little, charcoal. Grave goods were found inside the urns, amidst or under the bones. Usually, they had the form of dress accessories (brooches, a belt buckle), less often of small tools, e.g., an awl or a needle. Commonly, some of the grave goods would also be found in the fill of the burial pit. The fills of all the graves contained, usually very numerous, fragments of clay vessels other than the urn and often also whole or nearly complete vessels, most of them burnt. In many cases, pottery formed smaller or larger concentrations in different parts of the pit. In graves 357 and 1022, numerous vessels were arranged around the urns.

Pit burials were recorded across all stages of the first horizon of the cemetery’s functioning and were most numerous in phases I–IIa. Urns were discovered almost exclusively in graves from phase II (Chart 10). Only grave 985, dated on the basis of vessels of the first ceramic phase to phases I–IIa, may be older. The two youngest urn burials come from phase III. In its huge predominance of pit graves over urn graves from the middle section of the late pre-Roman period, the Kleszewo cemetery most resembles eastern Mazovian burial sites, e.g., Lemany,¹¹⁹⁵ Karczewiec¹¹⁹⁶ and

Kończ.¹¹⁹⁷ At most cemeteries of said region, urn graves become more common only in phase A₃.¹¹⁹⁸ A similar trend has also been recorded at some sites from the western part of the Przeworsk culture, e.g., in Greater Poland and Silesia.¹¹⁹⁹ The situation is somewhat different in northern Mazovia, where, at some cemeteries, urn graves account for a significant portion of all features already in phase A₂.¹²⁰⁰

Anthropological analysis was carried out on the osteological material from 116 of the 164 graves.¹²⁰¹ The weight of the bones excavated from the pit graves ranged from 0.1 to 879.9 g. Most assemblages weighed up to several dozen grams. Of these, 75% weighed less than 50 g, and 20% weighed less than 2 g. In the urn graves, the weight of the skeletal remains ranged from 13.7 to 813.1 g, with almost half of the assemblages weighing more than 290 g (Chart 11). The small quantity of human bones obtained from the pit graves, representing only a fraction of the full weight of a cremated skeleton, is a feature relatively frequently recorded in the Przeworsk culture. It is assumed that this phenomenon was related to the funeral practices. The most common ex-

¹¹⁹⁷ T. Dąbrowska 2002, 238, table 1.

¹¹⁹⁸ T. Dąbrowska 2008, 14.

¹¹⁹⁹ K. Godłowski 1981b, 107.

¹²⁰⁰ Cf. T. Dąbrowska 2008, 14.

¹²⁰¹ The bone remains from the remaining graves were not extracted during the field works or have been lost.

¹¹⁹⁵ MSHM collection, inv. no. MSHM/A/1135–1327.

¹¹⁹⁶ T. Dąbrowska 1973, 523–524, table 1.

Table 15. Anthropological determinations of the remains of individuals (1, 2) buried in group graves from phases I–III of the cemetery’s use

Grave no.	Grave type	1	2
128	pit	sex undetermined, adult individual	sex undetermined, non-adult individual
200B	urn-and-pit	sex undetermined, <i>adultus</i>	sex undetermined, non-adult individual
245	urn	woman, <i>adultus</i>	<i>infans I</i>
283	pit	sex undetermined, <i>adultus</i> –early <i>maturus</i>	<i>infans I</i>
1025	urn	<i>infans I–II</i>	sex undetermined, adult individual (?)
1044D2	pit	late <i>infans I</i>	sex undetermined, adult individual

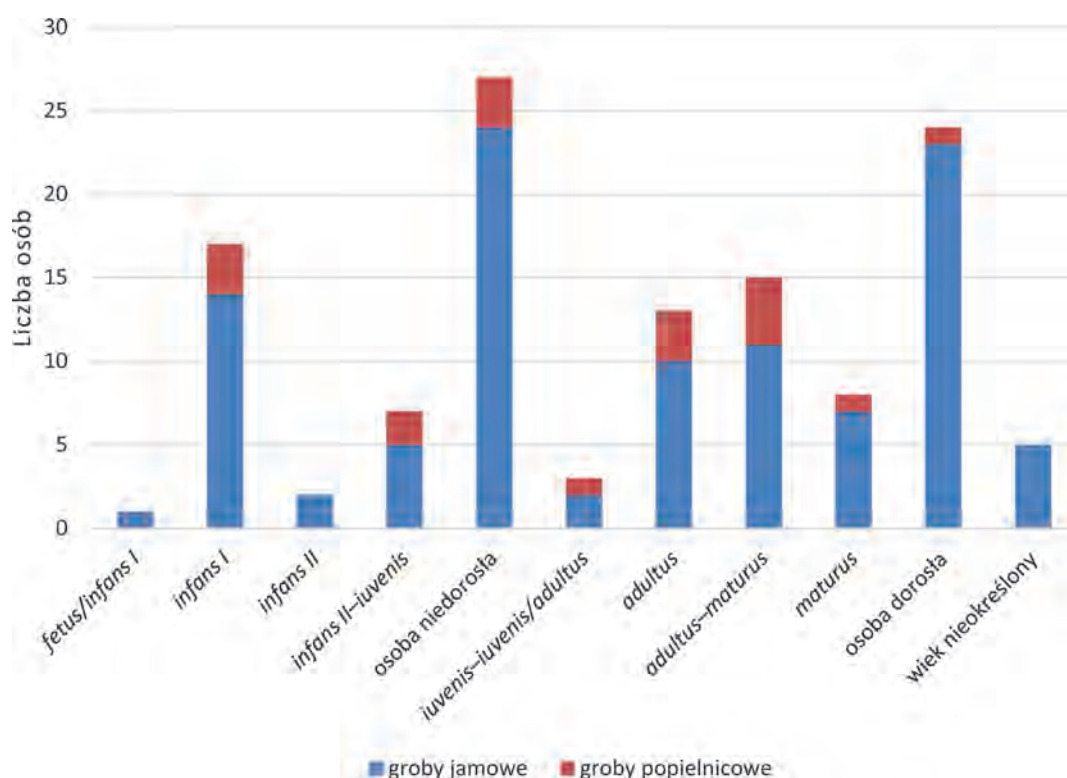


Chart 12. Age of individuals buried in pit and urn graves from phases I–III of the cemetery’s use (n=122). The class of “non-adult individual” applies to the remains determined as *infans I/II*, *infans I–II* and non-adult individual

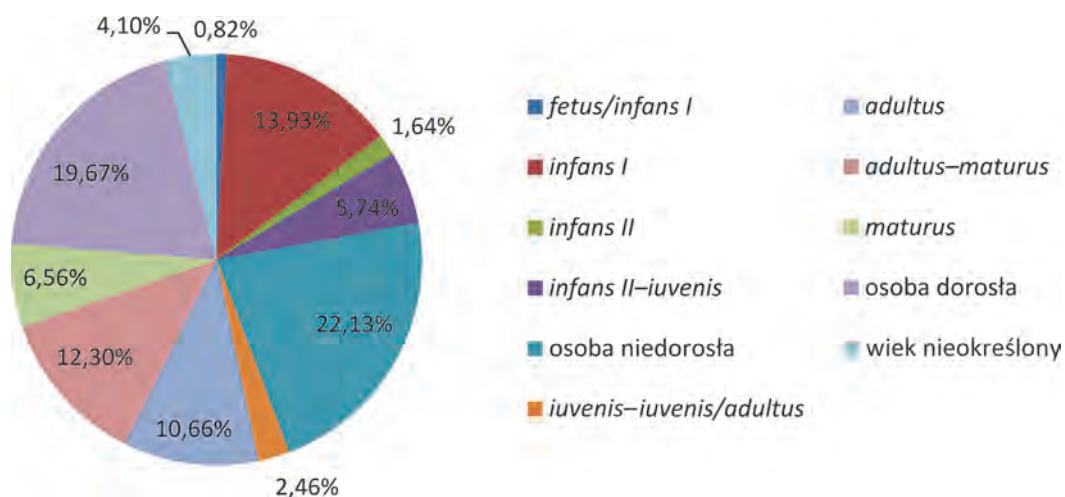
planation is that some of the bones were left at the site of cremation or were deposited elsewhere, e.g., scattered on the surface of the cemetery or in an aquatic environment.¹²⁰²

The material from the 116 graves from which the bones were analysed included the remains of 122 iden-

tified individuals. Three¹²⁰³ pit graves, two urn graves and one urn-and-pit grave contained the bones of two individuals each (Table 15). The remaining graves contained single burials. In 116 cases, the age of the buried persons was indicated with varying precision; in the remaining six cases, this parameter was not determined.

¹²⁰² E.g., T. Makiewicz 2008, 291; R. Madyda-Legutko, J. Rodzińska-Nowak, J. Zagórska-Telega 2015.

¹²⁰³ In the case of grave 128, the presence of two individuals is uncertain.



Wykres 13. Wiek osób pochowanych w grobach z faz I-III użytkowania cmentarzyska (n=122)

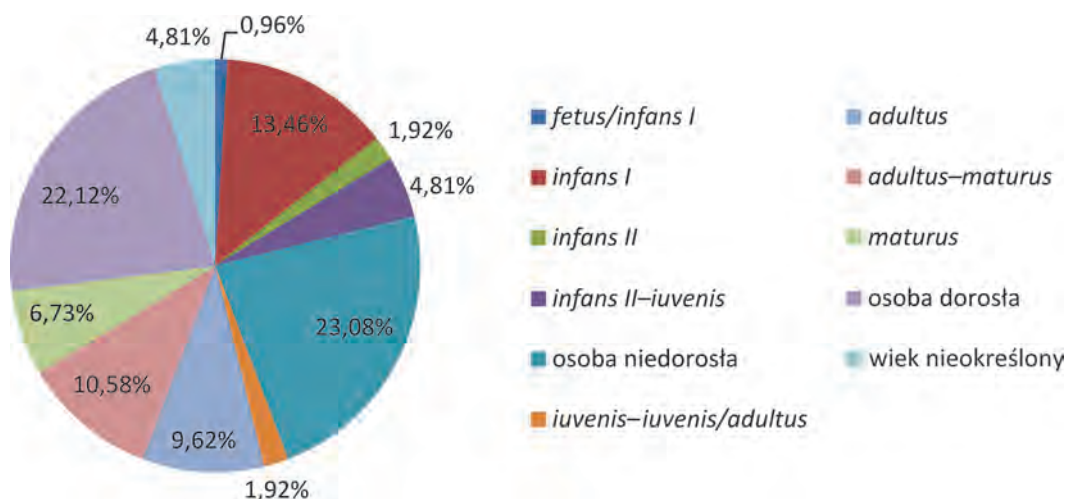


Chart 13. Age of individuals buried in pit graves from phases I-III of the cemetery's use (n=104)

The most abundantly represented, precisely identified age category among the people buried in the graves from phases I-III consisted of children of the *infans I* age, whose remains constitute about 14% of the entire assemblage (Chart 12). Slightly smaller percentages, approx. 10.5% and 6.5% respectively, were recorded in the case of individuals of the *adultus* and *matusus* age.

These proportions change when taking into account the remains that were assigned to two age categories or were identified in general terms as belonging to a non-adult or adult person. In such a case, adult remains¹²⁰⁴ become dominant, accounting for 52% of the total as-

¹²⁰⁴ I.e., at the age from *iuvenis* to *matusus* and those identified in general terms as adult.

semblage; the share of the remains of children¹²⁰⁵ and those classified as non-adults is around 44%. No clear differences in the burial rites with respect to the age of buried individuals have been observed. Both children and adults were buried in both pit and urn graves (Charts 13 and 14), with and without pyre remains in the fill, in pits of small or large size.

The sex of the deceased was determined in fourteen cases (mostly tentatively), which represent approx. 10% of the assemblage analysed. The remains from eight graves were attributed to women and six to men (Chart 15). The remains labelled as female were discovered in

¹²⁰⁵ I.e., at the age from *fetus/infans I* to *infans II-iuvenis* and those identified in general terms as non-adult.

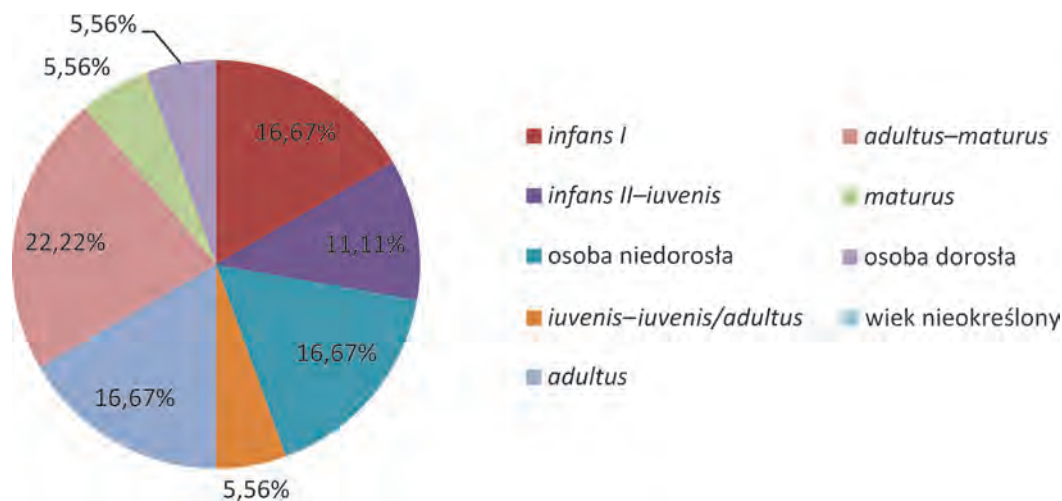


Chart 14. Age of individuals buried in urn graves from phases I–III of the cemetery’s use (n=18)

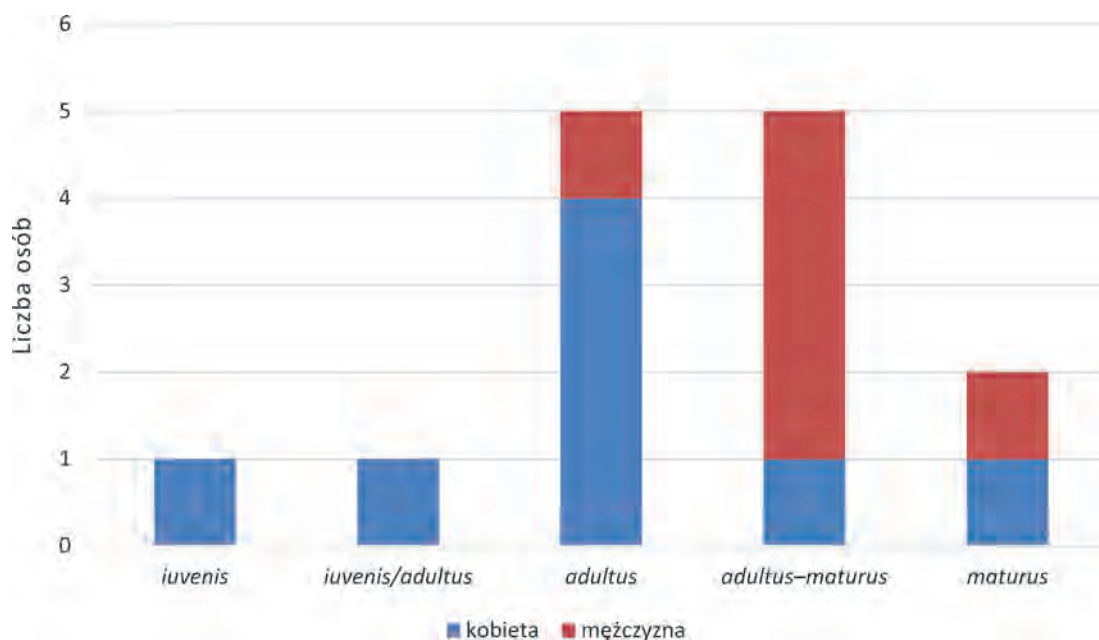


Chart 15. Sex structure in relation to the age of individuals buried in graves from phases I–III of the cemetery’s use

four pit graves and four urn graves, male remains were found in five pit graves and one urn grave.

In addition to the graves discussed above, 12 other features of undetermined function were recorded at the cemetery.¹²⁰⁶ Almost all of them are oval or circular pits, filled with grey or dark grey earth with charcoal, containing potsherds and, in the case of feature 1020, a brooch. The nature of their fills and contents corre-

¹²⁰⁶ Features 37, 98, 340, 345, 415B, 520, 585, 625, 714, 1020, 1023, 1029.

sponds to the pit graves discovered at the cemetery, from which these features differ only in the absence of human remains. Thus, some of them may be destroyed cremation graves or, possibly, cenotaphs (see, for example, feature 1020). On the other hand, the features saturated with burnt debris may be the remains of hearths, which are also often discovered at cemeteries.¹²⁰⁷

In the case of the material from 32 graves, animal remains, most often burnt and including bones of hens,

¹²⁰⁷ Cf. D. Żychliński 2011, 119; J. Zagórska-Telega 2019, 127–128.

Table 16. Compilation of graves and other features of the Przeworsk culture from phases IV–V of the cemetery's use

Groby				Other features
	pit	urn*	urn-and-pit	
with pyre remains	2, 5, 19, 21, 23, 49, 61, 62, 65/66, 73A, 83, 100, 105, 115, 118, 129, 141, 146, 148, 160, 191, 201, 219B, 231A, 242, 251, 253, 259, 261, 284, 288, 300, 308, 336, 353, 358, 370, 378, 397, 398, 408, 413, 429, 472, 516, 517, 523, 525B, 526, 527, 538, 605, 635, 689, 702, 718, 738, 740, 743, 832, 834, 855, 856, 857, 930	104, 121, 352, 354, 363, 364, 365A, 383, 521B, 522, 734, 968	403, 537	50, 211, 360, 379, 493
without pyre remains	6, 7, 34, 43, 44, 46, 103B, 133, 154, 200A, 218, 240, 243, 248, 262, 371, 396, 409B, 529, 678, 839, 969	32, 42, 132, 180, 282, 339, 365B, 452, 515, 862, 864, 979	–	

* The compilation does not include urn (?) graves 2/1962 and 1/1962, as the nature of their fills is unknown.

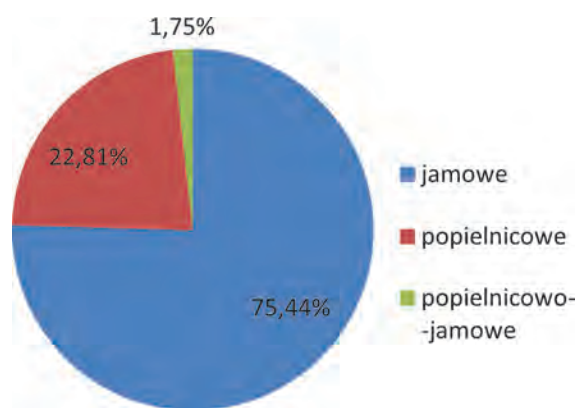


Chart 16. Forms of graves from phases IV–V of the cemetery's use (n=115)

pigs, goats or sheep, were found mixed with the human bones. The presence of animal bones was noted at most of the better-explored Mazovian-Podlachian cemeteries of the Przeworsk culture, including those used already in the late pre-Roman period.¹²⁰⁸ However, during the time section specified, animal remains were not as common there as they were at Kleszewo.¹²⁰⁹

Phases IV–V

One hundred and fifteen graves and five other features have been dated to phases IV and V of the cemetery's use (Table 16). All graves from this horizon were cremation burials. Of these, 87 were pit graves, 26 were urn graves, and two were identified as urn-and-pit graves (Chart 16).

¹²⁰⁸ T. Węgrzynowicz 1982, 82–98; T. Dąbrowska 2008, 16.

¹²⁰⁹ Cf. T. Dąbrowska 2008, 16; B. Kuziak 2009, 78–79.

The pit graves from the horizon in question were characterised by an even greater variation in the shape, size and colour of the fills than the graves from phases I–III. The outlines of the pits were determined in 66 cases, while the rest had an irregular outline, or their shapes could not be determined due to damage (Chart 17).

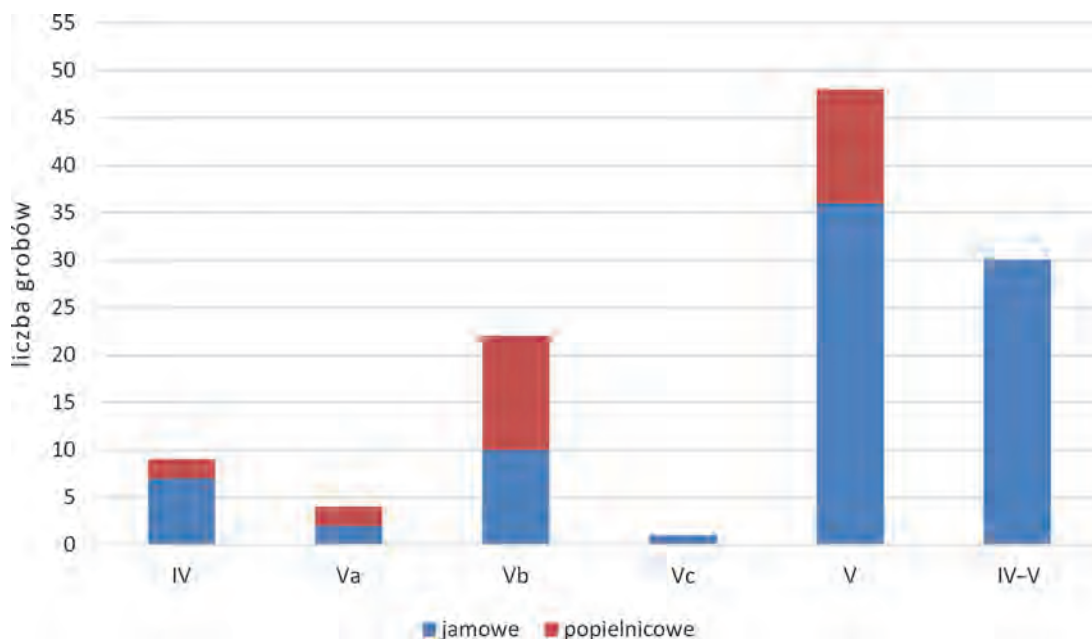
Pits of oval outlines are dominant, accounting for half the number of all pit graves. Their sizes ranged from 40×30 to 310×220 cm, and most commonly fell between 80×60–160×130 cm. No preference in the choice of orientation of the pits in relation to geographical directions has been observed. The number of graves elongated along the N-S and the E-W axes is almost identical. The ratio of the graves oriented on the NW-SE axis to those oriented on the NE-SW axis is also similar (Figure 18). The diameters of the graves with circular outlines measured between 25 and 110 cm, most commonly – 40–70 cm.

In section, the pit graves were mostly basin-shaped (61 times), less often – semicircular (eight times), quadrangular¹²¹⁰ (five times) and, exceptionally, also bipartite or triangular (twice) or sack-shaped (once). Their depth ranged from 5 to 110 cm, with 20–60 cm being the most common. Moreover, several varieties of pit graves can be distinguished based on the nature of the fill:

1. with a dark grey or black fill with charcoal,
2. with a grey fill with charcoal,
3. with a light fill without charcoal or with a residual amount of charcoal,
4. a bone cluster completely, or almost completely, filling the entire pit.

This division is, of course, arbitrary. Many graves had non-uniform fills with characteristics corresponding

¹²¹⁰ I.e., rectangular, trapezoidal or square.



Wykres 18. Występowanie grobów jamowych i popielnicowych w fazach IV–V użytkowania cmentarzyska. Kategoria „V” obejmuje zespoły datowane na stadia Va–b, Vb–c oraz ogólnie na fazę V

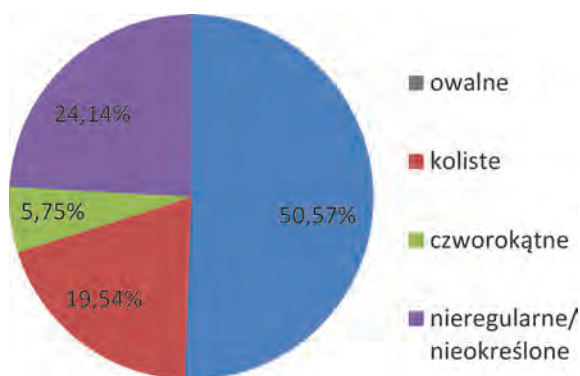


Chart 17. Shapes of grave pits from phases IV–V of the cemetery's use (n=115)

to at least two of the varieties distinguished above. The cemetery is dominated (approx. 70%) by graves with pyre remains in their fills, corresponding to varieties 1 and 2. Graves without pyre remains, with light grey, light brown or yellow-grey fills, variety 3, constitute almost 30% of the total, while graves in the form of compact bone clusters in pits without charcoal (variety 4) were recorded only three times. No variation in the size or colour of the fills was observed between the different phases of the cemetery's use, except for variety 4, which was characteristic only of phase V. The pit graves discovered at Kleszewo represent forms typical of cemeteries from the eastern zone of the Przeworsk

culture. Their character largely confirms the observations made during excavations at other cemeteries that early Roman graves were mostly smaller and had lighter fills than those from the late pre-Roman period.¹²¹¹ In phases IV–V of the Kleszewo cemetery's functioning, graves without pyre remains do, indeed, constitute a large share of the features from this time section, while they were rare in phases I–III. The fills of most early Roman graves with pyre remains also seem to be less saturated with burnt debris, although exceptions to this rule were also observed (e.g., graves 141, 516). Slight differences are also noticeable in the size of the grave pits, i.e., the graves from phases I–III are slightly larger on average (see above).

The least numerous were pit graves in the form of small, compact clusters of bones completely or almost completely filling the grave pit. Six of them were discovered at the cemetery, but only three of them contained material enabling their precise dating. Therefore, only the latter features were taken into account in the statistical considerations presented above; however, the remaining three should most likely also be associated with the Przeworsk culture. Almost all of these graves¹²¹² were small in size (plan diameter of approx. 25–30 cm)

¹²¹¹ E.g., T. Dąbrowska 1997, 112; K. Czarnecka 2007, 109; cf. also K. Godłowski 1981b, 109.

¹²¹² The exception is grave 269A in which the bone cluster has a narrow, elongated shape. However, it is possible that it results

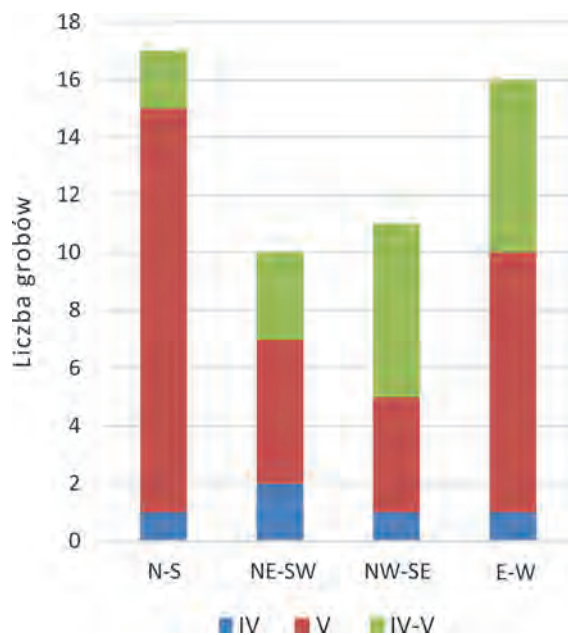


Chart 18. Orientation of pit graves of oval or rectangular outlines in phases IV–V of the cemetery's use

and shallow in depth (3–10 cm). Analogous graves are often referred to as urn graves, with burial in an urn made of organic material, e.g., wood or fabric.¹²¹³ This interpretation is based mainly on the assumption that such a compact layer of bones could have been formed only as a result of their deposition in a container. However, in the Kleszewo graves as well as at other sites of the eastern zone of the Przeworsk culture, no traces of such urns have been found. They have also not been recorded on metal artefacts deposited in these graves or in their vicinity, i.e., in contexts in which objects made of organic materials are sometimes preserved, e.g., in inhumation graves. Therefore, I suspect that at least some of these bone clusters may have been created as a result of dumping the remains into a small depression in the ground rather than placing them in a container. Regardless of the presence or absence of an urn, such graves in the Przeworsk culture are most often recorded in the younger period Roman period.¹²¹⁴ This may explain, to some extent, their low frequency at northern and eastern Mazovian and Podlachian cemeteries of

from post depositional processes, i.e., dragging of the remains by an animal, e.g., into a burrow.

¹²¹³ Cf. K. Godłowski 1981b, 109.

¹²¹⁴ K. Godłowski 1981b, 109; J. Zagórska-Telega 2019, 64–65, 207.

the Przeworsk culture. At that time, said group generally no longer had cemeteries in the region in question.

Stones were recorded in eleven pit graves.¹²¹⁵ A multi-element stone structure in the form of an arch was discovered near the top level of grave 6. It was composed of several small and medium-sized pebbles. In other cases, the stones numbered from one to three and were usually found in the upper part of the fill (graves 103B, 141) or at the top level of the pits (graves 115, 118, 160). The largest stones were discovered in graves 115 and 409B. The first one measured 30×80×130 cm, the second one – 60×40×40 cm; the remaining specimens were much smaller. The stones found at the top levels or in the upper parts of the pits may have been intended as grave markers visible on the surface. It is more difficult to interpret the specimens found in the central part of the graves, e.g., in grave 409B. Their presence there may be related to some funeral practices.

Cremated human bones were most often scattered in the fill of the pit, usually in its darker part. Sometimes, they were found in smaller or larger concentrations (e.g., graves 154, 259, 529, 396). The exceptions are graves in the form of small pits fully filled with a dense mass of bones.

The artefacts discovered in the pit graves were most often burnt. Both complete objects (intact or in parts) or only their fragments were deposited in the pits. Potsherds were usually scattered throughout the entire fill; sometimes, they formed smaller or larger clusters (e.g., graves 154, 529, 538). Exceptionally, intact or almost intact vessels were also recorded (e.g., graves 635, 743). Other grave goods, e.g., dress accessories or utensils, were found in various parts of the graves, with the artefacts often located in individual features at a short distance from one another, e.g., at the top or bottom, or some other part, of the pit.

Regarding urn graves dated to phases IV–V, 26 of them were discovered at Kleszewo, with two more features identified as urn-and-pit graves. Among the former, three basic varieties differing in the nature of the fill can be distinguished. The largest group consists of features with pits filled with grey and dark grey earth with pyre remains; graves with a light grey fill, without charcoal or only trace amounts thereof, and the so-called clean burials, in the case of which the fill did not differ in colour from the surrounding virgin soil, were less numerous. Among the first two varieties, the most common were oval graves measuring from 40×20 to 190×90 cm, and most often – from 50×40 to 110×70 cm; they were oriented in different directions, most often – along the E-W and NW-SE axes (Chart 19).

¹²¹⁵ Graves 6, 61, 65/66, 103B, 115, 118, 141, 160, 409B, 472, 526.



Chart 19. Orientation of urn graves of oval or rectangular outline from phases IV–V of the cemetery's use

The diameters of the circular graves ranged from 40 to 100 cm, usually – from 40 to 50 cm. In section, the urn graves were most often basin-shaped and, less often, triangular, sack-shaped or semicircular. Their depths ranged from 10 to 55 cm. Of course, these comments do not apply to the so-called clean graves, whose pit outlines were not visible during exploration. In the oval graves, urns were located in the centre or at one end of the pit, in the round graves – in the middle part of the pit. The urn was usually placed at the bottom of the grave or directly above it, with the rim pointing upwards. The exceptions to this pattern are grave 352, where the vessel serving as an urn was placed inside another vessel, and grave 32, in which the urn was placed on its rim. The usual forms used as urns were vases with smooth, black surfaces. Pot-like forms (type C.1a) with a smooth or rough surface were utilised much less frequently. The urn from grave 339 was made up of halves of two different vessels and supported at the base with a stone. The mouth of the urn from grave 104 was covered with a large fragment of a thick-walled vessel with a rough surface. In grave 352, sherds of four upside-down vessels were placed on top of the urn. The bones in the urns formed a compact layer or were scattered in light sand. In the case of the so-called clean graves and those with light grey fills without pyre remains, all grave goods were found inside the urns. In the graves whose pits contained pyre remains, some of the, usually damaged, grave goods and cremated bones were scattered in the fill. In such cases, the urns were often accompanied by other pottery, the so-called accessory vessels (e.g., graves 104, 121, 383); sometimes, the urn was covered with numerous potsherds (graves 521B, 537).

The urn graves discovered at Kleszewo mostly represent forms typical of cemeteries of the eastern zone of the Przeworsk culture. In terms of the selection and arrangement of artefacts in the grave pits, they are most similar to cemeteries from eastern Mazovia, where classic urn burials with one urn and burials in a pit with or without pyre remains are dominant. In contrast to northern Mazovian cemeteries, the urns there were rarely covered with other vessels. Moreover, except for grave 352, the Kleszewo features did not contain multiple accessory vessels, which often formed complex, sometimes multi-storied structures at the sites of the abovementioned region.

The burial of an adult woman, whose remains were placed in an upturned urn (grave 32), differs from the eastern Przeworsk culture canon. Only a dozen or so graves arranged in this way have been discovered east of the Middle Vistula. At the largest cemeteries of northern and eastern Mazovia, such burials always constitute a small percentage of all urn graves, e.g., only one such feature was discovered at Kamieńczyk, two – at Nadkole, site 2, and five – at Niedanowo.¹²¹⁶ More territorially distant analogies can be found in the western part of the Przeworsk culture¹²¹⁷ and the neighbouring areas, e.g., in the Wielbark culture territory.¹²¹⁸ The different nature of grave 32 compared to other urn graves from Kleszewo is difficult to interpret and may result from various reasons, e.g., the status of the buried person, the circumstances of her death or the desire to protect oneself from the deceased.¹²¹⁹

The urn-and-pit graves from Kleszewo (403 and 537) did not differ much in form from the above-mentioned urn burials covered with the remains of the pyre. The first one was distinguished based on the presence of one dense concentration of bones in the fill of the grave pit, with another one placed in an urn. The bones from both clusters probably belonged to one person. In the case of grave 537, the remains of two different people were discovered in both the fill and urn.

The osteological material from 96 out of 115 graves of the Przeworsk culture dated to phases IV–V of the cemetery's use was subjected to anthropological analysis. The weight of bones extracted from the pit graves ranged from 0.4 to 717.8 g, and from the urn and urn-and-pit graves – from 0.3 to 1165.1 g (Chart 20). The amount of bone remains, both in the pit graves and urn graves, was on average higher than the one recorded

¹²¹⁶ T. Dąbrowska 1997, 52, pl. CXVI/231; J. Andrzejowski 1998a, 102; Ziemińska-Odojowa 1999a, 127.

¹²¹⁷ J. Zagórska-Telega 2019, 43, 208–209, fig. 9.

¹²¹⁸ K. Walenta 1981, 74; T. Skorupka 2001, pl. 90/306.

¹²¹⁹ Cf. K. Skóra 2014, 479.

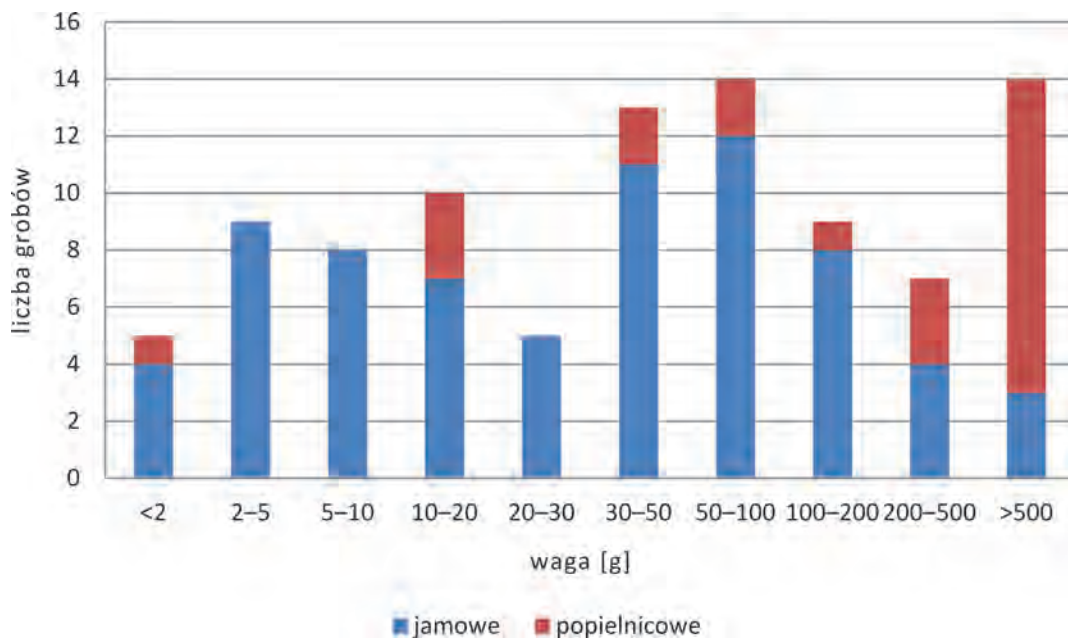


Chart 20. Weight (in grams) of human bones discovered in pit and urn graves from phases IV-V of the cemetery's use

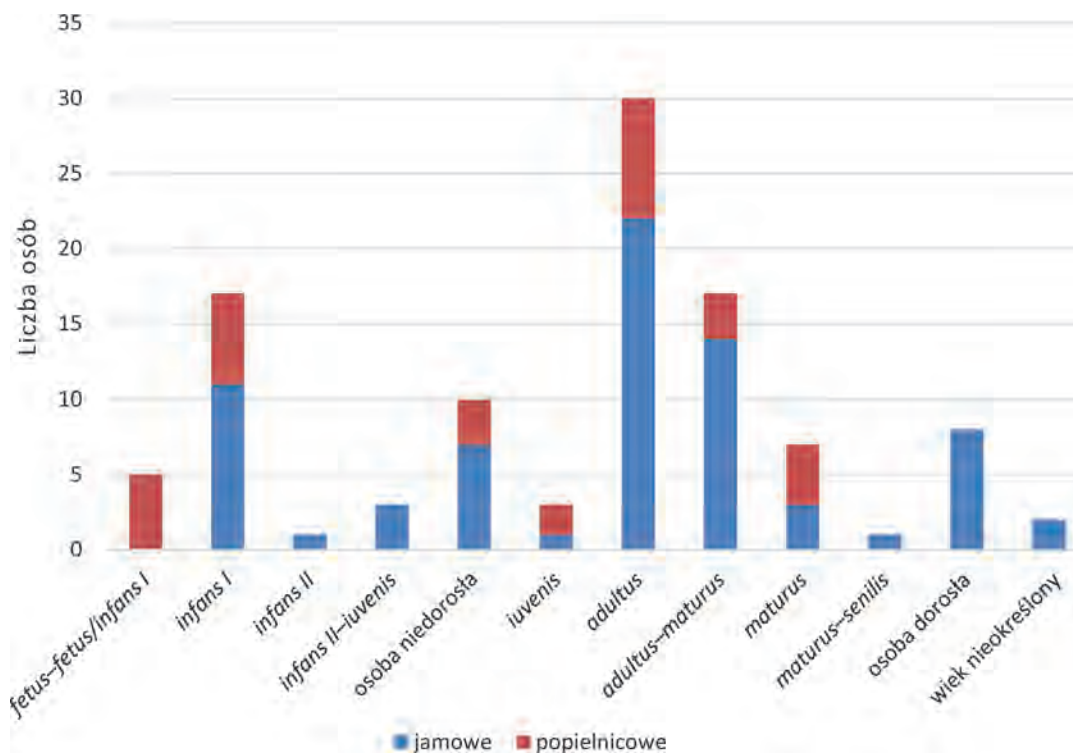


Chart 21. Age of individuals buried in pit and urn graves from phases IV-V of the cemetery's use

Table 17. Anthropological determinations of the remains of individuals (1, 2) buried in group graves from phases IV–V of the cemetery's use

Grave no.	Grave type	1	2
282	urn	female (?), early <i>iuvenis</i>	<i>fetus</i>
352	urn	female (?), <i>adultus</i>	early <i>infans I</i>
365B	urn	sex undetermined, <i>maturus</i>	<i>fetus/infans I</i>
370	pit	female (?), <i>adultus</i>	<i>infans I–II</i>
383	urn	female (?), <i>adultus–maturus</i>	<i>infans I</i>
537	urn-and-pit	male (?), <i>adultus</i>	<i>infans I</i>
968*	urn	male (?), early <i>maturus</i>	<i>infans I</i>

* In the Catalogue, the results of the anthropological analysis of the bones from grave 968 were included in the description of grave 969. The remains from the latter feature had been lost before the study of the material was undertaken.

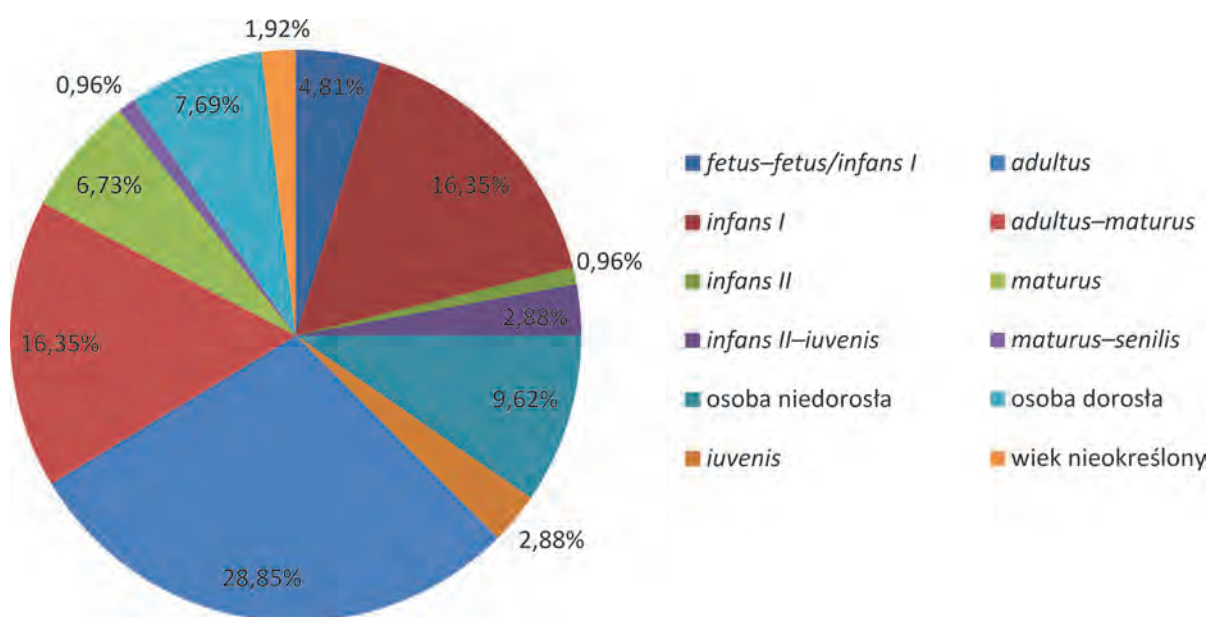


Chart 22. Age of individuals buried in graves from phases IV–V of the cemetery's use (n=104)

in the graves from phases I–III of the cemetery's use, but it likewise usually accounts for only a small part of the full skeleton.

The remains of 104 individuals were identified among the bone material from 96 features. The age of the deceased was determined in 100 cases (Chart 21). Seven graves – five urn graves, one urn-and-pit grave and one pit grave¹²²⁰ – contained the remains of two people:

an adult and a child (Table 17); the remaining graves were single burials.

The largest age category, which accounts for almost 29% of the analysed material, consists of individuals of the *adultus* age, while the second largest group are children of *infans I* age, accounting for over 16%. The percentage of adults will increase if the list includes the remains assigned to two age categories or is divided

¹²²⁰ The statistics do not include the unburnt remains from grave 525B, which were likely a later addition.

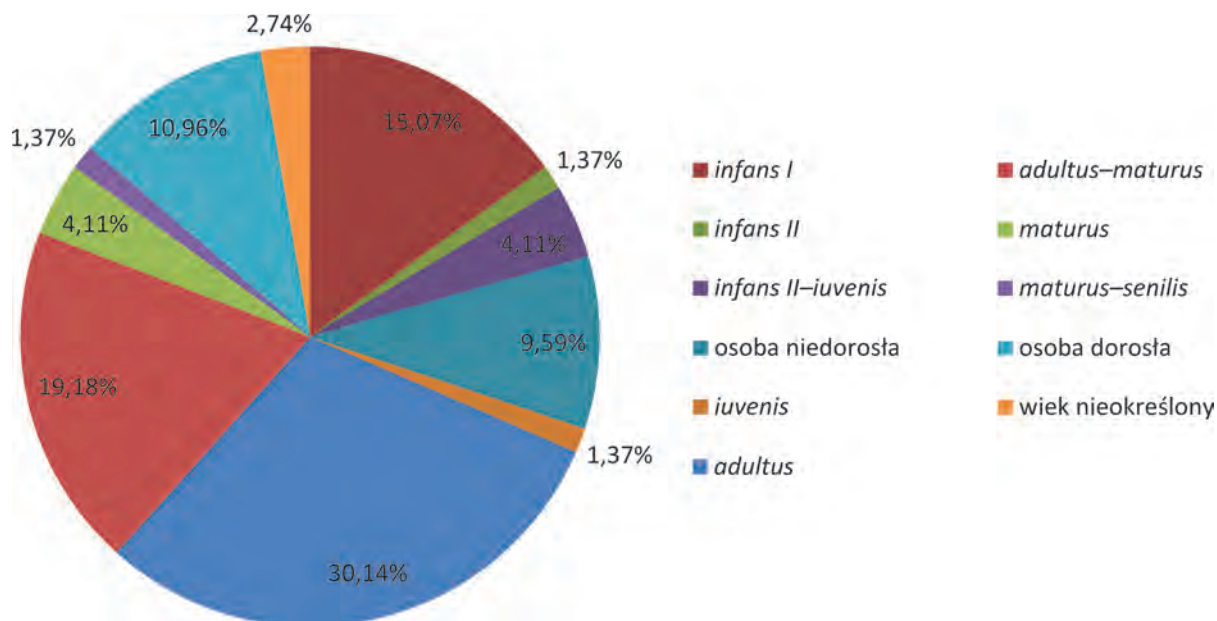


Chart 23. Age of individuals buried in pit graves from phases IV-V of the cemetery's use (n=73)

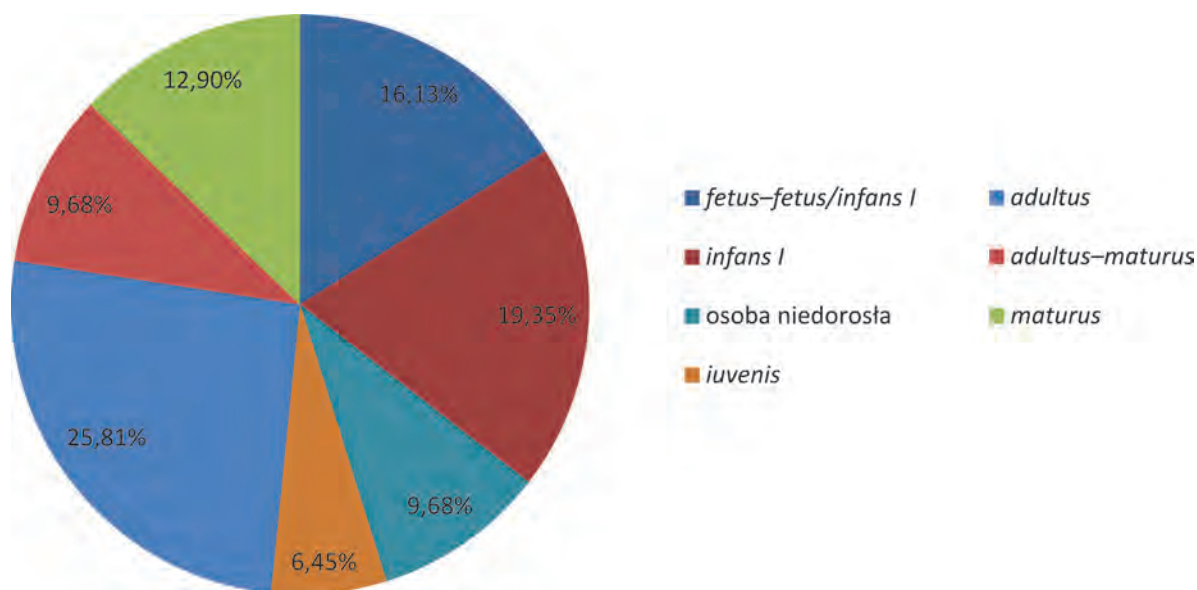


Chart 24. Age of individuals buried in urn graves from phases IV-V of the cemetery's use (n=31)

generally into adults or non-adults. The former¹²²¹ will then constitute over 63%, the latter¹²²² – approx. 34% of the assemblage (Chart 22).

Different proportions in relation to age categories are recorded taking into account the funeral rite. Consi-

¹²²¹ I.e. those at the age of *iuvenis* and older, as well as those identified in general terms as adults.

¹²²² I.e., those at the age from *fetus* to *infans II-iuvenis* as well as those identified in general terms as non-adults.

dering the urn graves, the percentage of buried children is much higher and amounts to approx. 45% of their total number; in the case of the pit graves, such burials account for approx. 30%, while the graves of adults of the *adultus* class or older are dominant (Charts 23 and 24).

The sex of the deceased was identified in 43 cases, usually only tentatively. In 34 cases, the sex was determined as female, and nine times – as male (Chart 25). The remains of women of the *adultus* age are most frequently represented, constituting over half of all the

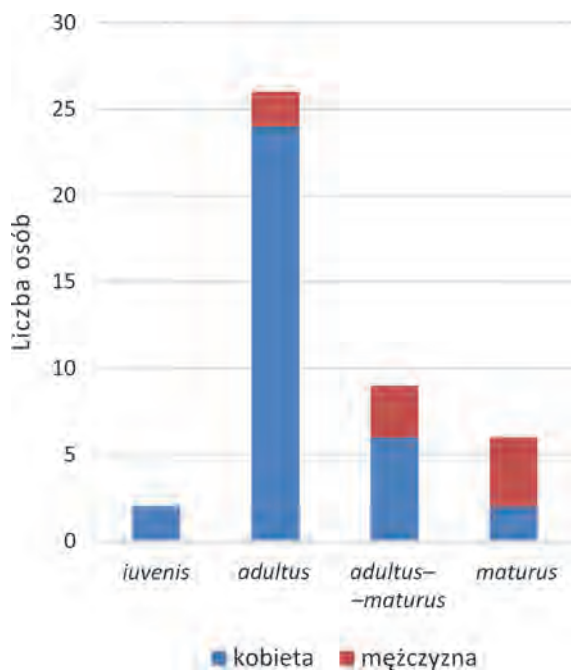


Chart 25. Sex structure in relation to the age of individuals buried in graves from phases IV-V of the cemetery's use

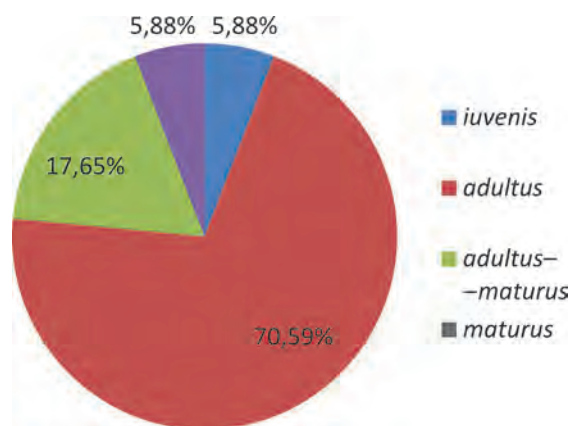


Chart 26. Age of women buried in urn and pit graves (n=34)

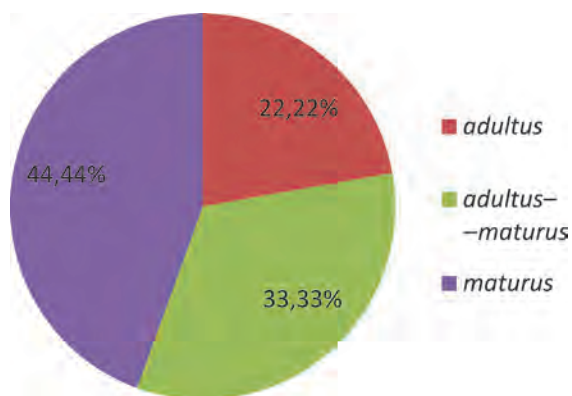


Chart 27. Age of men buried in urn and pit graves (n=9)

remains whose sex could be determined and over 70% of all female remains (Chart 26). The remains of men slightly predominate in the *maturus* category (Chart 27). Mature individuals also dominate among the remains of men only, but it should be borne in mind that, in this case, the research sample is small.

Female remains were recorded at Kleszewo in all forms of early Roman graves. Ten times, they were discovered in urn graves, both with and without pyre remains, with the rest of the recovered remains coming from 24 pit graves, with and without pyre remains, and from one grave in the form of a compact cluster of bones. The remains of men were found in six urn graves and three pit graves, with and without pyre remains in the fills. The funeral rites observed in the case of the chil-

dren's graves were equally diverse. The only exceptions are the burials of foetuses or newborns (*fetus* or *fetus/infans I*), which were found exclusively in urns (see Chart 21). In the group graves, the remains of individual people were mixed together (e.g., graves 282, 370, 968) or buried separately, e.g., in grave 352, the remains of a woman (?) were placed in an urn, while the bones

Tab. 18. Compilation of Wielbark culture graves and other features

Graves			Other features
inhumation	pit	urn or pit	
158, 179, 182?, 183?, 184, 186, 280, 385, 386, 412, 418, 600, 621, 629, 634, 636, 720, 750, 808, 884, 887, 916, 917	150, 163A, 166, 174, 175, 177, 185, 195, 217, 257, 258, 263, 265, 355, 356, 359, 362, 380, 411, 414, 415C, 474, 483, 505, 514?, 524, 534, 577, 578, 579, 588, 597, 601, 609, 619, 640, 641, 651, 693, 695, 690B, 699, 703, 707, 708, 719, 721A, 721B, 724, 728, 739, 851, 858, 863, 881, 883, 915, 916A, 918, 919, 950, 953, 954, 960, 1013, 1027A, 1027B	957	269, 428, 676

of a child were found at the top level of the pit; in grave 357, the remains of a child were deposited in an urn, and the bones of a man (?) were scattered in the grave fill.

Burnt animal bones were found in 46 graves (see Appendix @Gręzak), which accounts for approx. 30% of the features dated to phases IV–V of the cemetery's use. The most numerous are bird bones, especially of chickens and, much less often, geese. Bones of pigs, goats and sheep were recorded in over a dozen graves. Animal remains were discovered in the graves of adults and, less often, children, both in urn graves and pit graves. In terms of species composition, the cemetery at Kleszewo is closest to the eastern Mazovian-Podlachian cemeteries at Kamięńczyk and Krupice, where bird bones also predominated.¹²²³

The remaining five pits dated to phases IV–V of the cemetery's use are features whose function is difficult to determine (50, 211, 360, 379, 493). These are pits of assorted sizes, filled with grey or dark grey earth, most often containing varying amounts of charcoal. It cannot be ruled out that some of them are remnants of destroyed cremation graves.

4.2. WIELBARK CULTURE

Ninety-one graves and two other features were assigned to the Wielbark culture (Table 18). The former include 23 inhumation graves, 67 cremation burials in a pit and one in an urn or pit (Chart 28).

Before proceeding with the description of inhumation graves, it should be emphasised that their number given above is certainly underestimated due to the multi-phase nature of the Kleszewo site. The remains of an extensive Bronze Age settlement discovered there, among others, made it impossible to determine the cultural attribution of a vast number of features without furnishings or traces of a burial (e.g., human bones). As it were, the inhumation graves of the Wielbark culture and Bronze Age settlement pits were characterised by similar fill colours and, sometimes, shapes. Therefore, with few exceptions, only those features in which grave goods were discovered are considered inhumation burials.

The pits of the inhumation graves were rectangular (e.g., graves 158, 600, 884), less often – oval (e.g., graves 184, 385, 720), and in exceptional cases – round

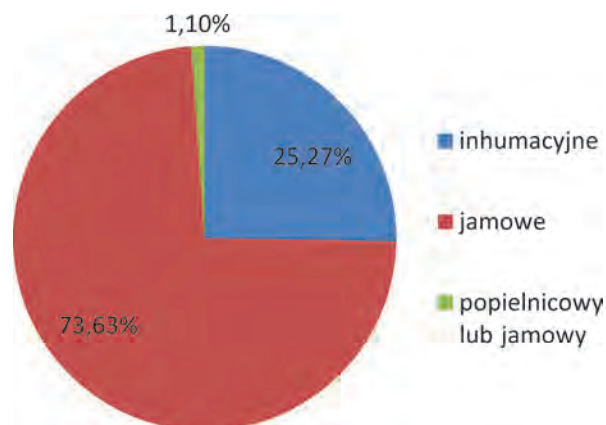


Chart 28. Forms of Wielbark culture graves (n=91).

(graves 280, 750). Most were elongated along the N-S axis, at times with a slight deviation to the NW (e.g., graves 184, 916), which is typical of Wielbark culture graves. The dimensions of the pits range from 70×40 to 250×200 cm, with the most common width of 40–100 cm and length of 90–210 cm (Chart 29). The depths of individual graves, counting from their level of distinction, measured from 10 to 115 cm; in 70% of cases, they did not exceed 50 cm. This is due mainly to the fact that inhumation burials were often recorded only after cremation burials had been excavated, i.e., several dozen cm below their original top level.

Most inhumation grave pits were filled with light grey or grey earth. Some also contained one (graves 386 and 917) or several (graves 158, 186, 412) large stones, sometimes forming complex arrangements (grave 884). Moreover, the fill of a few graves contained scattered cremated human bones and charcoal. Some of them were undoubtedly found there in a secondary context, as indicated by the accompanying objects of chronology different from the inhumation burial itself (e.g., graves 884, 917). In at least one case, however, the cremated remains were found in an apparently intentional arrangement. In grave 184, they were discovered in a cluster halfway down the pit, directly under a huge stone placed in the central part of the grave pit. Their anthropological analysis showed that the cremated bones probably belong to a child of *infans I* age. The unburnt remains of a child of the same age were also recorded at the bottom of the pit. The very small number of preserved bones does not allow determining the number of people buried in this grave, however, it might have been a group burial. Features of this type, mixing cremation and inhumation funeral rites, are known from cemeteries of the Masłomęcz group.¹²²⁴ Therefore, they

¹²²³ B. Kuziak 2009, 79; cf. T. Dąbrowska 1997, 112–114; J. Jaskanis 2005, 118. Regarding other Przeworsk culture areas – cf. R. Madyda-Legutko, J. Zagórska-Telega 2006.

¹²²⁴ A. Kokowski 1995, 161–162.

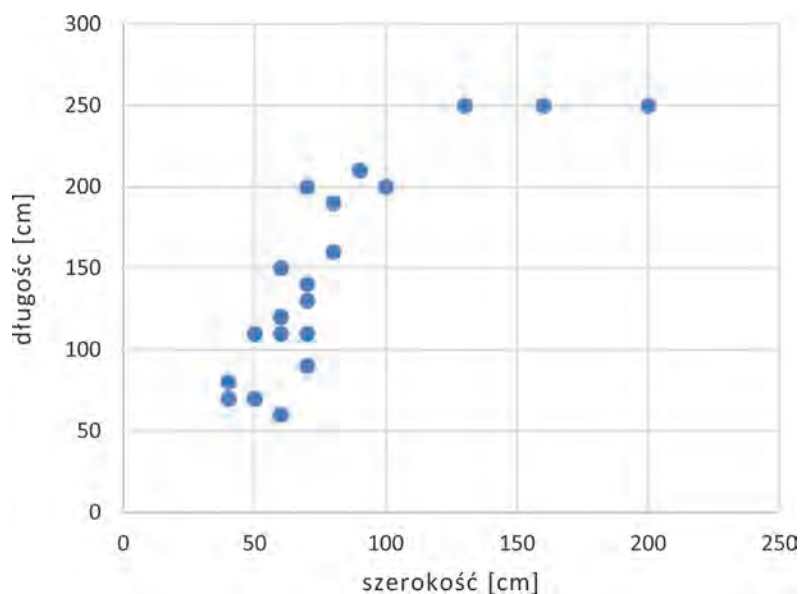


Chart 29. Pit dimensions of Wielbark culture inhumation graves

can also be expected to appear at Wielbark culture cemeteries. On the other hand, bi-ritual practices of this type, widespread among the Wielbark culture people, could also have been applied to individual burials.¹²²⁵

The human remains from most inhumation graves were almost completely decomposed. The few remaining fragments most often included small pieces of long bones and/or skulls, sometimes also tooth crowns, usually located near metal artefacts. Based on the location of skeletal fragments and the position of dress accessories, primarily necklaces and fibulae, it can be assumed that the deceased were usually buried with their heads facing north, which corresponds to the Wielbark culture canon.¹²²⁶ The exception is grave 600, in which the body was placed with the head facing south. Burials of this kind are known from several Wielbark culture sites, but their number at individual cemeteries is limited to one or two, exceptionally - four.¹²²⁷ To date, only one such burial, at Jartypany,¹²²⁸ has been registered in Mazovia and Podlachia. Only in a few cases, the scarce osteological material made it possible to infer the orientation of the body in the grave pit. In grave 887, the skull of the deceased rested on its right side, and fragments of leg bones lay at an angle to the wall of the grave pit. Therefore, it seems that the deceased was positioned on their right side with the legs drawn up. In grave 636,

the body of a child was probably placed in the prone position. The above ways of arranging bodies are rarely recorded in the Wielbark culture.¹²²⁹ At cemeteries of this group, the deceased were usually buried in the supine position.

Interpreting the presence of graves with atypical body arrangements is difficult. This treatment could have been caused by various factors, e.g., foreign origin of the deceased, their exclusion from the community due to biological disabilities, as a form of punishment for people who violated social norms, burials of people who “stood out” in the local community in some way, or an attempt at protecting the living from the corpse.¹²³⁰ The human remains from the Kleszewo graves have decomposed completely or have been poorly preserved, which precludes any attempt at explaining the reasons for the distinctive nature of these burials on the basis of anthropological data. Grave goods do not contribute much in this respect either. Only in the case of grave 600, the beads (600/2.8–36), rarely found in the area of the Wielbark culture, of which the necklace was composed, may suggest that the deceased came from another cultural circle, e.g., the Chernyakhov culture or the Masłomęcz group, where such decorations are more often recorded.¹²³¹

¹²²⁵ Cf. M. Natuniewicz-Sekuła 2007; K. Skóra 2015b, 98–106; M. Kurzyńska 2015, 96.

¹²²⁶ R. Wołagiewicz 1981, 138.

¹²²⁷ K. Skóra 2020, 151–152, Appendix 5.2.

¹²²⁸ A. Żórawska 2006, 97, fig. 1

¹²²⁹ K. Skóra 2014; 2015a, 302.

¹²³⁰ K. Skóra 2014, 477–479; 2020, 154–156.

¹²³¹ It should, however, be emphasised that – with few exceptions e.g., Fântânele “Rit” in Romania (G. Marinescu, C. Gaiu 1989, 135, 137) – southern orientation of the body is rarely observed at cemeteries of the Chernyakhov and Sântana de Mureş cultures (G.F. Nikitina 1985, 33; B. Magomedov 2001, 27; O.L.

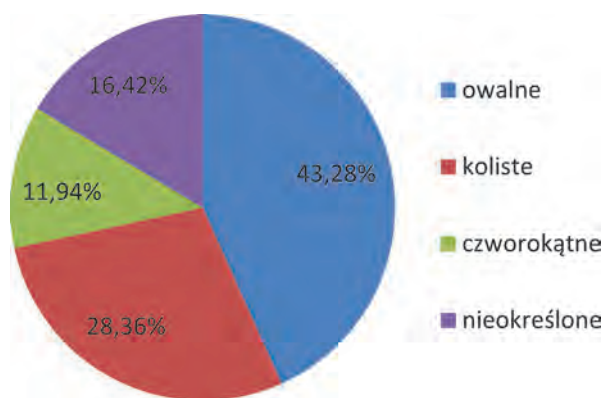


Chart 30. Shapes of Wielbark culture pit graves (n=67)

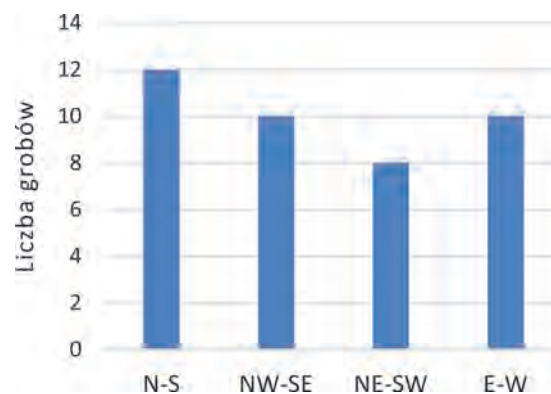


Chart 31. Orientation of Wielbark culture pit graves of oval or rectangular outline

The grave goods in the inhumation burials were located near the bottoms of the grave pits. They usually consisted of dress accessories, utensils and clay vessels (in more detail: Subchapter 5.2).

Wielbark culture cremation graves were represented almost exclusively by burials in a pit with pyre remains. The degree of saturation of the fills with burnt remains differed from feature to feature. Most often, the colour of the pits ranged from grey to dark grey and black. More homogeneous, darker fills were mostly characteristic of smaller graves, while the fills of larger pits were lighter and, usually, less uniform. Few graves with light fills without pyre remains, or with only a residual quantity of charcoal, were recorded at Kleszewo (e.g., grave 166).

Most pits had oval or round outlines; quadrangular pits were less frequent (Chart 30). The dimensions of the oval and quadrangular pits were remarkably diverse and ranged from 20×20 cm to 320×220 cm. These features, unlike the inhumation graves, were elongated in different directions (Chart 31). The round graves were usually smaller than the oval and quadrangular ones, with diameters measuring from 30 to 90 cm, most often – 40–70 cm. The pits of the cremation graves were usually basin-shaped and, exceptionally, semi-circular or triangular. The depths of individual graves ranged from 10 to 90 cm but rarely exceeded 50 cm.

Most of the pit graves discovered at Kleszewo are forms typical of Mazovian-Podlachian cemeteries of the Wielbark culture.¹²³² Only graves 640, 708 and 919 deviate from this pattern. All of them are dated to phase VII of the cemetery's functioning, with the first two dating

probably to its younger stage (cf. Subchapters 2.3.10 and 3.10). They are characterised by extensive pits, measuring 320×220 cm, 260×260 cm and 290×190 cm respectively, with a depth of about 80–90 cm. I know of no good analogies for these features from other Wielbark culture cemeteries of Mazovia and Podlachia. Similar, large, sepulchral features are known from Przeworsk culture sites, where they are sometimes interpreted as *busta* – burials directly at the site of cremation.¹²³³

A characteristic feature of this type of graves, apart from their large size, is the annealing of the ground around the pit,¹²³⁴ which was not recorded in the case of the Kleszewo graves. It seems that the presence of a slightly larger number of burnt bone fragments should also be expected at the cremation site than was found in the above-mentioned graves, especially numbers 640 and 919.¹²³⁵ Hence, I assume that the features from Kleszewo are “regular” pit graves, albeit of above-average size.

Grave 957, in the form of a crushed vessel lying on its side in pure sand, is difficult to interpret. There were also several burnt bones discovered next to the vessel. The feature resembles a (destroyed) so-called clean urn burial. Such graves are known from many Mazovian-Podlachian cemeteries of the Wielbark culture, where they are mainly dated to phases B₂/C₁–C₁.¹²³⁶ However, the complete lack of bones inside the “urn” and the very small number of bones next to it contradict such an interpretation of the Kleszewo assemblage, as does, indirectly, the absence of Wielbark culture urn graves at the cemetery. Thus, it seems that grave 957 is

Şovan 2009, 194). The same remark applies to the Masłomęcz group (K. Skóra 2015a, 302; 2020, @@).

¹²³² E.g., A. Kempisty 1968, 446–447; J. Jaskanis 1996, 87–88; J. Andrzejowski, A. Żółowska 2002, 52–53.

¹²³³ J. Zagórska-Telega 2019, 94–100.

¹²³⁴ B. Józefów 2008, 547.

¹²³⁵ Grave 640 – 77,2 g of bones; grave 708 – 261,3 g; grave 919 – 26,9 g.

¹²³⁶ Cf. M. Woźniak 2011, 196; 2016, 216.

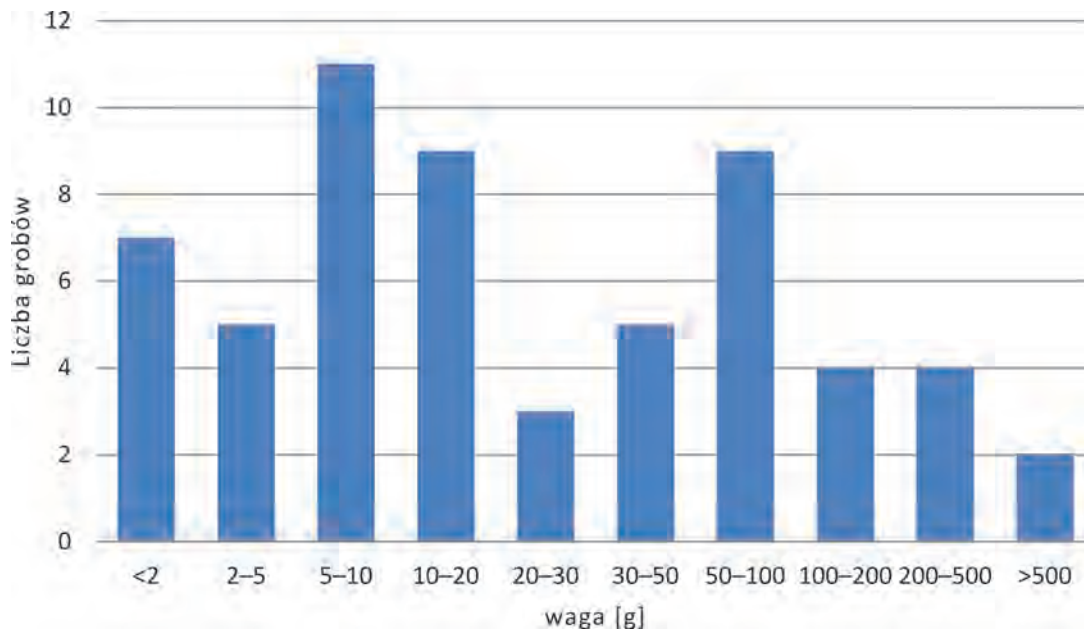


Chart 32. Weight (in grams) of human remains from cremation graves of the Wielbark culture

a residually preserved pit burial, similar to the feature found at Modła, grave 155, where scarce burnt bones and a brooch were discovered under a whole vessel resting in pure sand.¹²³⁷

Stones were discovered at the top levels of graves 217, 362, 960 and 1027A. The specimens from graves 217, 960 and 1027A are small and may have found their way into the pits by accident, e.g., during the filling up of the graves or in the course of modern/contemporary farming. The stone from grave 362, measuring 150×80×40 cm, was doubtlessly deposited in the pit by design, as most of the human remains were scattered under it. Presumably, the stone was intended to mark the grave on the surface. Its presence may have also been related to the rites accompanying the burial.

Cremated human remains were most often scattered throughout the fills of the pits and were slightly more numerous in their darker, deeper parts. In four graves (163A, 175, 177, 524) only, they were found in clusters. Grave goods, usually burnt and defragmented, were scattered across different parts of the burial pit, usually not forming clear concentrations. They consisted mainly of dress accessories, decorations, utensils and potsherds. Whole vessels and other categories of objects were rarely recorded.

Anthropological analysis was conducted on the osteological material from 72 graves, and the remains of 74

individuals were identified.¹²³⁸ The weight of the bones from the cremation graves¹²³⁹ ranged from 0.2 to 975.2 g (Chart 32). The predominant assemblages were small to medium-sized, weighing up to 100 g; they accounted for approx. 80% of the total remains identified. Two of the cremation graves were group burials (Table 19), while the rest contained the remains of one individual each.

The age of the deceased was determined in 70 cases. The most represented age category consists of children at the age of *infans I*, followed by adults at the *adultus* stage (Chart 33). Children also outnumber adults when including individuals assigned to two age categories or identified in general terms as non-adults¹²⁴⁰ or adults.¹²⁴¹ In this case, the children's remains amount to 48%, and adult remains – to 41% (Chart 34). These results are, therefore, different from those obtained for the cemetery of the Przeworsk culture, where adult burials were predominant. A slightly different picture is presented by the diagrams prepared separately for the pit graves and inhumation graves of the Wielbark culture. In the former group, the percentages of children and

¹²³⁸ I have not included here the cremated bones found in the fills of the inhumation graves. Their association with the Wielbark culture is uncertain.

¹²³⁹ The bones from the inhumation graves were not weighed.

¹²⁴⁰ I.e., at the age from *fetus* to *infans II* and those identified in general terms as non-adult.

¹²⁴¹ I.e., at the age from *adultus* to *maturus* and those identified in general terms as adult.

¹²³⁷ J. Andrzejowski 2009, 153.

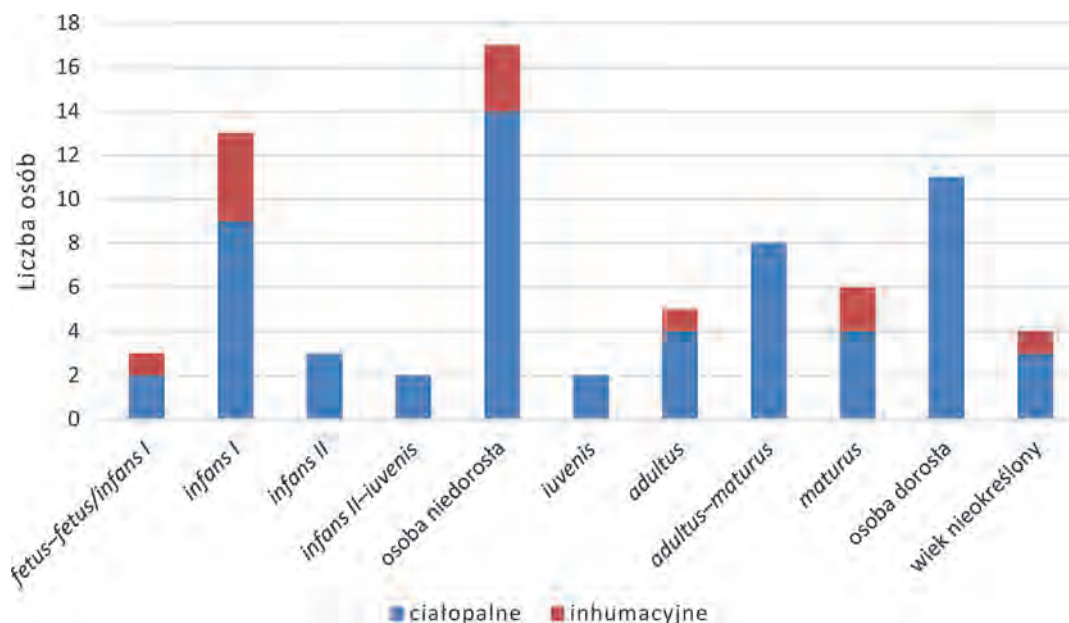


Chart 33. Age of individuals buried in cremation and inhumation graves of the Wielbark culture

Table 19. Anthropological determinations of the remains of individuals (1, 2) buried in group graves of the Wielbark culture

Grave no.	Grave type	1	2
359	pit	sex undetermined, <i>adultus-maturus</i>	<i>infans I</i>
1027B	pit	sex undetermined, adult	<i>infans I-II</i>

adults are similar, while in the case of the inhumation graves, nearly 75% of the buried individuals are children (Charts 35 and 36). In the latter case, however, the study sample was five times smaller.

The sex of the deceased was determined in twelve cases, usually only tentatively (Chart 37). The remains from seven graves were identified as male, and from five graves – as female. The age of the buried women fell in the range of *iuvenis-maturus*, although young individuals were the most numerous. The men were mostly older, with most of them assigned to the *maturus* category. The Kleszewo cemetery is the second cemetery of the Wielbark culture in Mazovia and Podlachia where anthropological analyses have shown a predominance of males over females. Other such sites are known from Greater Poland and Pomerania.¹²⁴² In the case of

the material from Kleszewo, however, it must be taken into account that only a small percentage (15%) of human remains were identified.

Eight graves of the Wielbark culture contained animal bones, including those of birds (including chicken), beaver, goat or sheep, cattle and mammals of undetermined species (Appendix @Gręzak). Particularly noteworthy among them are the fragments of beaver bones, rarely encountered at cemeteries from late antiquity.¹²⁴³ The remains of animals, mostly livestock, have been found at most Mazovian-Podlachian cemeteries of the Wielbark culture. However, the percentage of graves containing them is significantly lower than in the case of Przeworsk culture cemeteries from the same region (cf. above). Usually, it amounts to a few per cent, exceptionally – for example, at the cemetery at Nadkole, site 1 – several dozen per cent.¹²⁴⁴ The Kleszewo cemetery, where animal bones were recorded in about 9% of the graves, fits well into the presented picture.

Two other features (428, 676) can also be attributed to the Wielbark culture; they had relatively large, oval pits, filled with grey earth containing charcoal. Their function is unknown.

¹²⁴² K. Skóra 2019, 331–332, map 1.

¹²⁴³ Beaver remains have been found, for example, at the Przeworsk culture cemeteries at Chmielów Piaskowy (K. Godłowski, T. Wichman 1998, 47–49), Kamieńczyk (T. Dąbrowska 1997, 112) and Nadkole, site 2 (J. Andrzejowski 1998a, 104).

¹²⁴⁴ J. Andrzejowski, A. Żórawska 2002, 54.

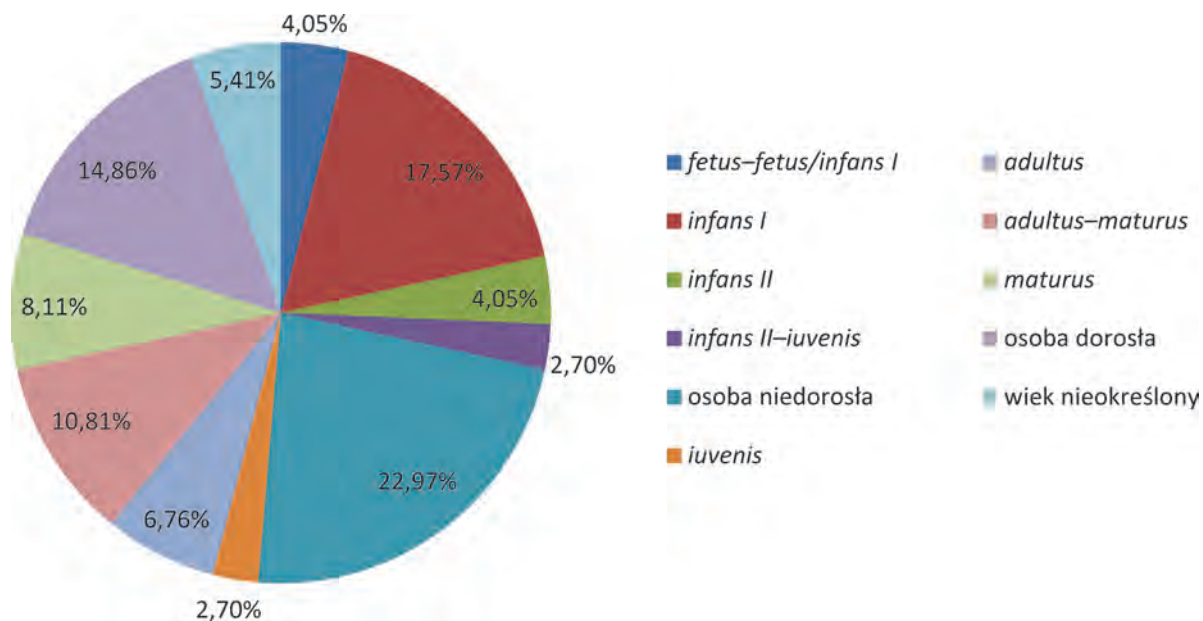


Chart 34. Age of individuals buried in Wielbark culture graves (n=72)

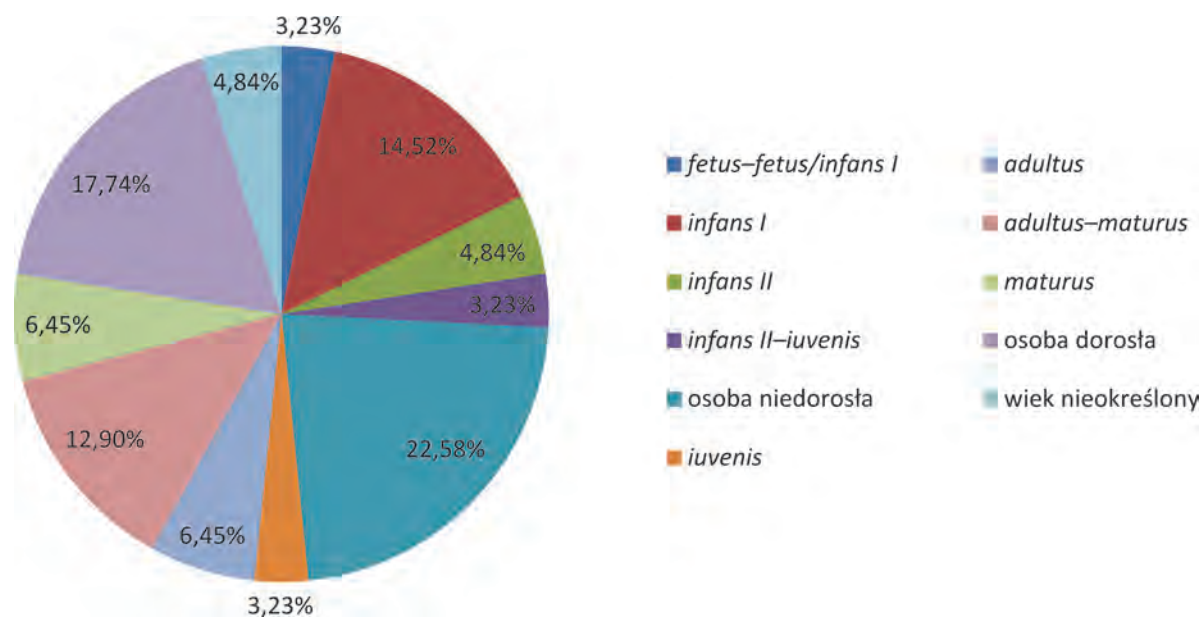


Chart 35. Age of individuals buried in cremation graves of the Wielbark culture (n=62)

4.3. FEATURES OF UNDETERMINED CULTURAL ATTRIBUTION

Uncovered at the cemetery were 110 graves and 18 other features whose cultural attribution could not be determined (Table 20). All of the graves are cremation burials. They match the characteristics of the pit graves of the Przeworsk and Wielbark cultures discussed above.

Predominant among them are features with grey and/or dark fills with pyre remains. Found at the top level of one of them (grave 172) were several medium-sized stones forming a “pavement”. Most of the graves contained no grave goods, or their contents were limited mainly to nondescript potsherds, usually burnt.

Anthropological analysis was carried out on the osteological material from 73 graves. The age of the buried

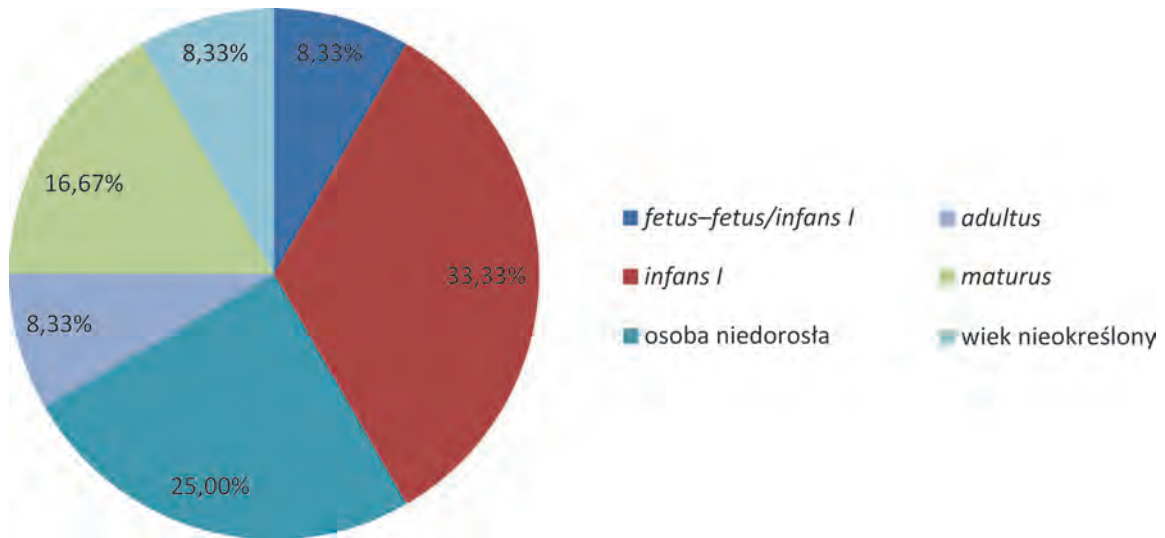


Chart 36. Age of individuals buried in inhumation graves of the Wielbark culture (n=12)

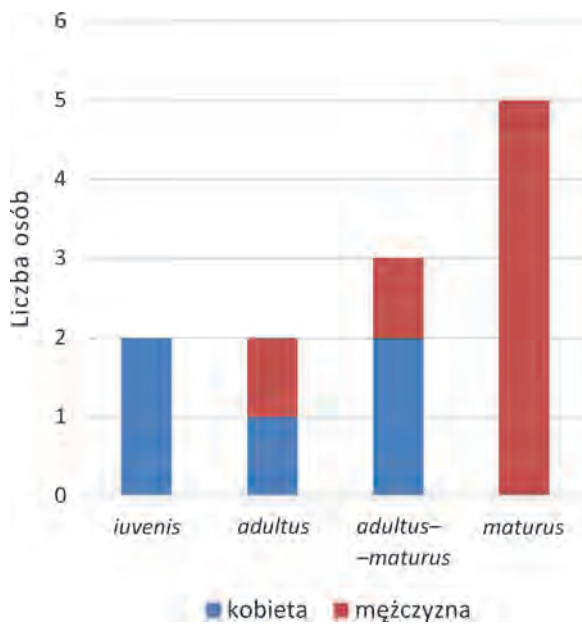


Chart 37. Sex structure in relation to the age of individuals in the Wielbark culture phase of the cemetery's use

Table 20. Compilation of graves and other features of undetermined cultural attribution

Graves	Other features
1, 8, 18, 40, 52, 69, 71, 90, 93, 99, 127, 131A, 134, 135, 149, 151, 161, 168, 172, 197, 204, 205, 214, 226, 241, 244, 247, 252, 254, 256, 260, 264, 266, 268, 269A, 275, 285, 297, 299, 304, 307, 313, 317, 334, 343, 349, 377, 381, 416, 471, 478, 489, 501A, 503, 509, 528, 531, 535, 575, 581, 584, 594, 595, 598, 602, 607, 610, 612, 616, 628, 630, 632, 638, 639, 642, 643, 661A, 677, 680, 690A, 691, 694, 696, 710, 716, 716A, 723, 729, 732, 737, 801, 802, 831, 833, 838, 844, 852, 853, 854, 880, 931, 932, 947, 951, 959, 987, 1005, 1014, 1058, 1064	14, 31, 33, 80, 88, 120, 162, 164, 230, 249, 344, 382, 395, 519, 848, 914, 955

a pig and an unspecified mammal, were also recorded in two graves (197, 802).

The other features are mostly nondescript pits of circular or oval outlines, filled with grey earth containing charcoal. Several burnt pig bones were discovered in one of them (feature 120). The function of these features is unknown.

individuals was determined in 64 cases (Chart 38),¹²⁴⁵ and sex – in seven cases (Chart 39). Animal bones, of

¹²⁴⁵ The column “non-adult individual” includes the remains whose age was determined as *infans I-II*, *infans I/II*, *infans II-iuuenis* or those classified generally as non-adult individuals. The column “adult individual” includes those at the age of *adultus-maturus* and those classified generally as adult individuals.

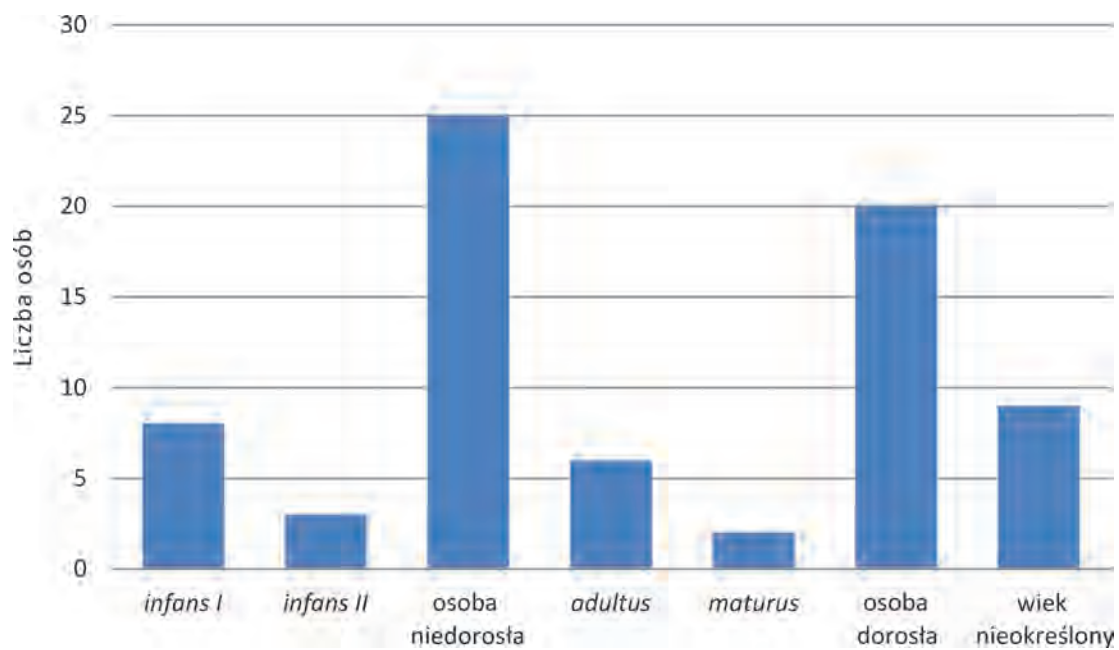


Chart 38. Age of individuals buried in graves of undetermined cultural attribution

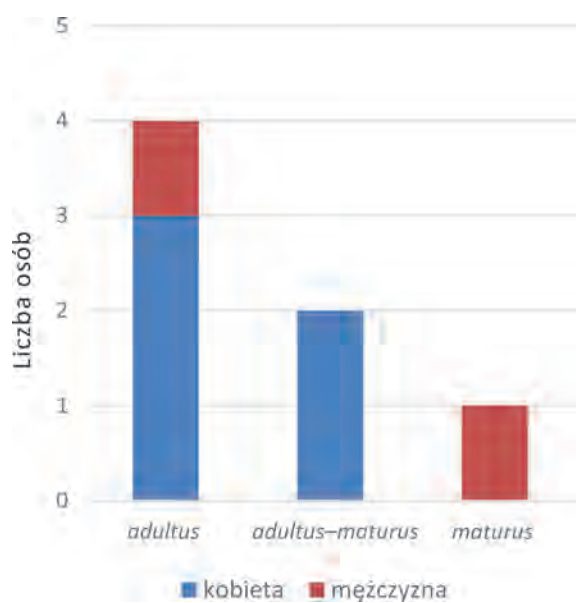


Chart 39. Sex structure in relation to the age of individuals from graves of undetermined cultural attribution

5. DESCRIPTION OF GRAVE CONTENTS

The contents of the graves discovered at the Kleszewo cemetery were probably determined by a number of factors. The presence of specific grave goods may have been affected by the sex, age, wealth, position and function of the deceased in the local community. Their final composition was determined by funerary rites, rooted in the sphere of beliefs and rituals practised by the given community. Studies of funeral customs of groups from different zones of barbarian Europe show that the choice of grave goods was not random, e.g., there were rules prohibiting or ordering the placement of certain categories of objects in burial pits.¹²⁴⁸ This trend can also be observed at the Kleszewo cemetery.

This chapter is an attempt at a general characterisation of grave goods of the Przeworsk and Wielbark communities, taking into account the dating of the features and the main characteristics of the funerary rites.¹²⁴⁹ The contents of the burials are discussed in relation to the different phases of the cemetery's functioning as well as generally – in relation to the entire material of each culture. In the case of the Przeworsk culture, the poorly furnished features have also been described in relation to two horizons, covering phases I–III and phases IV–V and manifested in the different forms of earthenware. This procedure made it possible to include in the analysis a large group of features that could not be dated to a single chronological section.

5.1. PRZEWORSK CULTURE

Of the 320 graves of the Przeworsk culture, 201 features, accounting for about 63% of the total number, contained items other than pottery. The grave goods consisted mainly of dress accessories and decorations, and, to a lesser extent, of objects of everyday use and tools. Imported glass or metal vessels and weapons were rarely recorded in the Przeworsk culture graves. Over the subsequent phases of the cemetery's use, the proportion of graves containing selected forms of artefacts varied (Table 21). Of course, not all artefact forms recorded in a particular phase were also recorded in the other ones.

The most frequently discovered dress accessories were brooches. The features that contained them in particular phases of the cemetery's use usually amounted to several dozen per cent of the graves' total. Such a high percentage among narrowly dated features is certainly overestimated due to the impossibility of dating the features without fibulae to a single chronological section. In this case, the compilations focused on longer chronological periods seem to be more realistic. In phases I–III, the percentage of graves with brooches was 38.4%, and in phases IV–V – 47%. The average obtained for all graves of the Przeworsk culture from Kleszewo was 37.7%. The number of brooches in individual features ranged from one to three, with one specimen recorded in the majority of cases, while two copies were encountered less frequently. Sets of three fibulae were found only in a few graves from phases II and V. In the case of paired brooches, both specimens are either identical or they represent different forms. In the burials from phases I–III, the graves containing specimens of different types are clearly dominant (ratio 8:1). In the case of graves from phases IV–V, the

¹²⁴⁸ E.g., K. Czarnecka 1990, 57–58; H. Derks 2012, 84–90; A. Maciałowicz, M. Woźniak 2015, 241–242; J. Zagórska–Telega 2019, 141–168.

¹²⁴⁹ The diversification of grave contents in relation to the age and sex of the deceased has been presented in Chapter 6.

Table 21. Percentage of Przeworsk culture graves with specified contents in particular phases of the cemetery's use

Contents	Dating							Przeworsk culture (n=320)
	phase I (n=15) [n=66]*	phase II (n=38)	phase III (n=16)	jointly phases I–III (n=164)	phase IV (n=9)	phase V (n=76)	jointly phases IV and V (n=115)	
brooch	73,3 [22,7]	42,1	68,7	27,4	55,6	30,3	27,2	24,5
2 brooches	20 [4,5]	10,5	25,0	6,7	44,4	17,1	14,9	9,1
3 brooches	- [-]	18,4	-	4,2	-	7,9	5,2	4,1
pin	- [1,5]	2,6	-	1,2	11,1	3,9	3,5	2,2
buckle/belt hook	6,7 [3,0]	2,6	-	1,8	11,1	9,2	7,0	3,4
belt fitting	6,7 [1,5]	-	-	0,6	-	13,2	8,7	3,4
strap-end	-	-	-	-	-	5,3	3,5	1,3
bracelet	- [1,5]	-	-	1,2	22,2	11,8	11,4	4,7
beads	6,7 [10,6]	10,5	6,2	13,4	11,1	13,1	12,2	11,3
pendant	- [6,1]	2,6	6,2	5,5	11,1	10,5	9,6	6,0
casket	-	-	-	-	-	11,8	7,8	2,8
comb	-	-	-	-	-	6,6	4,3	1,6
hooked pin	6,7 [1,5]	18,1	-	4,2	-	5,3	3,5	3,4
spindle whorl	6,7 [3,0]	23,7	18,7	10,4	33,3	22,4	17,5	12,9
needle	13,3 [3,0]	21,1	25,0	9,8	22,2	3,9	4,3	6,9
awl	20,0 [10,6]	23,7	12,5	11,0	22,2	1,3	3,5	6,6
straight knife	- [1,5]	7,9	-	2,4	-	1,3	0,8	1,6
crescent-shaped knife	6,7 [4,5]	15,8	25,0	9,1	-	1,3	0,8	5,0
weapons	6,7 [4,5]	-	-	1,8	-	-	-	0,9
ring	- [1,5]	7,9	6,2	2,4	-	1,3	2,6	2,8
silver	-	-	-	-	-	6,6	4,3	1,6
Roman vessels (glass, metal, clay)	-	-	-	-	-	-	1,7	0,6
pottery only	- [40,9]	15,8	-	34,1	-	17,1	28,7	37,0
animal bones	13,3 [19,7]	23,7	12,5	16,5	11,1	40,8	33,9	22,6

* The numbers in square brackets show values for graves dated to phase I and phases I–IIa.

number of features containing either identical or different fibulae is similar (ratio 9:10). In all graves with three brooches,¹²⁵⁰ two fibulae represented the same type, while the third brooch was different. In most cases, the specimens from a single grave were usually made of the same raw material; only a few deviations

¹²⁵⁰ In the cases where there are no doubts as to the forms of all the discovered brooches, e.g., graves 200B, 357, 365B, 1047.

from this norm were recorded.¹²⁵¹ Iron brooches were found in graves from phases I, II and V. Bronze specimens come from features dated to phases II–V. Iron fibulae predominate in phases I–II, and bronze fibulae are the most numerous in the other periods.

The second largest group of artefacts related to the dress consists of belt elements. They were discovered

¹²⁵¹ Graves 1/1961, 365B, 1047.

in graves from all phases of the cemetery's use, phase V in particular. In the features from the older chronological sections, such items were recorded relatively rarely. From graves from the late pre-Roman period (phases I and IIa) come two hinged belt hooks and one ring-shaped belt hook. The latter was probably part of a belt used to carry a sword. The fitting from grave 402 that was decorated with openwork appliqué may have served the same function. In phases IV and V, the most commonly recorded metal belt elements were buckles, which were not present in the graves of older chronology. In phase V, some belts were fitted with rectangular mounts, strap-ends and link connectors; sometimes, they were equipped with ring fittings for suspending some other objects. The aforementioned elements were found in various configurations, i.e., on their own or in sets consisting of, for example, a fitting or fittings and a buckle, several fittings, etc. The belt with the most abundant metal parts was discovered in grave 132; it was equipped with 13 bronze fittings and an iron buckle. The reconstruction of its form (Fig. 20:1) was based on analogies from Wielbark culture sites, where remains of similar belts were recorded in inhumation graves (Fig. 20:2.A.B).

The least frequently recorded items usually interpreted as dress accessories were pins.¹²⁵² They were discovered in two features from phases I–IIa and IIa, and four from phases IV–V. The finds from the late pre-Roman period are made of iron, the specimens from early Roman graves are bronze and, exceptionally, iron and bi-metallic. Two pins were found in grave 224 from phase IIa, and one each in other features.

It is possible that also the iron rings with diameters of several cm, found in a few features from almost all phases of the cemetery's use, were dress accessories.

Decorations are represented by bracelets, glass beads and various types of pendants. This last category also includes artefacts whose functional interpretation as pendants is uncertain but most probable, e.g., *knotenrings*, wire rings, metal sheets rolled into tubes, a needle bent into a ring, etc. Glass beads form the largest group in the decoration category. They are all partly melted, and many are preserved only as small lumps of coloured glass. Their numbers in individual features were low. The most – nine – were discovered in grave 132 from stage Vb; several pieces each were recorded in graves 48 and 615, dated to stages IIb–III and III respectively, and, presumably, in grave 702 from stage IV, where ten lumps of burnt glass were found. In all of these features, the necklace was also composed of metal pendants.

¹²⁵² It should, however, be noted that the actual function of some specimens is unclear.

Table 22. Percentage of pit and urn graves (including pit-and-urn graves) of the Przeworsk culture with specified contents

Contents	Grave	
	pit (n=273)	urn or urn-and-pit (n=46)
brooch	24,8	21,7
2 brooches	5,8	28,3
3 brooches	0,4	26,1
pin	1,8	4,3
buckle/belt hook	1,8	13,0
belt fitting	2,6	8,7
strap-end	1,1	2,2
bracelet	3,6	10,9
beads	12,4	4,3
pendant	5,5	8,7
casket	1,1	13,0
comb	1,8	–
hooked pin	2,9	6,5
spindle whorl	8,0	41,3
needle	5,8	13,0
awl	4,4	19,6
straight knife	1,1	4,3
crescent-shaped knife	4,0	10,9
weapon	1,1	–
ring	2,6	4,3
silver	0,7	4,3
Roman vessels (glass, metal, clay)	0,7	–
pottery only	40,1	17,4
animal bones	17,9	50,0

A similar pattern of glass beads accompanied by metal pendants was recorded on a total of ten occasions. More often, however, beads and pendants occurred separately.

Bracelets belong to forms characteristic mainly of phases IV–V; only two (?) specimens were discovered in older graves. Three graves from phase Vb each contained two specimens, which were identical or very similar in shape. In the remaining cases (i.e., nine times), each grave contained a single bracelet.

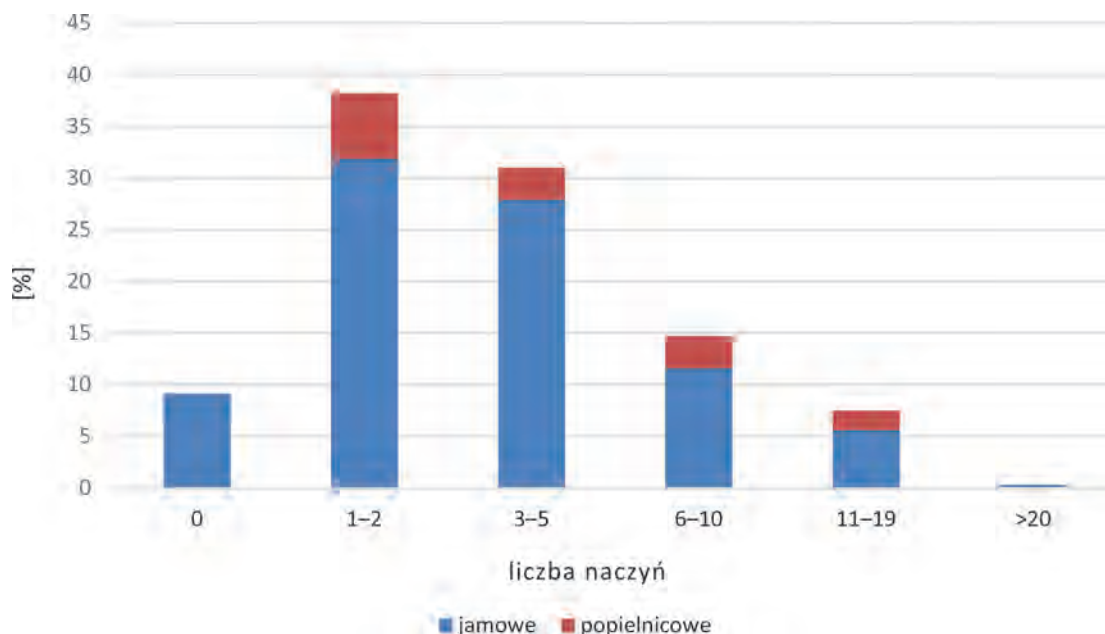


Chart 40. Percentage of pit and urn graves of the Przeworsk culture with the indicated number of vessels (n=320). The digit 0 marks features without pottery or those containing only scarce nondescript body sherds

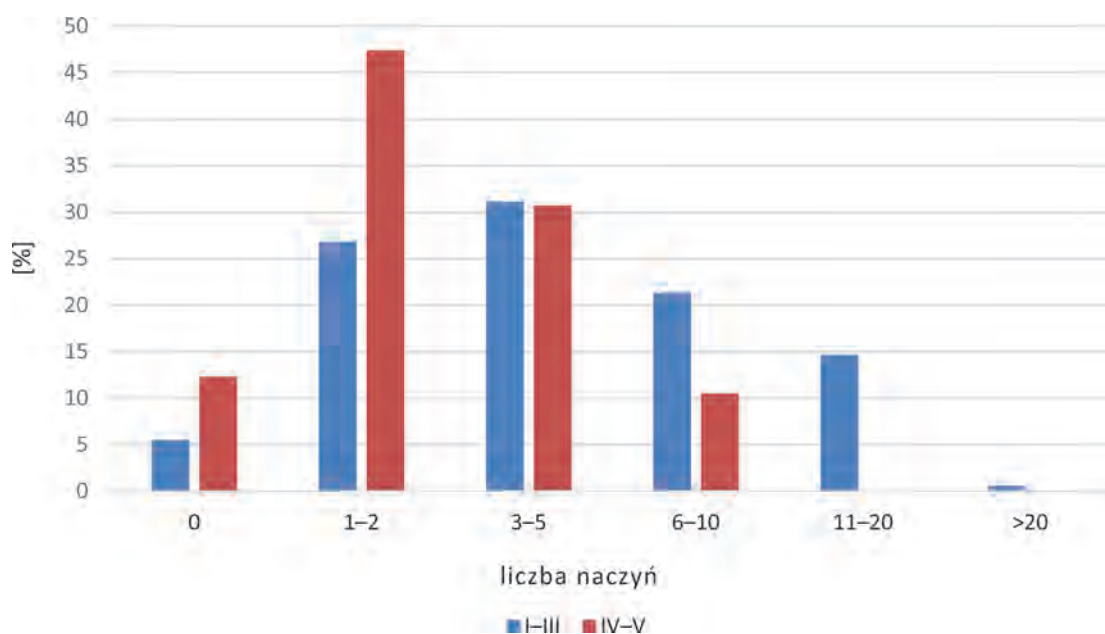


Chart 41. Percentage of Przeworsk culture graves with the indicated number of vessels in phases I-III (n=164) and IV-V (n=115)

Among the objects of daily use and tools, utensils associated with simple domestic activities, e.g., spinning and sewing, were the most numerous. Spindle whorls were found in almost 13% of the Przeworsk culture graves and were notably more common (appearing almost twice as often) in the burials from phases IV-V than in those from phases I-III. The lowest percentage of graves with spindle whorls can be found among fea-

tures from phases I-IIa, and the highest – among graves from phase IV of the cemetery's use. More than one specimen was found in 12% of the graves with spindle whorls. Other frequent finds are needles. In phases II, III and IV, the number of graves that contained them amounts to more than 20%. A comparison taking into account also the poorly furnished burials shows that, in phases I-III, needles were placed in graves twice as of-

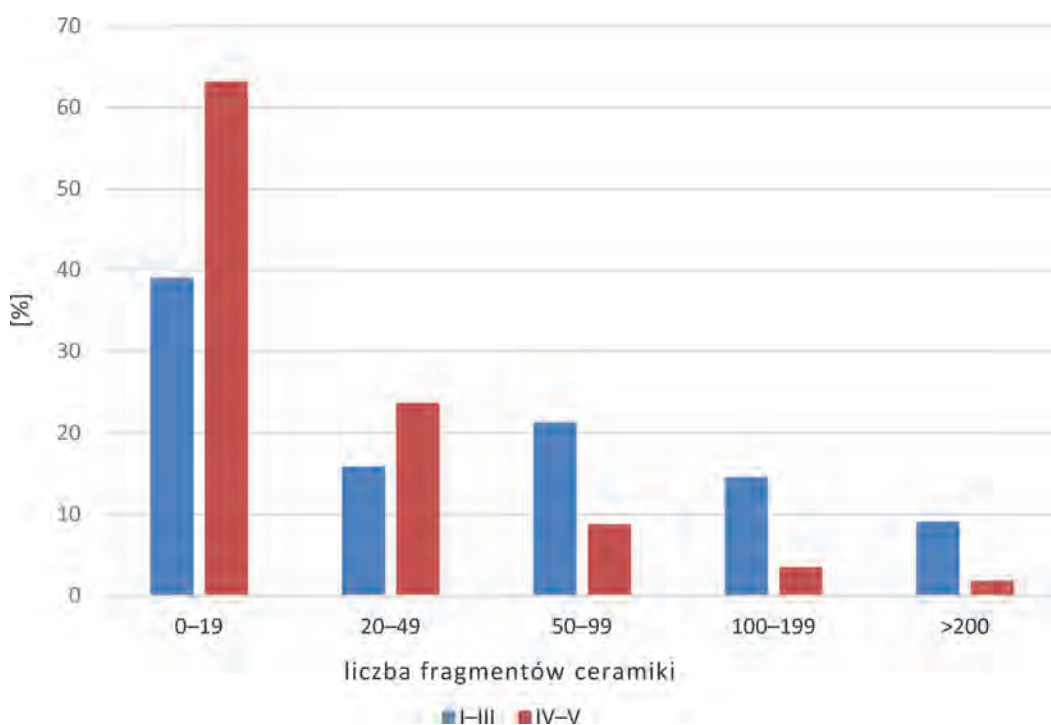


Chart 42. Percentage of Przeworsk culture graves with the indicated number of nondescript potsherds in phases I-III (n=164) and IV-V (n=115)

ten as in phases IV-V. A similar trend is also observed in the case of awls and hooked pins. Characteristic of graves from phases I-III are also crescent-shaped knives. In contrast, objects known only from graves dating to phase V include antler combs and metal casket elements. Phase V is also when silver objects appear for the first time among the contents of the Kleszewo graves.

Weapons or items related to the warrior's equipment were found in graves from phase I, possibly I-IIa. The percentage of graves containing such items is low and amounts to only 4.5% (1.8% if accounting for all the Przeworsk culture graves).

The percentages presented in Table 21, compiled for all graves attributed to the Przeworsk culture, change when the funerary rites are taken into account. The contents of pit burials were statistically poorer than those of cremation burials. This is true for almost all the included categories of artefacts (Table 22). The exceptions are elements of weaponry and combs, which were found only in graves without an urn. The proportion of features containing only pottery fragments is also higher in the case of pit graves.

Pottery, as the primary indicator of cultural attribution of poorly furnished graves,¹²⁵³ is present in almost all features attributed to the Przeworsk culture. In most

cases, it was preserved in, usually burnt, fragments. As a result, the original number of vessels deposited in particular graves is difficult to determine. This is particularly true of the pit graves, which contained dozens or hundreds of potsherds. The values presented in Charts 40-42 are, therefore, estimates and include whole vessels as well as specimens isolated from the mass of potsherds, based on, for example, the presence of rims, ornamented body sherds, etc. In general terms, the Kleszewo graves usually contained one or two and, slightly less frequently, three to five vessels (Chart 40). Graves with fragments of at least ten vessels represent a small percentage of the total collection. In the features from phases I-III, the average number of clay vessels was higher than in the graves from phases IV-V (Chart 41). In the latter horizon, more than five vessels per grave were rarely recorded, and fragments of ten or more specimens were not recorded at all. In contrast, in phases I-III, graves with more than five vessels account for more than 35% of all features, and those with at least ten vessels – for 15%. A greater abundance of pottery in phases I-III compared to phases IV-V can also be observed in the case of nondescript potsherds (Chart 42). This trend is typical of eastern Mazovian cemeteries of the Przeworsk culture.¹²⁵⁴

¹²⁵³ For the graves without potsherds, it was possible to determine their cultural attribution in a dozen or so cases only.

¹²⁵⁴ E.g., Kamieńczyk (T. Dąbrowska 1997), Karczewiec (T. Dąbrowska 1973), Oblin (K. Czarnecka 2007).

5.2. WIELBARK CULTURE

Ninety-one graves were attributed to the Wielbark culture; twenty-three were inhumation burials. Grave contents vary significantly between the cremation burials in a pit and inhumation graves, especially in terms of dress accessories, which is why they have been characterised separately (Table 23).

In the inhumation burial group, grave goods were discovered in 15 features. They consisted of dress accessories and decorations, tools and objects of everyday use, and whole¹²⁵⁵ clay vessels. Brooches were discovered in over 60% of the graves. In nine cases, each grave contained a single fibula; in three cases, each grave yielded two fibulae. Twice, the outfit of the buried person included three¹²⁵⁶ brooches. The fibulae were usually discovered near the skull bones or in contexts indicating the same location (near beads and pendants). In the graves with three fibulae, two brooches were located near the head, and the third one – on the chest. The only exception is grave 621, where an iron (!) specimen was located in the southern part of the pit, away from beads located in the northern part of the grave. In the graves containing a pair of fibulae, the brooches were always identical (or almost identical) and made of the same raw material. The sets of three fibulae consisted of two identical silver pieces and a bronze brooch of a different type. That last specimen was used to fasten the garment at the chest, and the other two – on the shoulders.

Buckles were found in seven graves (approx. 30% of all inhumation graves), including five with brooches. Two graves contained two buckles each, and the remaining features yielded one specimen each. Most of the buckles were discovered in the middle parts of the pits, probably near the hips of the buried individuals. In grave 884, in which two buckles were found, one specimen was part of the deceased's clothing; the second one – in the form of a grave offering – was placed at some distance from the body. The buckle from grave 386 that was discovered near the southern wall of the grave, far from the other dress elements, can be interpreted in the same way. It is more difficult to explain the function of the two items from grave 917. Their location suggests that both may have been part of the outfit in which the deceased person was buried. It is possible that the specimen discovered relatively close to a fibula

¹²⁵⁵ Possibly crushed but otherwise complete.

¹²⁵⁶ Grave 884 contained five brooches, but only three of them were part of the attire in which the deceased had been buried. The remaining two brooches, as grave offerings, were deposited next to the body.

belonged to a belt worn across the chest,¹²⁵⁷ which was perhaps used to carry a sword. The use of belts of the Roman *balteus* type by the people of the Wielbark culture has been confirmed by the finds from Kamienica Szlachecka¹²⁵⁸ and Linowo.¹²⁵⁹

The largest and, essentially, the only category of decorations discovered in the inhumation graves consists of glass and amber beads, and metal pendants. They were recorded in approximately 74% of all inhumation graves. They appeared on their own or, in most cases, in the form of less or more elaborate necklaces of varied composition. Some of them were composed exclusively of amber beads,¹²⁶⁰ others – only of glass beads.¹²⁶¹ Most often, however, they were composed of beads made of both of these raw materials¹²⁶² and, slightly less often, also of metal pendants.¹²⁶³ The location of necklace elements in the graves indicates that the people using the cemetery at that time would usually wear one necklace, hung on the neck and chest. The attire of the person from grave 884 deviates from this norm, as the deceased was probably buried wearing two necklaces: one consisting only of miniature blue glass beads and the other consisting of glass and amber beads as well as silver and bronze pendants. Two necklaces were also found in grave 386. The first one was resting near the teeth of the deceased, so it was probably worn around the neck or chest. The second one was found several dozen centimetres away. Its considerable distance from the skull and its location in the central-western part of the pit indicate that it was probably located near the buried person's hips.¹²⁶⁴ Recently, it has been suggested that beads discovered in similar contexts¹²⁶⁵ used to be attached to the belt and served as its decoration.¹²⁶⁶ The artefacts from Kleszewo were found in a tight cluster, which indicates a different nature of this find. The items in question appear to have been kept in a bag

¹²⁵⁷ Cf. K. Skóra 2008, 12.

¹²⁵⁸ Cf. M.J. Przybyła 2010, 104, 108, fig. 10; M. Tuszyńska 2020, 70–71, pl. V/12:4–6, LXXXI:1.

¹²⁵⁹ M. Kurzyńska 2015, 72–73, pl. XXX/114:2–4.

¹²⁶⁰ E.g., graves 280, 621.

¹²⁶¹ E.g., graves 600, 720.

¹²⁶² E.g., graves 385, 750.

¹²⁶³ E.g., graves 158, 884.

¹²⁶⁴ Assuming that the grave contained a single burial, and the body was not resting in the flexed position.

¹²⁶⁵ E.g., Cecele, grave 17A (J. Jaskanis 1996, 14, pl. III/17A), Kowalewko, graves 87, 223 (T. Skorupka 2001, 34, 65, pl. 26/87, 68/223), Pruszcz Gdański, site 10, grave 428 (M. Pietrzak 1997, 62, pl. CXXVIII/428).

¹²⁶⁶ Recently, K. Żyto 2019, 83–84.

Table 23. Percentage of Wielbark culture graves with specified contents

Contents	Inhumation graves			Cremation graves			Wielbark culture (n=91)
	phase VI (n=9)	phase VII (n=6)	all (n=23)	phase VI (n=6)	phase VII (n=20)	all (n=68)	
brooch	55,6	50,0	39,1	16,7	20,0	14,7	20,9
2 brooches	22,2	16,7	13,0	-	5,0	1,5	4,4
3 brooches	11,1	16,7	8,7	-	-	-	2,2
belt buckle	33,3	66,7	30,4	50	35,0	14,7	18,7
belt fitting	-	-	-	33,3	-	5,9	4,4
strap-end	-	-	-	16,7	-	1,5	1,1
bead(s)	77,8	100,0	73,9	50,0	55,0	44,1	51,6
pendant	44,4	33,3	26,1	16,7	10,0	5,9	11,0
comb	22,2	16,7	8,7	83,3	50,0	50,0	39,6
hooked pin	22,2	-	8,7	-	5,0	2,9	4,4
spindle whorl	11,1	16,7	8,7	-	10,0	2,9	4,4
needle	-	33,3	8,7	-	-	1,5	3,3
straight knife	-	16,7	4,3	16,7	5,0	2,9	3,3
iron	22,2	-	8,7	16,7	30,0	13,2	12,1
silver	11,1	33,3	13,0	-	-	-	3,3
Roman vessel (glass, metal, clay)	-	16,7	4,3	33,3	15,0	7,4	6,6
whole vessels	44,4	83,3	47,8	-	-	-	12,1
“wheel-thrown” pottery	-	16,7	4,3	-	75,0	22,1	17,6
pottery only	-	-	-	-	15,0	16,2	12,1
animal bones	-	-	-	16,7	20,0	11,8	11,0

made of organic material that may have been attached to the belt. Purses were widely used by the people of barbarian Europe. They were made of perishable materials, so they would usually completely decompose. Their presence, however, is proven by specific groups of small objects recorded in inhumation graves and at bog sites.¹²⁶⁷ In Poland, the best-preserved remnants of purses have been discovered at the Wielbark culture cemetery at Weklice.¹²⁶⁸

The function of the single bead discovered in the southern part of grave 884 is unclear. Assuming that the body was placed in an extended position, the ar-

tefact in question would be located near the knees, and, if the body had been placed with the legs flexed – slightly lower, perhaps even near the feet. The bead could have served as a dress decoration or grave offering. It is also possible that, originally, i.e., during the funeral, it was kept inside a purse. This supposition is not contradicted by the unusual location of the item, as there are finds from the areas of the Chernyakhov and Sântana de Mureş cultures that indicate that women carried purses at the knee level,¹²⁶⁹ and the Kleszewo grave contained other artefacts whose presence can be explained by contacts with the aforementioned groups (e.g., a vessel made on a potter's wheel, a glass beaker).

¹²⁶⁷ Cf. J. Ilkjær 1993, 123; C. von Carnap-Bornheim, J. Ilkjær 1995, 381–384; A. Bursche 2010, 201–202; J. Schuster 2011, 69.

¹²⁶⁸ M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, 143–144.

¹²⁶⁹ O.V. Gopkalo 2011a, 78.

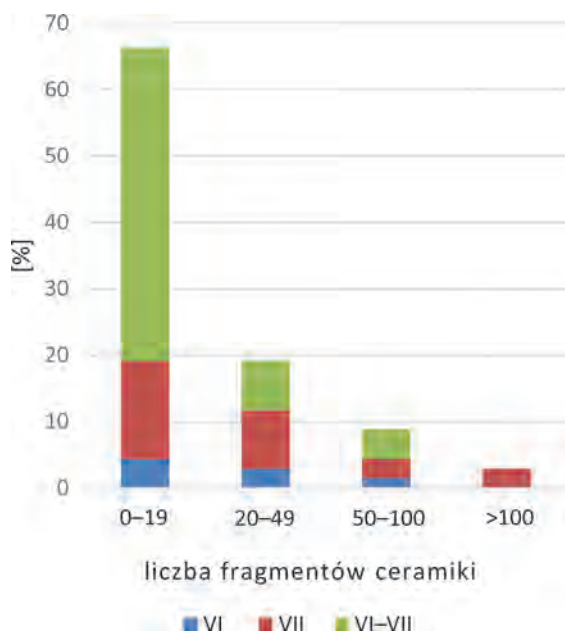


Chart 43. Percentage of Wielbark culture cremation graves with the indicated number of potsherds in particular phases of the cemetery's development (n=68)

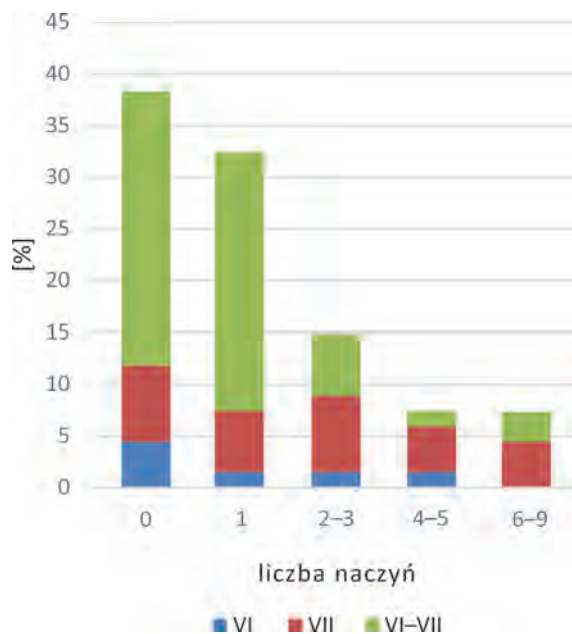


Chart 44. Percentage of Wielbark culture cremation graves with the indicated number of vessels in particular phases of the cemetery's development (n=68).

The digit 0 marks features without pottery or containing only scarce, nondescript body sherds

Objects of everyday use and tools include needles, spindle whorls, hooked pins, combs and knives. The number of these artefacts in the inhumation graves is low and limited to a few specimens discovered in four or five graves.¹²⁷⁰ In grave 158, a comb and a spindle with a spindle whorl and hooked pin were placed at the edge of the northern part of the pit, about 50 cm from the skull. In grave 884, a spindle whorl was discovered a few centimetres below a belt buckle (884/8). It may have been mounted on a spindle that was tucked into the belt. The same feature also yielded a knife, needle and comb, which – together with two fibulae (884/2.3) and a second belt buckle (884/7) – were spread across the northern part of the pit, at some distance from the body. These artefacts were not directly related to the outfit worn by the person buried in the grave. In grave 887, a needle was found in one of the vessels.

Clay vessels were discovered in almost half of the inhumation graves. Their number per grave ranged from one (most common) to four. One specimen from grave 884 was made on a potter's wheel, the rest were hand-built. Vessels were most often found in the northern parts of the grave pits.¹²⁷¹ In grave 158, they were discovered in the northern and southern parts of the grave, and in grave 386 – only in the southern part. They were usually placed near the skull or at the edge

of the burial pit, some distance from the body. In two cases,¹²⁷² vessels were located near the feet. Inside the vase from grave 884, made on a potter's wheel, there was a glass beaker; the bowls from graves 887 and 917 also contained smaller vessels.

Cremation burials were characterised by clearly poorer furnishings than inhumation graves. Brooches were found in about 16% of these features, most often one and, less often, two per grave. Buckles were also rarely recorded. Belt fittings, including strap-ends (not found in inhumation burials), were discovered in several cremation graves. Beads were recorded in approximately 44% of all pit graves. For obvious reasons, there were no amber specimens among them; on the other hand, they contained stone forms, which were not found in inhumation graves. The most elaborate necklace was found in grave 708. It was composed of nine chalcedony beads, a dozen or so pieces of glass and a metal pendant. Over a dozen glass beads were also discovered in grave 883. The number of these items in other features did not exceed a few pieces. Combs, which were discovered in half of the cremation graves, clearly dominate in the category of tools and utensils. Other artefacts from this category were recorded much less frequently, e.g., the share of graves with spindle whorls, needles

¹²⁷⁰ Graves 158, 184, 386?, 884, 887.

¹²⁷¹ Graves 385, 600, 636, 720?, 808?, 884, 887, 916?, 917.

¹²⁷² Graves 386, 600.

and hooked pins does not exceed a few per cent. Items unknown from the inhumation grave assemblages, including needle-holders and tweezers, were also found in several graves. Most pit burials contained fragments of hand-built pottery, usually burnt. These were small collections, usually numbering several or a dozen or so sherds (Chart 43). Individual features could contain up to nine vessels, isolated from all the ceramic material, but more than three specimens per grave were rarely recorded (Chart 44). Features with larger pottery assemblages come from phase VII of the cemetery's use; however, there are also more than three times as many graves known from this section as there are from phase VI. Graves from phase VII also contained, previously unknown, fragments of pottery made using a potter's wheel, which came from a maximum of three vessels per one feature.

A characteristic feature of Wielbark culture cemeteries is the clear dominance of objects made of copper alloys over those made of other metals.¹²⁷³ This trend is also recorded at the Kleszewo cemetery. The items made of silver and iron constituted a fraction of all finds. Silver objects are represented by five brooches

and a dozen or so decorations discovered in three inhumation graves¹²⁷⁴ and as stray finds (ZL/26). Iron objects were found in eleven features: two inhumation graves¹²⁷⁵ and nine cremation graves.¹²⁷⁶ The iron items from the inhumation graves are two buckles, a fibula and pendants or their elements. The artefacts found in the pit graves are mainly small, nondescript objects, such as rods, wires and rivets. The better-preserved artefacts include a belt fitting (?) from grave 362 and a fragment of a blade from grave 150.

Roman vessels were discovered in approx. 6.5% of the grave assemblages. Specimens made of metal and clay come from graves dated to phase VI, and glass forms – from those dated to phase VII. The latter, apart from the beaker from grave 884, were preserved in the form of small pieces of melted glass; the functional classification of these fragments is uncertain.

Fragments of animal bones were recorded in the fills of 11% of Wielbark culture graves (only cremations). The remains of birds, including chickens, were found in four graves, and the remains of mammals, including cattle, sheep or goats, and beavers, were found in four graves. In one case, the species could not be determined.

¹²⁷³ Recently, M. Woińska 2018, 3–4, with earlier literature.

¹²⁷⁴ Graves 158, 720, 884.

¹²⁷⁵ Graves 386, 621.

¹²⁷⁶ Graves 150, 258, 362, 411, 578, 579, 708, 724, 858.

6. DIVERSIFICATION OF GRAVE CONTENTS IN LIGHT OF ANTHROPOLOGICAL DATA

The anthropological analysis of the human bones discovered in the Kleszewo graves (Appendix 1) makes it possible to attempt to characterise grave assemblages in relation to the age and, to some extent, sex of the buried people. The studies on the issue in question are complicated by the specific nature of the Kleszewo cemetery, i.e., its bicultural character. A substantial percentage of graves (over 20% of the total) could not be culturally classified due to scarce grave goods or a complete lack thereof. These graves were, therefore, omitted from further considerations. As a result, the average image of grave goods specific to the given gender or age category is to some extent distorted, e.g., graves without furnishings are almost completely excluded. Initially, the number of features with poor grave goods was probably higher, and, consequently, the percentage of rich burials was lower than the one presented in the tables below.

6.1. PRZEWORSK CULTURE

6.1.1. GRAVE GOODS AND THE AGE OF THE DECEASED

The description of the Przeworsk culture grave assemblages in particular age categories has been based on the contents of 97 features (Tables 24 and 25). They were all single burials containing the remains of individuals whose age, with few exceptions, was determined as a single class: *infans I*,¹²⁷⁷ *infans II*, *iuvenis*, *adultus* or

¹²⁷⁷ This category also includes five features (graves 42, 104, 137, 348, 365A), the human remains from which were identified as belonging to foetuses/newborns (*fetus/infans I*).

maturus.¹²⁷⁸ In this chapter, the material from phases I–III and IV–V of the cemetery’s use (cf. Subchapters 3.1, 4.1 and 5.1) has been discussed jointly, as separate analyses would have significantly reduced the already small research sample. In the age categories listed, the burials of children at the *infans I* and adults at the *adultus* stage are the most numerous. The other categories are represented by only a few (*infans II*, *iuvenis*) or a dozen or so (*maturus*) assemblages. This does not mean that mainly small children and adults were buried at the cemetery. However, the preserved osteological material did not allow precise determinations of the age of most of the buried individuals. Presumably, further representatives of the smaller classes are hidden among the assemblages defined with less precision, e.g., the remains of children at the *infans II* age may be found among the 49 assemblages assigned to the categories *infans I–II*, *infans II–iuvenis* or identified in general terms as non-adults. In order to illustrate possible further differences in the grave goods found in the burials of children and adults, the contents of the graves have also been compared in relation to two classes only, i.e., children¹²⁷⁹ and adult individuals,¹²⁸⁰ reducing the diversification but significantly increasing the study sample to 212 assemblages.

¹²⁷⁸ No burials of individuals at the age of *senilis* were recorded in the Przeworsk culture graves. In one case (grave 148), the age of the deceased was identified as *maturus–senilis* (late *maturus*?). The contents of this grave have been included in the descriptions of grave goods of the people at the age of *maturus*.

¹²⁷⁹ This group includes the remains of individuals at the age of *fetus/infans I*, *infans I*, *infans I/II*, *infans I–II*, *infans II*, *infans II–iuvenis* and those identified in general terms as non-adults.

¹²⁸⁰ Individuals at the age of *iuvenis*, *iuvenis–adultus*, *adultus*, *adultus–maturus*, *maturus*, *maturus–senilis* and those identified in general terms as adults.

Table 24. Przeworsk culture graves included in the description of grave goods in particular age categories.

The asterisk (*) marks the burials of individuals deceased at the age of *fetus/infans I*.

Age	Grave no.	Quantity
<i>fetus/infans I</i> and <i>infans I</i>	15, 34, 42*, 55?, 74, 104*, 105, 137*, 155, 243, 250, 251, 303, 348*, 365A*, 378?, 400?, 403, 410, 450, 451?, 517, 532, 656, 660, 702, 718, 734, 740, 837, 857, 885, 920, 946, 967, 1026B, 1048	37
<i>infans II</i>	103A, 407?, 930	3
<i>iuvenis</i>	132, 218, 1024C	3
<i>adultus</i>	2/1961, 7, 13, 23, 32, 41, 59, 61, 62, 65/66, 70, 73A, 76, 100, 101, 110, 114, 115, 118, 191, 240, 248, 261, 288, 300, 351, 357, 363, 364, 396, 399, 405, 429, 500, 521B, 522, 526, 527, 529, 738	40
<i>maturus</i>	117, 121, 147, 224, 242, 255, 262, 332, 402, 413, 655, 692, 979, 1022	14

Infans I

The graves of younger children were usually characterised by scarce contents. Grave goods in more than half of these features were limited to potsherds only. In the remaining graves, brooches were the most frequently recorded category of objects, in addition to pottery. Fibulae were discovered in almost every third grave, containing from one (the most common) to three specimens, which were occasionally accompanied by other objects, e.g., a bead or a spindle whorl, or casket parts. Animal remains were found in about 19% of the graves. The most impressive grave goods in a burial in the *infans I* class were discovered in grave 702 and consisted of a brooch, pin, buckle, bracelet, components of a necklace, and a needle and awl (Fig. 73).

In most cases, the decorations and dress accessories discovered in the graves of children may have been used by them during their lifetime.¹²⁸¹ Utensils, such as spindle whorls, are harder to interpret. It is possible that their presence in children's graves had a symbolic meaning, or that they served a function other than their intended purpose, e.g., of a toy or amulet.¹²⁸² The presence of casket elements in the grave of a foetus or newborn is also unclear. At Przeworsk culture ceme-

¹²⁸¹ This remark, for obvious reasons, does not apply to the burials of foetuses.

¹²⁸² Cf. K. Skóra 2015a, 70; 2020, 86.

Table 25. Percentage of Przeworsk culture graves with specified contents in particular age categories

Contents	Age category				
	<i>infans I</i> (n=37)	<i>infans II</i> (n=3)	<i>iuvenis</i> (n=3)	<i>adultus</i> (n=40)	<i>maturus</i> (n=14)
brooch	16,2	–	33,3	32,5	14,2
2 brooches	10,8	–	–	5,0	28,6
3 brooches	2,7	–	33,3	7,5	14,2
pin	2,7	–	–	2,5	7,1
buckle/belt hook	2,7	–	33,3	7,5	–
belt fitting	–	–	33,3	10,0	14,2
strap-end	–	–	–	2,5	7,1
bracelet	5,4	–	33,3	12,5	–
beads	8,1	33,3	33,3	15,0	14,2
pendant	8,1	–	33,3	7,5	7,1
casket	2,7	–	–	7,5	–
comb	2,7	–	–	2,5	–
hooked pin	–	–	33,3	2,5	21,4
spindle whorl	8,1	–	66,7	12,5	28,6
needle	–	–	33,3	2,5	21,4
awl	2,7	–	–	7,5	7,1
straight knife	–	–	–	–	7,1
crescent-shaped knife	–	–	–	5,0	7,1
weaponry	–	–	–	–	21,4
Roman vessels (glass, metal or clay)	–	–	–	2,5	–
another metal object	2,7	66,7	33,3	2,5	14,2
pottery only	51,3	33,3	–	32,5	14,2
animal bones	18,9	66,7	33,3	35,0	50,0

teries, such objects are very rarely found in the graves of children.¹²⁸³

Infans II and iuvenis

The small number of graves assigned to both these classes means that an attempt at their characterisation based on the available material cannot be representative.

¹²⁸³ Cf. K. Czarnecka 2020, 298–299.

Almost all of the burials are poorly furnished with one or two objects from the category of decorations, dress accessories or tools of daily use, and fragments of pottery. Against this background, only grave 132, in which a person of the *iuvenis* age was buried, stands out. This is one of the richest graves discovered at the cemetery. Its contents included, among other things, three brooches, two bracelets, a necklace composed of beads and pendants, and an “eastern-Przeworsk” segmented belt.

Adultus

This class is characterised by the most diverse grave goods. Artefacts other than potsherds were discovered in



Fig. 73. Reconstruction of the dress of the child buried in grave 702.
Drawn by P. Holub

approx. 70% of the features. Grave contents most often included dress accessories, which were discovered in 25 graves (62.5% of the burials in this class). Among the individual forms, brooches were the most common and were found in almost every second grave. The features usually contained one fibula each, less often – two or three. Decorations (bracelets, beads, pendants) and belt elements, including the first appearance of strap-ends, were also relatively common. Among objects of daily use, of note are crescent-shaped knives, characteristic of graves from phases I–III of the cemetery’s use, and iron elements of caskets, which were discovered only in graves from phase V. Other artefacts accompanying the remains of individuals in this age category include spindle whorls, needles, awls and hooked pins. Moreover, fragments of a bronze vessel were discovered in one of the graves (61). The presence of animal bones was recorded in 35% of the graves.

Dress accessories of the buried persons usually consisted only of a fibula or fibulae. In a few cases, the brooch (brooches) was supplemented by a pin and/or metal belt elements, or decorations: a bracelet or beads. In exceptional cases, there were no brooches found among the items of clothing or ornaments.

Maturus

The characterisation of the contents of graves of this age class was based on 14 grave assemblages. Due to this small number, the following observations should be treated with caution. One feature specific only to the *maturus* class is the presence of weapons (Fig. 74). As already indicated (cf. Subchapter 3.1), such artefacts are dated to the earliest phase (phase I, possibly I–IIa) of the cemetery’s functioning. This age category is also characterised by the lowest percentage of features containing only potsherds, i.e., approx. 14%. Dress accessories were recorded in 11 graves (78% of the total). Among them, brooches were the most numerous, with usually two specimens per grave, slightly less often – one or three. They were usually not accompanied by other dress elements. The exception is grave 224, where, besides two brooches, two pins were also found, but it is difficult to assess whether they were (both?) originally part of the buried person’s outfit. Belt fittings and glass beads were discovered in several graves. This list of grave contents is complemented by objects of daily use, such as a spindle whorl, an awl, a needle, a crescent-shaped knife and a straight knife. Animal bones were found in every second grave. In contrast to the previously discussed classes, *adultus* in particular, no bracelets, buckles or casket parts were discovered in the graves of the *maturus* individuals. However, their



Fig. 74. Reconstruction of the dress and equipment of the person at the age of *maturus* buried in grave 402.
Drawn by P. Holub

absence may be the result of the small number of graves included in this category.

Children and adults

The general description of grave goods found in the burials of children and adult individuals was based on the contents of 222 features (Table 26). The graves of adults are dominant, accounting for 59% of the total number given.

The graves of non-adults, with a few exceptions, were modestly furnished. Nearly half of the features contained only potsherds. In general, the contents of the

Table 26. Przeworsk culture graves included in the description of grave goods in the burials of adult and non-adult individuals

Age	Grave no.	Quantity
non-adult individuals	9, 15, 22, 34, 36, 38, 39, 42, 51, 55, 68, 74, 103A, 104, 105, 122, 125, 133, 137, 140, 155, 160, 165, 180, 187, 190, 222, 243, 250, 251, 277, 303, 314, 331, 333, 339, 348, 358, 365A, 378, 398, 400, 401, 403, 407, 408, 410, 450, 451, 517, 518, 525B, 532, 533, 605, 606, 611, 615, 631, 656, 657, 660, 689, 702, 704, 705, 711, 713, 718, 730, 731, 734, 740, 830, 834, 837, 857, 859, 861, 862, 869, 885, 920, 930, 946, 967, 985, 1024A, 1026B, 1035, 1047, 1048	92
adult individuals	2/1961, 2, 3, 5, 6, 7, 10, 13, 20, 23, 26, 27, 29, 32, 41, 43, 44, 45, 46, 47, 48, 54, 59, 61, 62, 63, 65/66, 70, 73A, 73B, 76, 77, 81, 84, 85/86, 89, 91, 95, 100, 101, 110, 111, 114, 115, 117, 118, 121, 129, 132, 136, 138, 141, 146, 147, 148, 153, 154, 157, 191, 201, 203, 218, 224, 225, 240, 242, 248, 253, 255, 261, 262, 267, 288, 300, 332, 335, 336, 338, 351, 353, 357, 363, 364, 371, 396, 397, 399, 402, 404, 405, 406, 413, 429, 452, 472, 476, 477, 479, 500, 516, 521B, 522, 526, 527, 529, 538, 591, 593, 604, 637, 655, 678, 692, 701A, 706, 717, 738, 798, 839, 850, 856, 860, 864, 970, 979, 1019, 1021, 1022, 1024C, 1026A	130

children's graves largely correspond to those found in the burials of individuals at the age of *infans I*. This remark applies particularly to dress accessories. However, greater differences are observed in the case of everyday objects. The percentage shares of many forms, e.g., spindle whorls, needles and awls, are slightly higher in the case of the features analysed here. Several graves of children (of undetermined age) also contained objects that were not found in the graves of individuals of the *infans I* or *infans II* age, e.g., a crescent-shaped knife, a straight knife and a hooked pin. Children's graves did not contain weapons, strap-ends, and glass and bronze vessels. Burnt animal bones were recorded in 21.7 % of the graves.

The furnishings of the adult graves were richer than those of the children's burials. The percentages presented in Table 27 show that artefacts of almost every category were found across more features. Objects other than clay vessel fragments were recorded in more than 70% of the graves. Among them, the most abundant were brooches, which were found in about 43% of the burials, with usually one specimen per grave, less often – two or three. Belt elements – primarily various fittings

Table 27. Percentage of Przeworsk culture graves with specified contents in the burials of adult and non-adult individuals

Contents	Age category	
	non-adults (n=92)	adults (n=130)
brooch	17,4	30,8
2 brooches	10,9	6,2
3 brooches	2,2	6,2
pin	2,2	2,3
buckle/belt hook	2,2	3,8
belt fitting	1,1	6,2
strap-end	–	2,3
bracelet	3,3	6,2
beads	9,8	12,3
pendant	7,6	10,0
casket	1,1	3,1
comb	2,2	1,5
hooked pin	2,2	5,4
spindle whorl	8,7	14,6
needle	6,5	8,5
awl	4,3	9,2
straight knife	1,1	0,8
crescent-shaped knife	3,3	6,2
weaponry	–	2,3
Roman vessel (glass, metal or clay)	–	0,8
another metal object	15,2	30,8
pottery only	45,7	29,2
animal bones	21,7	32,3

and buckles or belt hooks, and, in exceptional cases, also strap-ends – were also relatively often recovered from the graves of adults. Decorations were most often represented by bracelets and necklace components, sometimes in the form of several beads and pendants. In general, the elements of the attire of individual adults included brooches only (most often), brooches and belt parts, brooches and decorations, or – least frequently – all of the above. Tools and objects of daily use were also placed in the discussed graves in large numbers.

Table 28. Przeworsk culture graves containing human remains of the specified sex

Sex	Grave no.	Quantity
female	2/1961, 7, 13, 23, 26, 32, 46, 62, 65/66, 73A, 76, 100, 111, 132, 191, 240, 242, 253, 261, 288, 300, 332, 336, 353, 357, 363, 364, 396, 397, 399, 405, 413, 429, 521B, 522, 526, 527, 529, 604, 1022, 1024C	41
male	10, 70, 121, 138, 224, 262, 406, 452, 538, 591, 738, 864, 979, 1019, 1021	15

The most numerous in this group are spindle whorls, and needles, awls and, in phases I–III of the cemetery's use, crescent-shaped knives are also common. Other objects, e.g., caskets and straight knives, are noted only sporadically. Moreover, fragments of an unspecified bronze vessel were discovered in one grave, and three graves yielded elements of weaponry. The latter are characteristic only of adult burials from phase I, possibly I–IIa, of the cemetery's functioning. Almost every third adult grave contained animal remains.

6.1.2. GRAVE GOODS AND THE SEX OF THE DECEASED

The sex of individuals interred in single-burial graves was determined, usually tentatively, in 56 cases. Females are dominant, as their remains were identified more than twice as often as male ones (Table 28).

The contents of female graves (Table 29) are generally similar to the grave goods found in the *adultus*-class burials (cf. Table 25), as is the percentage of graves containing potsherds only (about 30%). Female dress accessories usually included one fibula, and rarely – two or three. A single brooch was usually the only metal element of the outfit. In the cases where the robe was fastened with two or three fibulae, other dress accessories, such as belt elements, and/or decorations (beads, pendants and bracelets) were also recorded more often (Fig. 75), albeit not always. In six cases, the dress accessories found in the graves did not include fibulae and consisted only of belt parts and/or decorations. Tools and utensils were discovered in many features – spindle whorls were the most common. Needles and awls were also numerous. Hooked pins, crescent-shaped knives, metal elements of caskets and, exceptionally, a comb were also found in several graves. Animal remains were recorded in every other female grave.

The burials in which the remains of men were discovered were relatively poorly furnished. These graves do not really stand out compared to the graves of chil-



Fig. 75. Reconstruction of the dress of the woman buried in grave 132. Drawn by P. Holub

dren and women. The dress accessories discovered in these features were limited to brooches, which were recorded in half of the graves. The number of fibulae in individual features ranged from one to three, but the percentage of graves with one, two or three fibulae is similar. Decorations were rarely recorded and included fragments of bracelets and glass beads (or their fragments). Scarce tools or everyday objects are represented by forms known from the women's graves, e.g., a spindle whorl, needle, hooked pin and an awl. However, in some cases, there are doubts about the accuracy of the identification of the skeletal remains as belonging to men. This applies to, e.g., grave 738, where a fragment

Table 29. Percentage of Przeworsk culture graves with specified contents in the burials of men and women

Contents	Sex	
	female (n=41)	male (n=15)
brooch	29,3	20,0
2 brooches	4,9	20,0
3 brooches	12,2	13,3
pin	–	13,3
buckle/belt hook	9,8	–
belt fitting	12,2	–
strap-end	7,3	–
bracelet	9,8	6,7
beads	14,6	13,3
pendant	7,3	–
casket	4,9	–
comb	2,4	–
hooked pin	7,3	6,7
spindle whorl	19,5	13,3
needle	9,8	6,7
awl	7,3	13,3
straight knife	–	6,7
crescent-shaped knife	4,9	–
weaponry	–	–
Roman vessel (glass, metal or clay)	–	–
another metal object	26,8	13,3
pottery only	34,1	13,3
animal bones	41,5	53,3

of a bracelet, i.e., a decoration characteristic primarily of women's clothing,¹²⁸⁴ was discovered, as well as grave 224, whose contents, in addition to a spindle whorl, hooked pin and needle, included two brooches. One of them is similar to type H, which is also associated with women's clothing (cf. Subchapter 2.1.1). The contents of both features indicate that they were likely women's graves. The problem of inconsistency between archae-

¹²⁸⁴ Cf. K. Czarnecka 1990, 39, 43, table 6. This remark applies primarily to graves from the early Roman period.

ological sex markers and anthropological determinations has been repeatedly reported in the literature.¹²⁸⁵

In such cases, an interpretation based on the characteristics of the grave goods is usually considered more likely, or the “inconsistent” items are assigned some symbolic meaning.¹²⁸⁶

The graves of men did not contain belt elements and, above all, weapons. The lack of the latter may be explained by the specificity of the funeral rites practised by the people using the Kleszewo cemetery (cf. Subchapter 7.3).

6.1.3. CONTENTS OF GROUP GRAVES

At the cemetery, there were 13 graves containing the remains of two people. In all cases, an adult (five times – a woman, twice – a man, six times – the sex was not determined) and a child were buried together (cf. Tables 15 and 17). This configuration also dominates among double burials discovered at other cemeteries of the Przeworsk culture.¹²⁸⁷ Most of the double graves from Kleszewo are richly furnished (Table 30). However, their contents, in terms of the number of artefacts and forms of objects, do not differ from the grave goods found in single adult burials. Therefore, it is difficult to determine whether the artefacts found in them originally belonged to only one of the buried people (the adult?) or both. The former option seems more likely (Fig. 76).

* * *

An attempt to compare the characteristics of the Kleszewo grave assemblages in individual age and sex classes with observations made for the entire Przeworsk culture is possible in the case of burials of people at the ages of *infans I* and *adultus*, women and men, and, in general, children and adults. The Kleszewo assemblages associated with other classes are small, so the overall picture of their contents may be significantly distorted. The nature of the grave goods found in the Kleszewo burials differs from the typical grave assemblages of the Przeworsk culture.¹²⁸⁸ This is due to the fact that, from phase II of the Kleszewo cemetery’s functioning onwards, no objects considered to be archaeological markers of male burials are found at the site in question. This applies not only to weapons, traditionally attributed to men, but also spurs, fire strikers and fire-

¹²⁸⁵ K. Czarnecka 1990, H12–14; H. Derks 2012, 235–237; A. Maciałowicz, M. Woźniak 2015, 242.

¹²⁸⁶ Cf. J. Zagórska-Telega 2019, 160.

¹²⁸⁷ K. Czarnecka 1990, 90–91; A. Wiśniewska 1999; J. Zagórska-Telega 2019, 131–140.

¹²⁸⁸ Cf. K. Czarnecka 1990, 42–52.

Table 30. Percentage of Przeworsk culture group graves with specified contents

Contents	Individuals		
	woman + child (n=5)	man + child (n=2)	adult + child (n=6)
brooch	20,0	–	16,7
2 brooches	60,0	–	16,7
3 brooches	–	50,0	33,3
pin	20,0	–	
buckle/belt hook	20,0	50,0	16,7
belt fitting	–	50,0	–
strap-end	–	50,0	–
bracelet	40,0	–	–
beads	–	–	33,3
pendant	20,0	–	16,7
casket	–	100,0	16,7
comb	20,0	–	–
hooked pin	–	–	–
spindle whorl	60,0	–	16,7
needle	20,0	–	–
awl	–	–	16,7
straight knife	–	–	–
crescent-shaped knife	20,0	–	16,7
weaponry	–	–	–
Roman vessel (glass, metal or clay)	–	–	–
another metal object	100,0	–	66,7
pottery only	–	–	–
animal bones	100,0	100,0	33,3

-flints, whetstones, scissors, drinking horn terminals, specialised (e.g., blacksmithing) tools, as well as certain elements of clothing associated with the warriors’ equipment, i.e., buckles with a figure-of-eight-shaped frame, ones with a pin extending into a buckle plate, and those with a rectangular frame and double pin, as well as strap-ends typical of this category.¹²⁸⁹ None of

¹²⁸⁹ Cf. R. Madyda-Legutko 1990; 1999; 2011, 108–122; P. Iwanicki 2015; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 137–139.

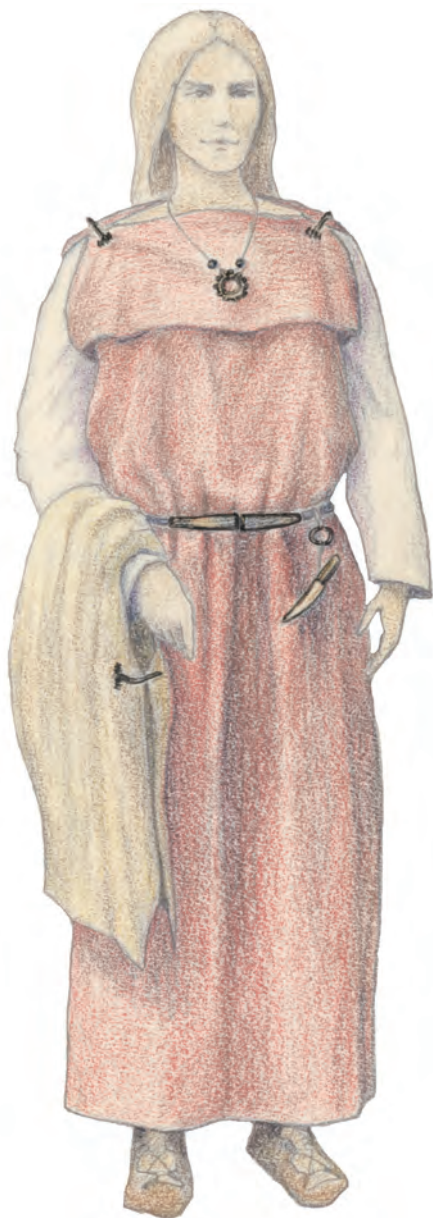


Fig. 76. Reconstruction of the dress of the adult individual buried in grave 200B. Drawn by P. Holub

the graves yielded a pair of knives, which is sometimes also considered to be a trait characteristic of men's graves.¹²⁹⁰ The contents of the Kleszewo graves are, therefore, more uniform in nature than those discovered at other Przeworsk culture cemeteries.

The elements characteristic of women's graves in the Przeworsk culture include necklaces, beads, pendants, bracelets, casket parts and more than one brooch, while of men's graves – the above-mentioned forms of artefacts, which are not found at the analysed ceme-

tery. At Kleszewo, the differentiation of grave goods in relation to the sex of the buried individuals could be observed for belt elements, combs, caskets, beads, pendants, crescent-shaped knives, discovered only in women's graves, and pins and straight knives, found only in men's burials. Spindle whorls and bracelets were recorded more often in women's graves than in those of men, which is consistent with observations made for the entire Przeworsk culture. Regarding the men's graves, what is noteworthy is the relatively high percentage of features with several fibulae and the lack of buckles, which is unusual for this group. The cemetery at Kleszewo finds more elements in common with other cemeteries of the Przeworsk culture when considering the contents of the children's graves of *infans I* class. In both cases, brooches were most frequently deposited in such graves, while other objects, such as caskets, knives, buckles or combs, were placed in the pits sporadically. The most abundant grave goods, both at Kleszewo and other Przeworsk culture cemeteries, are found in the *adultus*-class graves. However, the specificity of the titular burial ground means that the possibility of relating the grave goods discovered at the site to the average grave furnishings found in the entire Przeworsk culture is very limited and can only be attempted for graves with a female (or rather: non-male) grave good model, as has been done above.

6.2. WIELBARK CULTURE

6.2.1. GRAVE GOODS AND THE AGE OF THE DECEASED

The age of the people buried in the single graves of the Wielbark culture was determined in 69 cases (Table 31), but only 31 determinations were precise. Except for the youngest individuals, only a few people were assigned to each class, which should be kept in mind when analysing the lists below. Clear differences in the wealth of grave goods in particular age classes are visible when funeral rites are also taken into account. Inhumation burials are usually characterised by more abundant contents. Unfortunately, in most graves of this type, the human remains have completely decomposed or have been preserved in small fragments that did not provide any basis for determining the age or sex of the deceased. As a result, a significant part of the richest assemblages discovered at the cemetery could not be included in the considerations below.

Fetus and infans I

The remains of children at the age of *fetus*, *fetus/infans I* or *infans I* were discovered in 15 graves, five of

¹²⁹⁰ K. Czarnecka 1990, 43.

Table 31. Wielbark culture graves included in the description of grave goods in relation to the age of the buried individuals (the bolded font marks inhumation graves)

Age	Grave no.	Quantity
<i>fetus, fetus/infans I or infans I</i>	150, 175, 177, 184, 186 , 195, 356, 629, 636 , 695, 703, 724, 739, 750, 883	15
<i>infans II</i>	597, 601?, 619	3
<i>iuvenis</i>	258, 708	2
<i>adultus</i>	174, 355, 385 , 411, 415C	5
<i>maturus</i>	257, 524, 534, 634 , 881, 887	6

which were inhumation graves and ten were cremation graves. The grave goods in the individual features differ significantly depending on the funeral rite. Brooches were discovered in all inhumation graves, in one or two copies; in the case of the cremation graves, the presence of such artefacts was reported only once. In the inhumation graves, beads and pendants were encountered more often and in larger numbers (Fig. 77); on the other hand, those graves contained no combs, unlike the cremation burials, which yielded six of these items.¹²⁹¹ The cremation grave contents sometimes included fragments of destroyed metal objects, usually of an unspecified form, and potsherds, usually burnt. Whole vessels were found in the inhumation graves. Other categories of items were recorded less frequently. In terms of other dress accessories, belt fittings were recorded twice, albeit not in the same graves as fibulae. Utensils were represented by hooked pins (three times) and an iron blade, probably a knife. A fragment of a *terra sigillata* vessel was also discovered in one of the graves.

Infans II

The grave assemblages included in this class are poor. The richest one contains a brooch, beads, a spindle whorl, fragments of clay vessels and melted glass, perhaps from a vessel. Two other graves contained more modest grave goods, i.e., pottery and melted fragments

¹²⁹¹ The higher frequency of antler comb fragments found in the cremation burials in a pit could theoretically result from the funeral rite. At Kleszewo, most unburnt bones have either completely or almost completely decomposed, which was not the case with the pit graves. Nevertheless, the lack of comb rivets in the inhumation graves suggests that combs were indeed less often deposited in burials of this type.



Fig. 77. Reconstruction of the dress of the child buried in grave 750. Drawn by P. Holub

of glass from a vessel or beads. Animal bones were also found in one of the graves.

Iuvenis

This class is represented by only two burials. Their contents consisted of one or two fibulae, beads and pendants, and a comb. One of the graves yielded a miniature knife, the other – an iron object and animal bones. Burnt potsherds were found in the fills of both features.

Adultus

Five graves contained the remains of individuals at the age of *adultus*. The richest of them is an inhumation burial with a pair of fibulae, a buckle, a bead necklace and a clay vessel. The remaining graves are cremation burials. Dress accessories were recorded in three of them, in the following configurations: a brooch only, a brooch and buckle, a buckle and beads. Pieces of antler combs and small fragments of metal objects were discovered in three features. Burnt potsherds were recorded in all cremation burials.

Table 32. Percentage of Wielbark culture graves with specified contents in the burials of non-adult and adult individuals

Contents	Age category	
	non-adult (n=34)	adult (n=30)
brooch	14,7	20
2 brooches	5,8	6,7
≥3 brooches	2,9	-
buckle	14,7	26,7
strap-end	2,9	3,3
beads	55,9	40
pendant	8,8	13,3
comb	38,2	53,3
hooked pin	8,8	-
spindle whorl	5,8	3,3
needle	2,9	6,7
knife	5,8	3,3
another metal object	35,2	43,3
Roman vessel (glass, metal or clay)	8,8	10
animal bones	11,8	13,3

Maturus

The remains of the deceased at the age of *maturus* were discovered in four cremation graves and two inhumation graves. The burials were modestly furnished. A fibula was found in one case only, two other features contained buckles; in two cases, said objects were accompanied by a few beads and pendants. On the other hand, the graves of the class in question included relatively numerous everyday objects. In addition to combs, which were discovered in two graves, needles (twice, in one case – probably with a needle-holder) and a bronze vessel were also found. All cremation graves contained burnt fragments of clay vessels, and one of the inhumation graves yielded a completely preserved bowl.

Children and adults

In most cases, the age of the people buried in the Wielbark culture graves was not precisely defined as one class, therefore, these features could not be included in the analyses presented above. However, their contents often provide a lot of valuable information, e.g., regarding the reconstruction of the dress. Hence, an

Table 33. Wielbark culture graves included in the description of grave goods in the burials of non-adult and adult individuals (the bolded font marks inhumation graves)

Age	Grave no.	Quantity
non-adult individuals	150, 163A, 175, 177, 184, 186 , 195, 356, 386, 412 , 597, 601, 609, 619, 629, 636 , 693, 695, 703, 707, 721B, 724, 739, 750 , 851, 863, 883, 884 , 918, 919, 950, 957, 1013, 1027A	34
adult individuals	166, 174, 185, 257, 258, 355, 380, 385 , 411, 414, 415C, 474, 483, 505, 514, 524, 534, 634 , 640, 641, 699, 708, 721A, 728, 858, 881, 887 , 915, 953, 954	30

attempt was made to characterise the grave goods of non-adults and adults in general (Table 32). This analysis was based on the contents of 64 graves, including 34 graves of non-adults and 30 graves of adult individuals (Table 33).

The most frequently recorded category of artefacts in the graves of non-adults consists of beads, which were discovered in more than half of the features. Their number in the cremation graves is usually limited to a few pieces. On the other hand, the inhumation yielded more specimens, even up to several dozen, and in the case of grave 884 – about 240 (Fig. 78). Among dress accessories, the most frequently discovered artefacts were brooches, whose numbers in individual features ranged from one or two (rarely) up to – in one case – five. Regarding that last occurrence, only three brooches were part of the outfit worn by the buried person, the remaining two were grave gifts. Most of the fibulae, including all those discovered in pairs or in a larger number, were found in the inhumation graves. Other elements of clothing were recorded less frequently, e.g., buckles were found in six graves – two of them also contained brooches. Combs, which were discovered in 13 features, are clearly the most common of the objects of daily use. They come mainly from the cremation graves. The equipment of non-adults included simple tools, e.g., hooked pins, spindle whorls and a needle, as well as imported vessels: a glass beaker and *terra sigillata* bowl (?). Animal bones were discovered in the fills of four pits.

The contents of the adult graves are similar to the grave goods of non-adults. It should be emphasised, however, that, in this case, a much larger percentage (90% compared to 75% in the case of the graves of non-adults) are cremation graves, which are usually



Fig. 78. Reconstruction of the dress of the non-adult individual (a girl?) buried in grave 884.
 Drawn by P. Holub

characterised by significantly poorer furnishings. This predominance of cremation graves seems to be related to the high percentage of combs and unspecified metal objects, usually preserved in the form of fragments of wires, rods or plates. The outfit of adult individuals most often included beads, sometimes also pendants and one or two brooches. In two cases, this set was accompanied by a buckle. However, buckles were more often discovered in the graves that did not contain fibulae. Working tools, e.g., needles and spindle whorls, were rarely found in the graves of adults. Among other categories of artefacts, noteworthy is the bronze ves-

Table 34. Wielbark culture graves included in the description of grave goods of individuals of specified sex (the bolded font marks inhumation graves)

Sex	Grave no.	Quantity
female	258, 411, 483, 708, 953	5
male	257, 355, 380, 524, 534, 634 , 887	7

sel from grave 524. Animal remains were recorded in three graves.

The compilation presented above (Table 32) shows that the grave goods of non-adults and adults did not differ from each other to a significant degree, especially in relation to dress accessories. Buckles and metal pendants were more often found in the graves of adults. In the graves of non-adults, beads and, to a small extent, more than two fibulae were recorded more often. A feature specific to the graves of non-adults was the presence of hooked pins, which, in combination with the higher percentage of spindle whorls in the graves of this group, may suggest some symbolic significance of placing a spindle in children's graves.

6.2.2. GRAVE GOODS AND THE SEX OF THE DECEASED

The sex of the deceased buried in the Wielbark culture graves was determined only in 12 cases (Table 34), which constitutes approx. 40% of all the adult burials. All the women's graves were cremation burials, while the men's graves were cremation burials and, less often, inhumation burials.

The graves with the remains that were identified as female were poorly furnished. Two of them contained brooches (one or two), and two other graves yielded buckles. Decorations in the form of beads and, less often, pendants were found in the two graves with brooches and one with a buckle. Everyday items were represented only by combs and a knife. All graves contained potsherds, three contained nondescript fragments of metal objects, and two contained animal remains.

The contents of the men's graves are also not very impressive, which applies to both forms of the funerary rite. A single brooch was found in two graves, and three features contained buckles (Fig. 79). Decorations, discovered in three features, were limited to isolated beads and/or pendants. Among objects of everyday use, the most common were combs (found four times) and needles (found twice, including one with a needle-holder?). Fragments of a bronze vessel were discovered in grave



Fig. 79. Reconstruction of the dress of the man buried in grave 355. Drawn by P. Holub

524. In most cremation burials, fragments of unspecified metal objects and potsherds were also recorded, and in two cases – animal bones. One of the inhumation graves contained whole vessels.

6.2.3. CONTENTS OF GROUP GRAVES

At Kleszewo, there were only two group graves attributed to the Wielbark culture.¹²⁹² Both are cremations.

¹²⁹² Graves 359 and 1027B.

One contained the remains of people at the ages of *adultus-maturus* and *infans I*, the other – of an adult and a child. Both features were poorly furnished. In grave 359, the grave goods consisted of a brooch, belt fittings and a comb, in grave 1027B – a comb. Both graves also contained potsherds.

An attempt to compare the characteristics of the grave assemblages from Kleszewo with those of the grave goods of individual age and sex classes defined for the entire Wielbark culture¹²⁹³ is only possible to a limited extent. This is due to the fact that the latter findings were based to a considerable degree on the material from Greater Poland and Pomerania dating to the Lubowidz phase,¹²⁹⁴ which is, on the one hand, more abundant, and, on the other hand, chronologically older than the material from Kleszewo. Consequently, said description does not take into account the specificity of sites from Mazovia, Podlachia and western Belarus, which has already been pointed out many times.¹²⁹⁵ Therefore, for the purposes of this study, the main features of the contents of Wielbark culture graves from the zone of interest have been summarised (Table 35).¹²⁹⁶ However, it should be borne in mind that some of the inclu-

¹²⁹³ Cf. K. Skóra 2015a, 69–93; 2020, 83–106.

¹²⁹⁴ Cf. R. Wołągiewicz 1981.

¹²⁹⁵ Cf. J. Andrzejowski 2001c, 111; 2005b, 117.

¹²⁹⁶ The compilation accounts for 557 graves found at the cemeteries at Białowieża (T. Dzierżykray-Rogalski, J. Jaskanis 1961), Brulino-Piwki (A. Kempisty 1968; A. Wierciński 1968), Brėst-Tryšyn (Ū.V. Kuharenko 1980), Cecele (J. Jaskanis 1996), Dąbek, site 9 (A. Mistewicz, A., Maciałowicz, M. Woźniak 2021), Goździk, site 1 (A. Niewęglowski 1984, 131–154), Jartypory (J. Andrzejowski, A. Żórawska, M. Biborski, W. Kapla 2002; A. Żórawska 2006; J. Andrzejowski, A. Przychodni 2008; J. Andrzejowski, T. Rakowski, K. Watemborska 2010; 2011; 2016), Krupice (J. Jaskanis 2005), Kuczbork-Osada (A. Szela 2018a), Kutowa, site II (J. Jaskanis 2012, 159–194), Modła (J. Andrzejowski 2009), Nadkole, site 1 (J. Andrzejowski, A. Żórawska 2002), Niedanowo (W. Ziemińska-Odojowa 1999a), Stary Szelków (R. Prochowicz 2013), Wielka Kletna range (D. Krasnodębski, M. Dulnicz, T. Samoljik, H. Olczak, B. Jędrzejewska 2008), Wyszomierz (T. Rakowski 2020). The analysis does not include the contents of graves found under the so-called Rostołty barrows (cf. J. Jaskanis 1976; 2012; A. Cieśliński 2014). These tombs are associated with burials of barbarian elites (cf. K. Skóra 2015a, 226–228; 2020, 276–278), and their furnishings differ slightly in character (e.g., many objects made of precious metals, unique artefact forms – cf. J. Jaskanis 2012, 217–244) from the grave goods found in flat graves, which makes the comparative analysis more difficult. Moreover, such mounds were not discovered at Kleszewo.

ded sites functioned in a chronological range different from the one established for the titular cemetery, i.e., longer, shorter or at a different time. The mono- or bi-cultural nature of particular cemeteries has also had a significant impact on the number of graves taken into account, and, consequently, on the percentage of assemblages with the selected characteristic. In the case of mixed Przeworsk-Wielbark culture sites, the number of burials attributed to the Wielbark culture is certainly lower than the actual one, as it does not take into account poorly furnished features and those without grave goods, since they could not be unambiguously assigned to one or the other of the cultural units in question. The example of the almost¹²⁹⁷ monocultural cemetery at Cecele indicates that such burials could constitute up to half of the total number of graves.¹²⁹⁸

In general, grave goods discovered at Mazovian-Podlachian cemeteries of the Wielbark culture consisted of:

- fibulae, usually one or two, rarely – three, exceptionally – four;
- belt buckles and, sometimes, other fittings, including strap-ends;
- bone pins;
- decorations: isolated beads or pendants, or necklaces composed thereof, exceptionally – bracelets and S-shaped fasteners;
- small tools and utensils, usually limited to bone combs, spindle whorls, needles and, sometimes, knives and casket elements;
- spurs in exceptional cases;
- locally made pottery and imported vessels (clay, metal or glass).

The above-mentioned elements appeared in individual features in various configurations. Statistically, the poorest grave goods were found in the burials of children at the age of *fetus/infans I* and *infans I*, which also account for most of the unfurnished graves. The most common dress accessories were brooches – one or, less often, two specimens per feature – accompanied by glass and/or – in inhumation graves – amber beads and less numerous metal pendants. Belt buckles were rarely found in the graves of small children. Combs dominated among everyday objects; other objects from this category (spindle whorls, needles, hooked pins, knives) were found in a small percentage of burials.

¹²⁹⁷ As three graves from the late pre-Roman period were recorded at this cemetery, it cannot be ruled out that some of the features without any grave goods also date to this period. If that were the case, they would constitute a rather small percentage of all the unfurnished burials, which would not significantly alter the general image of Wielbark culture cemeteries.

¹²⁹⁸ J. Jaskanis 1996, 97.

Fragments of imported glass vessels were discovered in two features.¹²⁹⁹ Against this background, the contents of grave 130 from Stary Szelków definitely stand out, as they consisted of, among others, three brooches, a buckle and numerous necklace components;¹³⁰⁰ grave 81 from Cecele, with four fibulae and a dozen or so beads, is also unusual.¹³⁰¹

The graves of older children (*infans II*) were generally characterised by contents similar to the grave goods of the individuals at the age of *infans I*. The most frequently recorded elements, apart from potsherds, were fibulae, which were discovered in every third grave. They usually appeared as a single specimen, exceptionally in two¹³⁰² or three copies.¹³⁰³ Beads and combs were also common finds in the graves of children of *infans II*. The former were found in 22.5% of the features, the latter in 25%. Compared to the contents of the graves of children of the *infans I* age, neck decorations were slightly less common, while combs appeared slightly more often. The grave goods of the class discussed included few tools (spindle whorls and needles). Moreover, a fragment of a glass vessel was discovered in one of the graves.¹³⁰⁴

The grave goods of the *iuvenis* class differ from the two mentioned above, both in terms of the number of individual forms and the presence of new ones. Fibulae were still the most common category, with a similar percentage of graves containing either one or two specimens, but three brooches in a single feature were still rarely recorded. Beads and pendants, as well as buckles, were common outfit elements. Those last ones were discovered in every fifth feature. Two graves,¹³⁰⁵ dating exclusively to phases B₂/C₁–C_{1a}, contained bracelets, not encountered in the previously discussed age categories. Imported vessels, as well as everyday objects and tools, had a greater share in the assemblages, especially spindle whorls, which were discovered in 23.8% of the features (in the classes of *infans I* and *infans II* – 3.7% and 2.5% respectively). In general, the grave goods of

¹²⁹⁹ Modła, grave 176 (J. Andrzejowski 2009, 164, pl. 3.85/176), Niedanowo, grave 589 (W. Ziemińska-Odojowa 1999a, 101, pl. CCVII/589).

¹³⁰⁰ R. Prochowicz 2013, 304–305, fig. 1.2.

¹³⁰¹ J. Jaskanis 1996, 21, pl. XI/81.

¹³⁰² Cecele, grave 533 (J. Jaskanis 1996, 73, pl. LXXI/533).

¹³⁰³ Białowieża, unnumbered grave (T. Dzierżykray-Rogalski, J. Jaskanis 1961), Niedanowo, grave 463 (W. Ziemińska-Odojowa 1999a, 84, pl. CLXVIII/463).

¹³⁰⁴ Jartypory, grave 122 (J. Andrzejowski, A. Żórawska, M. Biboński, W. Kapla 2002, 255, fig. 5:5).

¹³⁰⁵ Niedanowo, graves 125 and 411 (W. Ziemińska-Odojowa 1999a, 30, 77, pl. XXXVI/125:3, CL/411:3).

Table 35. Percentage of Wielbark culture graves from Mazovia, Podlachia and western Belarus with specified contents in the burials of individuals of the given age or sex

Contents	Age category					Sex	
	<i>infans I</i> (n=161)	<i>infans II</i> (n=40)	<i>iuvenis</i> (n=42)	<i>adultus</i> (n=90)	<i>maturus</i> (n=104)	female (n=226)	male (n=93)
1 brooch	12,4	27,5	16,7	21,1	30,8	24,8	18,3
2 brooches	8,1	2,5	14,3	10	5,8	11,9	5,4
≥3 brooches	1,2	5	4,8	2,2	0,9	2,2	–
bracelet	–	–	4,8	2,2	3,8	1,8	4,3
bone pin	–	–	–	3,3	0,9	2,2	–
belt buckle	4,3	2,5	21,4	17,8	21,1	17,3	18,3
belt fitting	–	–	–	1,1	2,9	0,9	2,1
strap-end	0,6	–	–	1,1	4,8	0,9	4,3
S-shaped fastener	–	–	–	2,2	–	0,9	–
beads	26,1	22,5	28,6	25,6	20,2	28,8	16,1
pendant	6,8	7,5	16,7	5,5	4,8	5,7	5,4
comb	17,4	25	23,8	50	30,8	38,5	22,6
hooked pin	0,6	–	7,1	2,2	1,9	2,6	1,1
spindle whorl	3,7	2,5	23,8	17,8	14,4	19,5	7,5
needle	3,1	7,5	7,1	3,3	1,9	4,9	1,1
knife	0,6	–	–	–	1,9	–	1,1
casket	–	–	–	1,1	2,9	1,3	1,1
spurs	–	–	–	–	2,9	–	2,1
Roman vessel (glass, bronze or clay)	1,2	2,5	7,1	4,4	3,8	4,4	6,4
another metal object	10,5	7,5	11,9	21,1	19,2	16,8	19,3
pottery only	19,2	20	21,4	15,6	9,6	15	20,4
none	24,8	17,5	14,3	4,4	17,3	11	12,9

adolescents more resemble those found in the graves of adults who died at the age of *adultus* and *maturus* (cf. below) than those of children.

The burials of people in the *adultus* and *maturus* age classes contained similar grave goods, however, in the case of the latter, the percentage of unfurnished graves is much higher. In both classes, dress accessories included one or, rarely, two fibulae; exceptions include graves with three brooches.¹³⁰⁶ Commonly encoun-

¹³⁰⁶ *Adultus*: Cecele, grave 436 (J. Jaskanis 1996, 59, pl. LIII/436). *Maturus*: Kuczbork-Osada, feature 22 (A. Szela 2018a, 24, pl.

tered elements were belt buckles; sometimes, other belt fittings, including strap-ends, were also present. In several cases, the presence of two or three buckles and, sometimes, the corresponding number of fittings indicates that there were several belts deposited in the pits.¹³⁰⁷ However, it is difficult to assess whether

XVII/22), Wyszomierz, feature 228 (T. Rakowski 2020, 331–332, fig. 11/228).

¹³⁰⁷ *Adultus*: Cecele, grave 399 (J. Jaskanis 1996, 55, pl. XLVI-II/399), Modła, grave 133 (J. Andrzejowski 2009, 141–142, pl. 3.62/133), Nadkole, site 1, grave 4 (J. Andrzejowski, A. Żóraw-

all of them were used by the buried person at the same time, or whether some of them were grave offerings. The graves of adults also yielded – not recorded in the burials of younger people – bone pins, S-shaped fasteners (only in the *adultus* class) and metal casket elements, as well as bracelets – already known from the graves of adolescents. Such artefacts come exclusively from features dated to phases B₂/C₁–C_{1a}.¹³⁰⁸ Common utensils included spindle whorls and combs. The latter, in the *adultus* class, were found in every other feature. On the other hand, the finds of spurs are strongly correlated with the *maturus* class.

The contents of male and female graves are not much different from one another. The main variation between both groups can be observed in the frequency of occurrence of particular forms of artefacts. This is, to a significant extent, the result of the funeral customs, which prohibited the deposition in graves of weapons and specialised tools, i.e., items considered to be male attributes. In the analysed group of features, male graves were characterised by the presence of one or two brooches. In the case of women's burials, the percentage of features with several fibulae is higher. In contrast, men's graves contained more belt fittings (including strap-ends), while the percentage of features with buckles was similar in both groups. The burials of both women and men often yielded necklace components, such as beads and metal pendants, however, in the case of the latter class, necklaces were usually more modest and limited to a few beads. Spindle whorls were also recorded much more often in women's graves. Specific to female burials was the presence of bone pins and S-shaped fasteners (only in the *adultus* class), and to the male ones (*maturus* age) – of spurs. In the area in question, bracelets, strongly correlated with women's burials,¹³⁰⁹ were in most cases found in graves containing remains identified as male (or probably male) of the *maturus* age, which is undoubtedly surprising. However, it is noteworthy that all the men's graves in

ska 2002, 32, pl. III/4), Niedanowo, grave 132 (W. Ziemińska-Odojowa 1999a, 31, 53–54, pl. XXXVII/132). *Maturus*: Cecele, grave 498 (J. Jaskanis 1996, 67, pl. LXI/498).

¹³⁰⁸ Cecele, grave 436 (J. Jaskanis 1996, 59, pl. LIII/436), Nadkole, stan. 1, graves 2 and 51 (J. Andrzejowski, A. Żórawska 2002, 32, 41, pl. II/2, XIX/51), Krupice, grave 156 (J. Jaskanis 2005, 42, pl. XLIII/156), Kuczbork-Osada, feature 24 (A. Szela 2018, 25, pl. XVIII/24), Niedanowo, graves 272, 373, 412, 426, 550, 569, 609 (W. Ziemińska-Odojowa 1999a, 53–54, 71, 77, 79, 96, 98–99, 104–105, pl. XC/272, CXXXVI/373, CL/412, CLVII/426, CXCVIII/550, CCIII/569, CCXVI–CCXVII/609), Wyszomierz, feature 227 (T. Rakowski 2020, 329, 331, fig. 10).

¹³⁰⁹ Skóra 2015a, 90; 2020, 104.

which bracelets were discovered come from only one cemetery.¹³¹⁰ This raises doubts as to the accuracy of the anthropological determinations.

The characteristics of the Kleszewo grave assemblages in comparison with the features from other Mazovian-Podlachian cemeteries of the Wielbark culture presented above, unsurprisingly, show far-reaching similarities. There were no bone pins, S-shaped clasps, bracelets, or casket elements discovered at Kleszewo, but their absence can be quite easily explained by the chronology of the site. Said artefacts are characteristic primarily of the oldest stage of the Wielbark culture in Mazovia and Podlachia, i.e., phases B₂/C₁–C_{1a}.¹³¹¹ In this period, the Kleszewo cemetery was not yet used by the Wielbark culture people. The situation is slightly different in the case of spurs, which were not found at Kleszewo either. In Mazovia and Podlachia, these artefacts appear in Wielbark culture graves throughout the entire younger and late Roman period and in the early Migration period, but their finds in the area in question are very rare.¹³¹² At individual cemeteries, their number is usually limited to one or two specimens, and they are often completely absent, e.g., no such artefacts were discovered at Cecele.¹³¹³ Therefore, the lack of spurs at Kleszewo does not distinguish it significantly from the Mazovian-Podlachian norm. On the other hand, it is difficult to interpret the differences in the frequency of spindle whorls. At Kleszewo, such items were rarely recorded in the graves of adults, whereas they were found several times more often at other cemeteries.

¹³¹⁰ Niedanowo, graves 272, 373, 412 and 550 (W. Ziemińska-Odojowa 1999a, 54, 71, 77, 96).

¹³¹¹ Cf. J. Andrzejowski 2007, 231–232; A. Woźniak 2011, 171; 2016, 209–210.

¹³¹² Cf. A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 159, with older literature. On the subject of spurs in the Wielbark culture – see K. Skóra 2015a, 153–163; 2020, 171–183.

¹³¹³ Cf. J. Jaskanis 1996.

7. KLESZEWO CEMETERY AGAINST THE BACKDROP OF THE LOCAL PRZEWORSK AND WIELBARK CULTURE SETTLEMENT CLUSTER

According to the present state of research, the burial ground at Kleszewo is situated in an area that was almost uninhabited at the time of the cemetery's functioning.¹³¹⁴ Only a few Przeworsk and Wielbark culture sites are known from the region in question, the closest of which – at Przewodowo and Kacice – are located approx. 5 km to the east or south of Kleszewo. The presence of a large and long-lasting cemetery such as the titular site suggests that this picture is more due to the unsatisfactory state of archaeological research, or the absence of publications on the material obtained, rather than a true reflection of prehistoric reality. After all, it can hardly be assumed that no settlements existed in the vicinity of a cemetery that was in use for several centuries. In view of the above, an attempt was made to verify the present status, using archival sources and unpublished museum collections. The research covered a relatively extensive territory of the drainage basin of the Lower Narew River, including the areas in the basins of its tributaries: the Pełta, Przewodówka, Struga, Niestępówka, Pokrzywnica and Klusówka rivers to the west and the Prut River to the east (Fig. 80). The outlined region is located between the settlement clusters of the Przeworsk and Wielbark cultures by the Lower Orzyc¹³¹⁵ and the Lower Bug rivers, and near Legionowo and Radzymin.¹³¹⁶

¹³¹⁴ Cf. K. Godłowski 1985, maps 1–6 and 9; T. Dąbrowska, T. Liana 1986, map 1; J. Andrzejowski 2001b, fig. 1; T. Dąbrowska 2008, map 2. A comparable situation can be observed also in relation to the material from the Early Iron Age – cf. B. Chomentowska 1970, 191 with a figure; K. Dziągielewski 2016, fig. 1; B. Kaczyński 2022, 98.

¹³¹⁵ E.g., R. Prochowicz 2005; 2013, 303–305, fig. 1–4; 2017a; 2017b; 2017c; 2018; 2019; T. Dąbrowska 2008, map 2.

¹³¹⁶ E.g., K. Czarnecka, R. Prochowicz 2002; T. Dąbrowska 2008, map 2; 2009; W. Orliński 2011; V.G. Belevic, M. Voznák 2019,

7.1. GEOGRAPHICAL AND ENVIRONMENTAL CONDITIONS OF SETTLEMENT

The area delimited above is located in the North Mazovian Lowlands, within the borders of three mesoregions.¹³¹⁷ Its western part is situated in the south-eastern part of the Ciechanów Upland, and the eastern part is located in the south-western part of the Łomża Interfluvium. These two areas are separated by the final section of the Lower Narew Valley stretching from north to south.

The Ciechanów Upland, within whose confines the Kleszewo cemetery is located, is a post-glacial moraine upland, with absolute elevations ranging from 100 to 120 m. It is built mainly of glacial till and glacial gravels and sands, and in the depressions and river valleys – of sand, or sand-and-peat, sediments. The region is dissected by several depressions, 10 to 20 metres deep, associated with the local rivers (tributaries of the Narew), and by several-metre-long dry valleys interpreted as former glacial water outflows. The eastern boundary of the area in question terminates in a steep, several-metre-high escarpment, beyond which lies the Narew River valley. The northern and central parts of this stretch of the Ciechanów Upland are covered by good-quality soils (the so-called very good rye soil complex), while less fertile soils are mainly found in the southern part

154–155; J. Andrzejowski 2019, fig. 2, 3.

¹³¹⁷ The description of the mesoregions presented in this Subchapter has been based on the works of K. Jakubowski 1969, 11–15; M. Żwirska 1973, 22–26; J. Nowak, M. Zapalska 1975; J. Nowak, A. Krzywicki 2018, 11–15; T. Krzywicki 2019, 183–196; J. Lechnio, E. Malinowska 2021a; 2021b; 2021c.

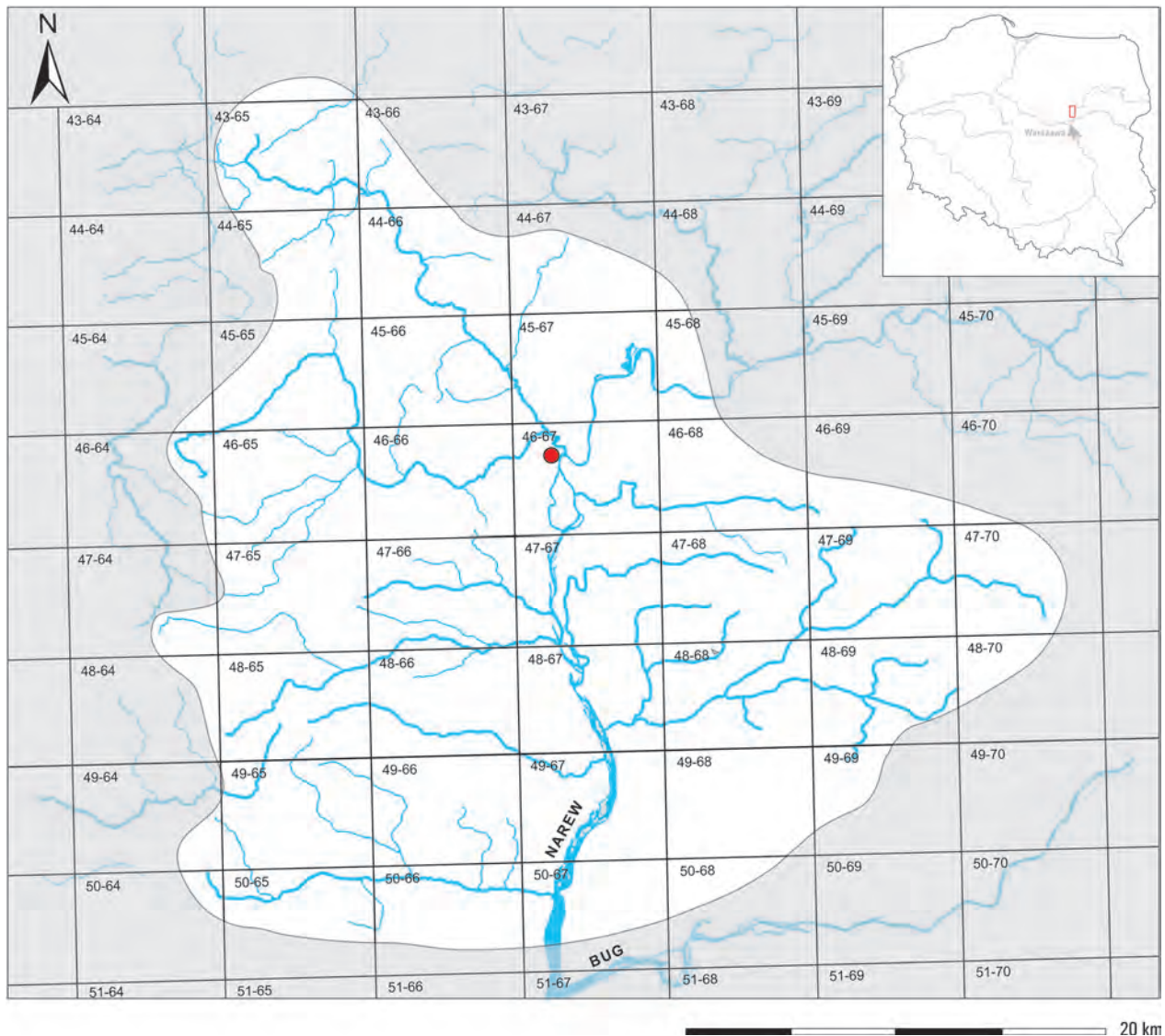


Fig. 80. Area analysed in the text (grey outline) against the ARP grid of the Lower Narew River basin region

of the area discussed.¹³¹⁸ The land is currently predominantly agricultural, with little wasteland or forest. In the past, as can be seen on 19th-century maps, it was largely wooded.¹³¹⁹

The Lower Narew Valley is a narrow area – in the section of interest, measuring usually 4–5 km in width – whose central axis is the meandering river. Its bottom

lies about 15–25 m below the surface of the Ciechanów Upland. The valley is built of fluvial sands and gravels, within which there are numerous oxbow lakes, filled with water or dry – filled with peat or mud, as well as meander deposits and dunes. Most of the floodplains of the valley are covered by meadows and pastures, while the terrace of the pre-valley is overgrown by a forest. The numerous oxbow lakes indicate that the river changed its course many times in the past.¹³²⁰ Based on linguistic and hydrographic sources, it is presumed that, in the Early Middle Ages, the river may have flown closer to the eastern edge of the valley, and the current branch of the Narew River in the Pułtusk region is a former bed

¹³¹⁸ Cf. <https://msip.wrotamazowska.pl> [accessed on 1.05.2023]

¹³¹⁹ E.g., *Topographisch-Militärische Karte von vormaligen Neu Ostrpreussen oder dem jetzigen Nördlichen Theil des Herzogthums Warschau nebst dem Russischen District, Sect. XII*, Berlin 1808; *Topografičeskaâ Karta Carstva Pol'skago / Topograficzna Karta Królestwa Polskiego / Carte Topographique du Royaume de Pologne*, Kol. II, Sek. II–III (Ciechanów and Warszawa sheets), issue I, Petersburg 1843.

¹³²⁰ Cf. E. Smolska, D. Gariat, I. Tsermegas, P. Szwarczewski, U. Zawadzka-Pawlewska, M. Błoński 2017, 11–12, fig. 10.

of the Pełta River.¹³²¹ It is possible that a similar situation existed at the time the Przeworsk-Wielbark cemetery at Kleszewo was in use. Thus, the hill on which the site in question is situated would have been bounded to the north and east by the lower sections of the Pełta and Przewodówka rivers.

The Łomża Interfluvium, within the boundaries of which the eastern part of the analysed area is located, is a moraine upland damaged by erosion. It is built of tills as well as sands and gravels. The area included in this study is drained by several nameless streams and the Prut River, all of which flow into the Narew. The soils are characterised by relatively high fertility (the so-called very good rye soil complex); as a result, more than 70% of the area is currently used for agriculture. In medieval and modern times, this region was covered by an extensive wood complex – the Biała Forest.

Each of the listed mesoregions is characterised by a different landform, geological structure and land cover. The development of local settlement may have been fostered by the good quality of soils dominating on both uplands and the presence of a large river enabling convenient travel to other regions. Moreover, the high percentage of lands currently used for agriculture is important for the study of settlements from the end of antiquity, as it facilitates surface prospection.

7.2. HISTORY OF DISCOVERIES AND ARCHAEOLOGICAL RESEARCH IN THE REGION

The earliest archaeological discoveries made in the area in question, related to the Iron Age, took place in the 19th century. In autumn 1870, during agricultural works in the village of Strzyże, a cremation burial furnished with a knife, spearhead, sword and shield boss was disturbed by a plough (Fig. 82).¹³²² These last two artefacts (the others were lost soon after their discovery) enriched Bolesław Podczaszyński's collection, which, after his death, was purchased by the Academy of Arts and Sciences in Kraków.¹³²³ Currently, both ob-

¹³²¹ M. Czarnecki 2004, 203–205, fig. 2; W. Peła 2004, 183; T. Krzywicki 2019, 197–198, fig. 8.

¹³²² Newspaper "Kurjer Codzienny" no. 139 dated 14 (26) June 1871, 4; G. Ossowski 1891, 188–189; J. Kostrzewski, *Archive*, folder 72, unnumbered card; Archaeological Museum in Kraków [hereinafter: MAK], *Archive*, Strzyże folder(w).

¹³²³ Cf. J. Andrzejowski 2016, 15–16.

jects are in the collection of the Archaeological Museum in Kraków.¹³²⁴

The next discoveries in the region were made only after World War II. In 1946, a cemetery of the Cloche Grave and Przeworsk cultures was registered at Kacice and was later investigated by Jerzy Antoniewicz and Krystyna Musianowicz on behalf of the State Archaeological Museum in Warsaw.¹³²⁵ Excavations at a large cemetery of the Przeworsk culture at Lemany were conducted in the years 1958–1960 and in 1981 by, respectively, Barbara Jankowska from the then Department of Primeval and Early Medieval Archaeology of the University of Warsaw and Juliusz Korsak from the Museum of Kurpie Culture in Ostrołęka.¹³²⁶ In 1961, the titular cemetery was discovered at Kleszewo; it was excavated in 1964–1972 by S. Woyda. In 1972, test excavations took place at a Roman period settlement at Kleszewo, led by S. Woyda and Wojciech Szymański.¹³²⁷ In the same year, a settlement (?) from the late pre-Roman period and the Roman period was recorded on an island on the Narew River near the village of Dzierżenin.¹³²⁸ In recent years, excavations at the Przeworsk culture cemetery at Lutobrok¹³²⁹ as well as relatively numerous pre-construction works¹³³⁰ have been carried out in the area in question.

Since the 1960s, surface surveys have also been carried out in the region, initiated by S. Woyda. His investigations concentrated in the area of the Ciechanów Upland: along the Narew and Przewodówka rivers and in the vicinity of the Kleszewo cemetery. The surveys revealed several sites from the late pre-Roman period and the Roman period¹³³¹ (Fig. 83). An almost complete

¹³²⁴ MAK collection, inv. no. 3544.

¹³²⁵ K. Musianowicz 1950. At least one grave was dug up also after the excavations concluded – cf. T. Liana 1966.

¹³²⁶ Cf. B. Jankowska, A. Niewęglowski, Z. Sochacki 1975; J. Korsak 1982. The material from B. Jankowska's excavations is currently part of the MSHM collection, inv. no. MSHM/A/1135–1327, and from J. Korsak's research – of the Museum of Kurpie Culture [hereinafter: MKK], without inv. no. The random finds from the site in question that were discovered in 1980 are stored at PMA, inv. no. IV/7844 (cf. J. Głosik 1993, 217–218, fig. 19).

¹³²⁷ Cf. S. Woyda 1973; documentation and archaeological material at MSHM, inv. no. MSHM/A/@@@.

¹³²⁸ T. Dąbrowska 2008, 134.

¹³²⁹ Unpublished, cf. B. Jurkiewicz 2009a; excavation reports in the archive of the Provincial Monument Protection Office [hereinafter: WUOZ] in Ciechanów.

¹³³⁰ Excavation reports in the WUOZ archives in Ciechanów, Ostrołęka and Warsaw.

¹³³¹ E.g., Olszak, site 1; Przewodowo (Nowe), site 1; Przewodowo-Majorat, site 1; Przewodowo-Parcele, sites 1 and 2; Kacice,

Strzyżew maj. p. Złotaka - p. Pustuski. 490 1/5
 (przy drodze bitej z Serocka do Pustuska). - r. 1870. w jesieni.
 Niezproszty pogięty i wierzch tarczy żelaznej.
 Przy oraniu pod przenie, porazostatni w jesieni r. 1870.
 Socha prowadziła o jakas przegródę, a gdy ja głębiej zapuścił
 oracz, wy dobył i w ciękiego i jednodokęsiu woty nogami
 zapłabaty się w żelazto - Pokazato się iż to było grobowisko
 a mianowicie urna czarna z popiołami, nadryta wierz
 chem tarczy i jak w towarz mówił winięta między rary
 omie pogięty i znajdował się musiał w urnie). Woty z gnie
 urny, krawiec jej wchaz, ma jezura mie i siebie, Masi
 ciel. Oracz popioły rozgnęli szukajsz szarbow, a należył ty
 ko nożyk (kozik) który, zabrali i niniejsze, szarżki oddane
 do dworu - (majezura by i gról od wtozmi kłosego w tej chwili ję
 uralnie wynalezł p. Złotak, Wdniego Mam te przedmioty i niniejsze,
 relacja - Warsz. d. 16 Lutego 1871. J.



Fig. 82. Bolesław Podczaszyński's note concerning the find from Strzyże and a photograph of the artefacts in his collection.
 Scale: 94%. After: MAK archive

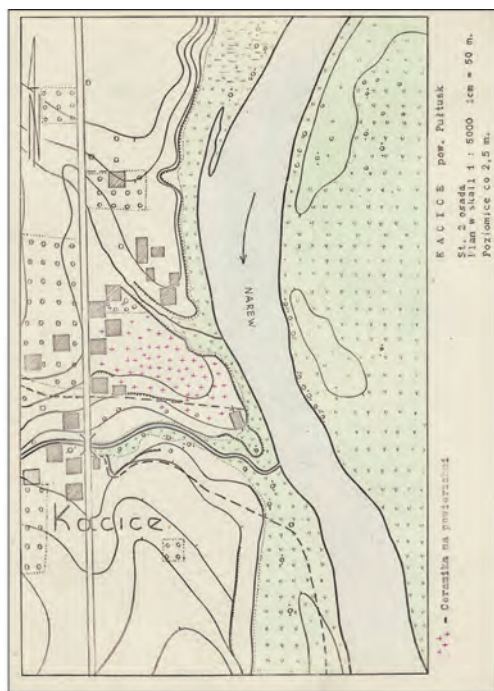


Fig. 83. Przeworsk culture settlement at Kacice, site 2. Part of a report from a surface survey carried out in 1967. Scale approx. 2/3 w. n. After: WA UW archive

surface inventory of the discussed area was made in the 1980s and 1990s as part of the Archaeological Record of Poland (ARP) programme. Out of 43 ARP sheets (cf. Fig. 80) that cover the region in question, 39 have been explored. Recorded within their boundaries were several hundred archaeological sites, including several dozen sites dating to the Iron Age (Fig. 84), usually to its later section (cf. Fig. 89).

Known from the region discussed and its direct vicinity are also finds devoid of context, usually of an unknown place of discovery, found by accident, usually by people using metal detectors (Fig. 85).

7.3. PRZEWORSK CULTURE

The Kleszewo cemetery was established in late phase A₁ or, which is more likely, in early phase A₂, which is how grave 27 with a fragment of a stylistically early brooch of Middle La Tène construction is dated. The dating of other features is unlikely to include phase A₁, which is also true of other sites discovered in the region, as none of them yielded material characteristic exclusively of phase A₁.¹³³²

This remark applies also to the feature from Strzyże, which has previously been linked (tentatively) to the oldest section of the pre-Roman period.¹³³³ The sword from this grave (Fig. 86:1) corresponds to P. Łuczkiwicz's type I/1 and also resembles T. Bochnak's type 1, which groups double-edged specimens with a pointed tip. The former type is dated to phases A₁–A₂, the latter – to phase A₁ and early phase A₂.¹³³⁴ It is more difficult to classify the shield boss discovered there, which is relatively unusual. It is characterised by a rounded, somewhat conical dome with a shallow groove at the base and a small “protrusion” at the top (Fig. 86:2). The artefact in question most resembles specimens of type 1 defined by D. Bohnsack and has heretofore been identified as such.¹³³⁵ It differs from the classic forms of this type in the less spherical shape of the dome, as well as the presence of the mentioned groove at the base and the projection at the top. The nature of these last two elements is unclear and is perhaps related to the manufacturing process. The lack of

site 2; Gzowo, site 1. Documentation in the archives of WA UW, WUOZ Ciechanów branch and MSHM, archaeological material in the MSHM collection, inv. no. MSHM/A/@@@@, @@@@, @@@@, @@@@, @@@@, @@@@. The sites have been entered into the heritage register and, as long as they have not been “re-discovered” during the fieldwalking surveys in the 1980s, included

in the historical site record as archival sites (verified or not) or omitted completely.

¹³³² On the subject of its markers, see M. Grygiel 2018, 341–344.

¹³³³ P. Łuczkiwicz 2006, 319.

¹³³⁴ T. Bochnak 2005, 24, 27–29; P. Łuczkiwicz 2006, 26–30.

¹³³⁵ More precisely as subtype B.1A acc. to P. Łuczkiwicz 2006, 319; cf. D. Bohnsack 1938, 56, fig. 36.

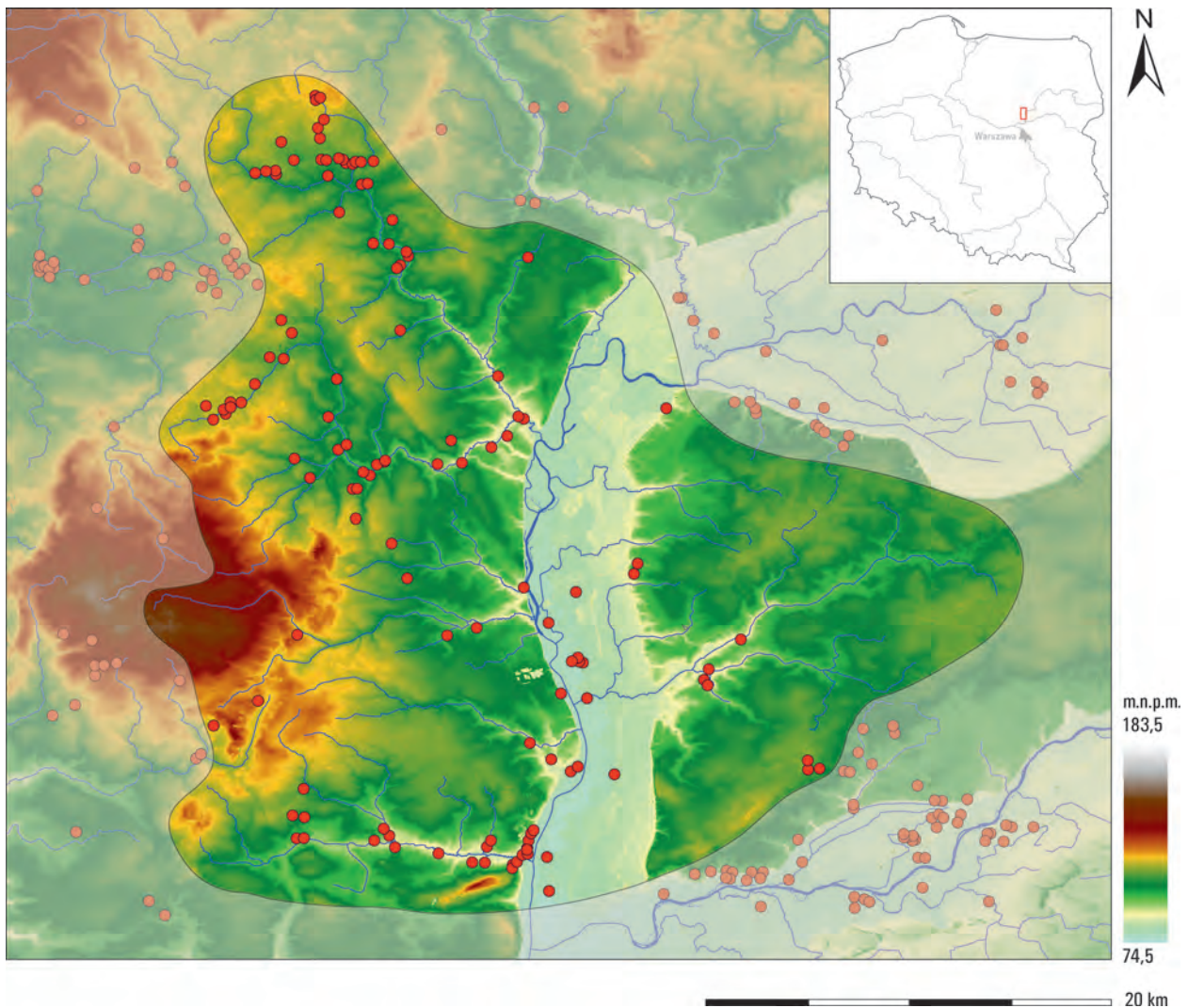


Fig. 84. Iron Age sites discovered during surface surveys. The bright colour marks the area discussed in the text.

Rendered by M. Baczewski

good analogies makes it difficult to date this artefact. It seems most likely that the specimen is associated with phase A₂, as this was the time when shield bosses with a low, less or more rounded dome, broadly similar to D. Bohnsack's types 1 or 2,¹³³⁶ were the most common. During that period, in addition to forms corresponding to the model specimens, similar items that, nonetheless, differed from them in detail were also manufactured. Relatively few examples of such artefacts can be found among shield bosses of T. Bochnak's types 3–6.¹³³⁷ Apart from the Strzyże find, the only boss resembling D. Bohnsack's type 1 known from northern or eastern Mazovia was discovered in grave I/1896 at

Gołębiewo.¹³³⁸ This last feature can be dated, on the basis of a long brooch of type C, to early phase A₂.¹³³⁹

The chronological range of the remaining, potentially early Przeworsk culture sites from the region in question is difficult to define. The earliest horizon of their occupation is marked by fragments of vessels from the first ceramic phase of the Przeworsk culture, which has a broad chronology – from phase A₁ to early phase A₃ (cf. Subchapter 2.7.1). Such vessels are most abundantly recorded in phase A₂, which is also confirmed by the material from Kleszewo. Therefore, said sites should likely also be associated with this period. In this light, the Przeworsk culture would have developed in

¹³³⁶ M. Grygiel 2018, 223–224.

¹³³⁷ T. Bochnak 2005, 107, 112.

¹³³⁸ J. Heydeck 1900, 54, pl. IV:2.

¹³³⁹ Cf. M. Grygiel 2018, 368; A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 97–100.



Fig. 85. Random finds from the Lower Narew River basin (exact location unknown). 1 –Karniewo commune; 2 – Psary; 3.4 – Gołymin-Ośrodek (vicinity); 5.6 – Kleszewo. 1–4 – bronze; 5 – glass; 6 – iron. Photo by M. Woźniak (1–5). Drawn by P. Holub (6). Collections of MRP, inv. no. MRP/A/10 (6), and MZZ, inv. no. MZZ/A/1453 (1), MZZ/A/ 1402 (2), MZZ/A/1519 (3.4), MSHM, without inv. no. (5)

the analysed area at the beginning of phase A₂, thus, synchronously with this group's settlement in eastern Mazovia and Podlachia¹³⁴⁰ and somewhat later than in the central part of northern Mazovia. In this last region, Przeworsk culture settlement dates already to the late section of phase A₁.¹³⁴¹

How the Przeworsk culture first appeared in the region in question is unclear. Research is complicated by the fact that the area of interest has been very poorly explored by archaeologists with respect to the times preceding the crystallisation of the culture under discussion. In light of the present state of research, the area in question is outside the range of compact settlement of the groups inhabiting northern and eastern Mazo-

via in the early pre-Roman period, i.e., the West Balt Barrow culture¹³⁴² and the Cloche Grave culture.¹³⁴³ A dozen or so sites are known from the analysed area, but only some can be reliably dated to the period in question¹³⁴⁴ (Fig. 87). Most are known only from surface surveys and are usually dated broadly to the Early Iron Age. Moreover, their cultural attribution has often not been determined. The only site that has been more extensively excavated is the cemetery at Kacice,

¹³⁴² M.J. Hoffman 1999; 2000; M.J. Hoffman, A. Rzeszotarska-Nowakiewicz 2017, with earlier literature.

¹³⁴³ K. Dziegielewski 2016, fig. 1; B. Kaczyński 2022, 99–100.

¹³⁴⁴ E.g., Gnaty-Lewiski (M. Błoński, K. Pacuski, J. Wrzosek 2009, 254), Karniewek (NID archive), Kościeszce (M. Gądzikiewicz 1954, 141; archive of WUOZ Ciechanów Branch).

¹³⁴⁰ Cf. T. Dąbrowska 2008, 78–84, 101–104.

¹³⁴¹ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 206–208.

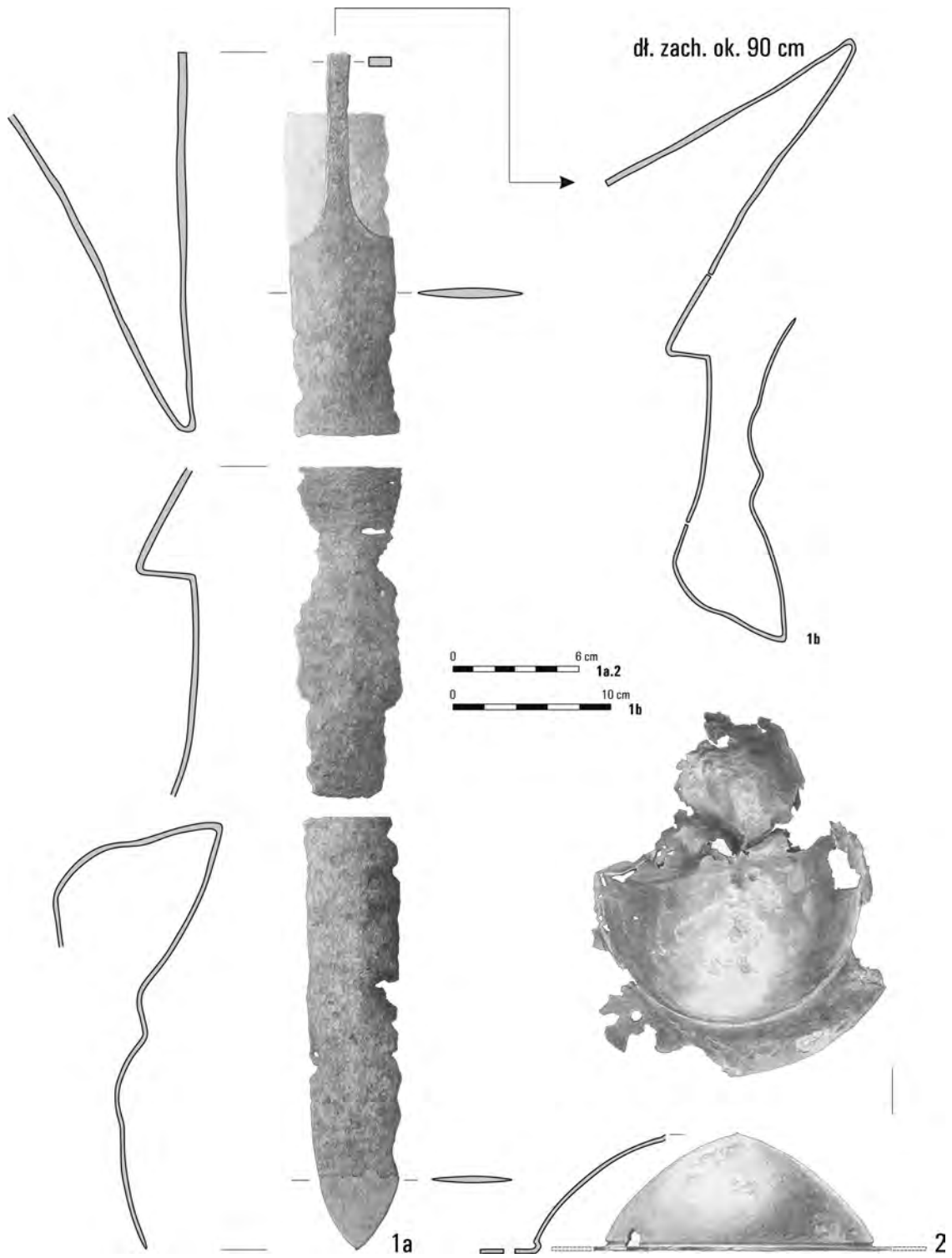


Fig. 86. Sword and shield boss from Strzyże. Drawn by P. Holub. MAK collection, inv. no. 3544

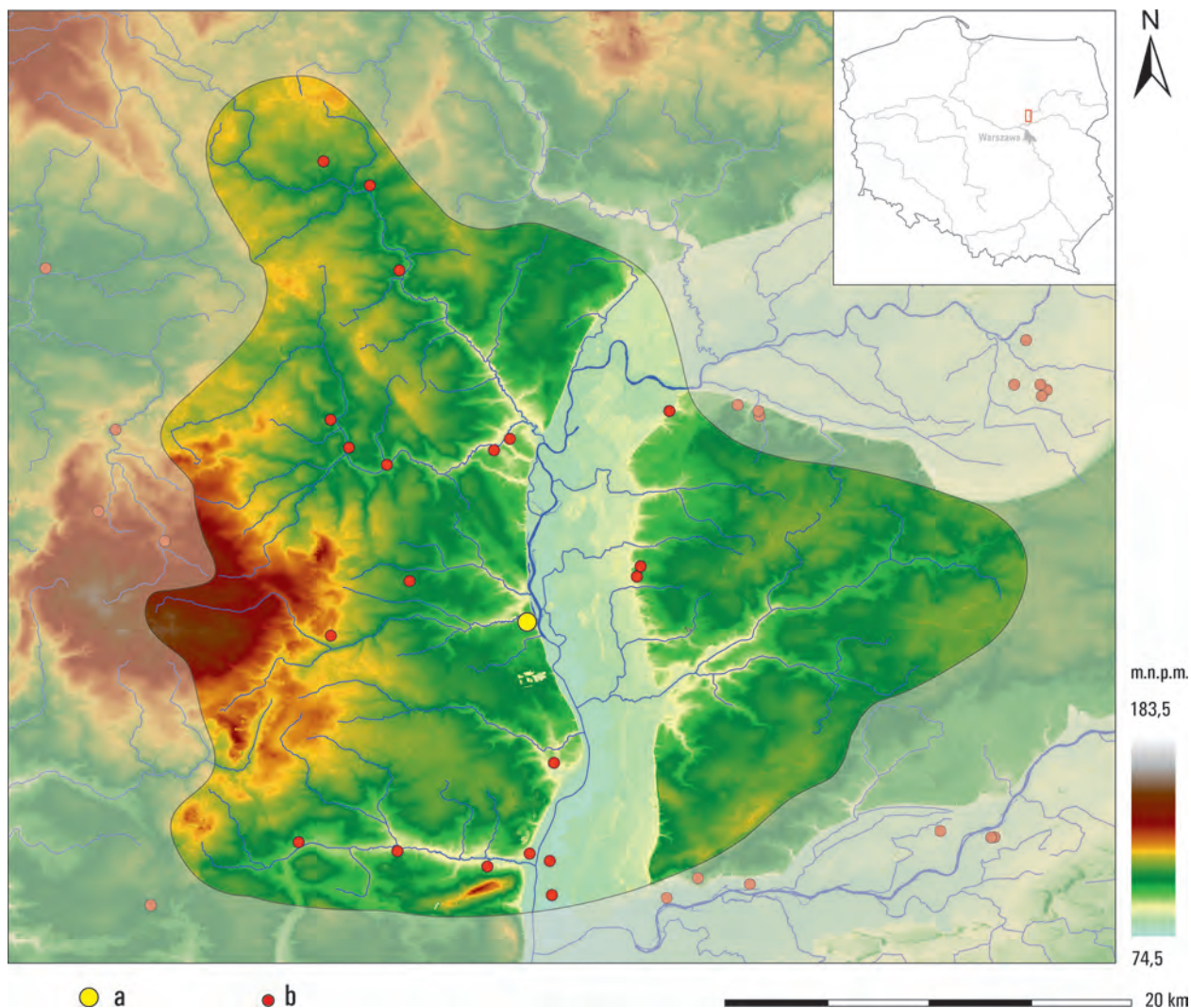


Fig. 87. Sites of the Cloche Grave culture or those associated with the Early Iron Age (a – Kacice cemetery, b – other sites). Rendered by M. Baczewski

which is associated with the Cloche Grave culture.¹³⁴⁵ Several dozens of cremation graves – urn and pit burials – were discovered there; they often contained metal objects (Fig. 88). A Duchcov-type brooch found in one of the graves (Fig. 88:1), representing a form typical of phase LT B1 of the La Tène culture,¹³⁴⁶ attests to the use of this cemetery in the later section of the early pre-Roman period. The location of the Kacice cemetery in the northern part of the analysed region indicates that, in the period in question, it was largely situated in the zone of influence of the Cloche Grave culture.

The material from Kleszewo seems to indicate yet another settlement episode, which may have taken place before the appearance of the Przeworsk culture

in the area. From the site in question comes a fragment of a vessel (ZL/322) with features characteristic of the Jastorf culture pottery from the beginning of the late pre-Roman period. Its presence at a Przeworsk culture cemetery is difficult to explain. Traces of secondary burning likely point to its connection to the cemetery. However, assuming it is not a Przeworsk culture creation, inspired by or derived from pottery traditions of the Jastorf culture, then the presence of a community of this latter unit in the vicinity of the cemetery should be considered. This would not be that surprising, as, at the beginning of the late pre-Roman period, i.e., just before or at the time of the crystallisation of the Przeworsk culture, right-bank Mazovia and Podlachia were penetrat-

¹³⁴⁵ K. Musianowicz 1950.

¹³⁴⁶ Recently, M. Grygiel 2018, 18.

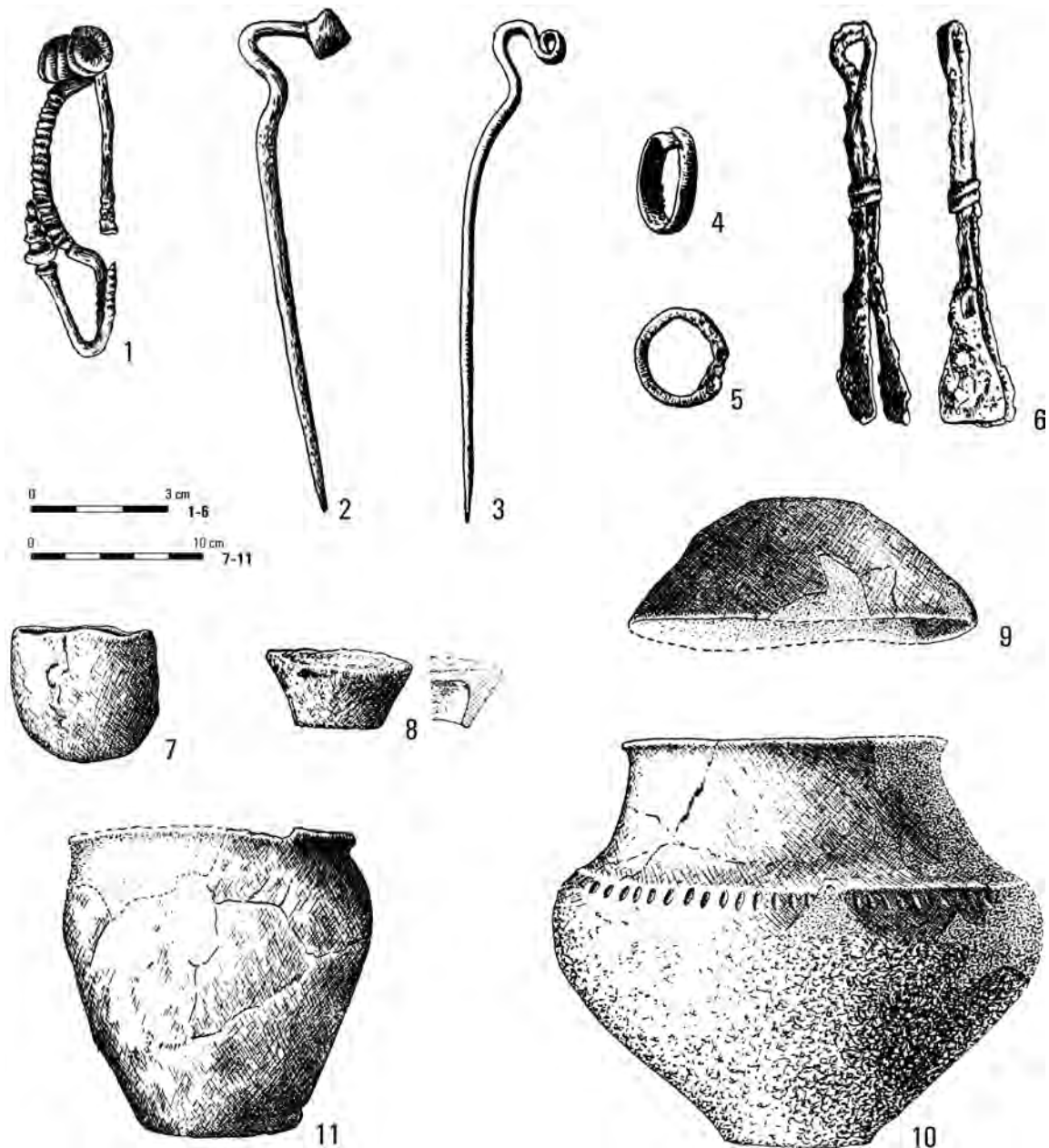


Fig. 88. Material from the Cloche Grave culture cemetery at Kacice. 1 – grave 46; 2 – grave 49; 3–5 – grave 33; 6 – grave 38; 7.8 – grave 32; 9.11 – grave 9; 10 – grave 2. After: K. Musianowicz 1950

ed by the Jastorf culture population.¹³⁴⁷ The nature and scale of this phenomenon are unknown, undoubtedly, due in some part to the lack of advanced excavations at settlement sites and, to some extent, to the general similarity of late Jastorf culture pottery and early Przeworsk culture pottery, with the result that the former

may have not been recognised or, more precisely, have been attributed to the latter grouping.¹³⁴⁸

The briefly discussed, sparse material of the Cloche Grave and Jastorf cultures and the lack of finds related to the oldest phase of development of the Przeworsk culture make it very difficult to attempt to reconstruct the processes that led to the first appearance of that last formation in the Lower Narew River region. Of key importance, of course, is the impossibility of accurately

¹³⁴⁷ T. Dąbrowska 2008, 95–99, map 6; J. Andrzejowski, A. Maciałowicz 2017, 219–220; M. Grygiel 2018, 353, fig. 168, 169.

¹³⁴⁸ Cf. M. Grygiel 2018, 467.

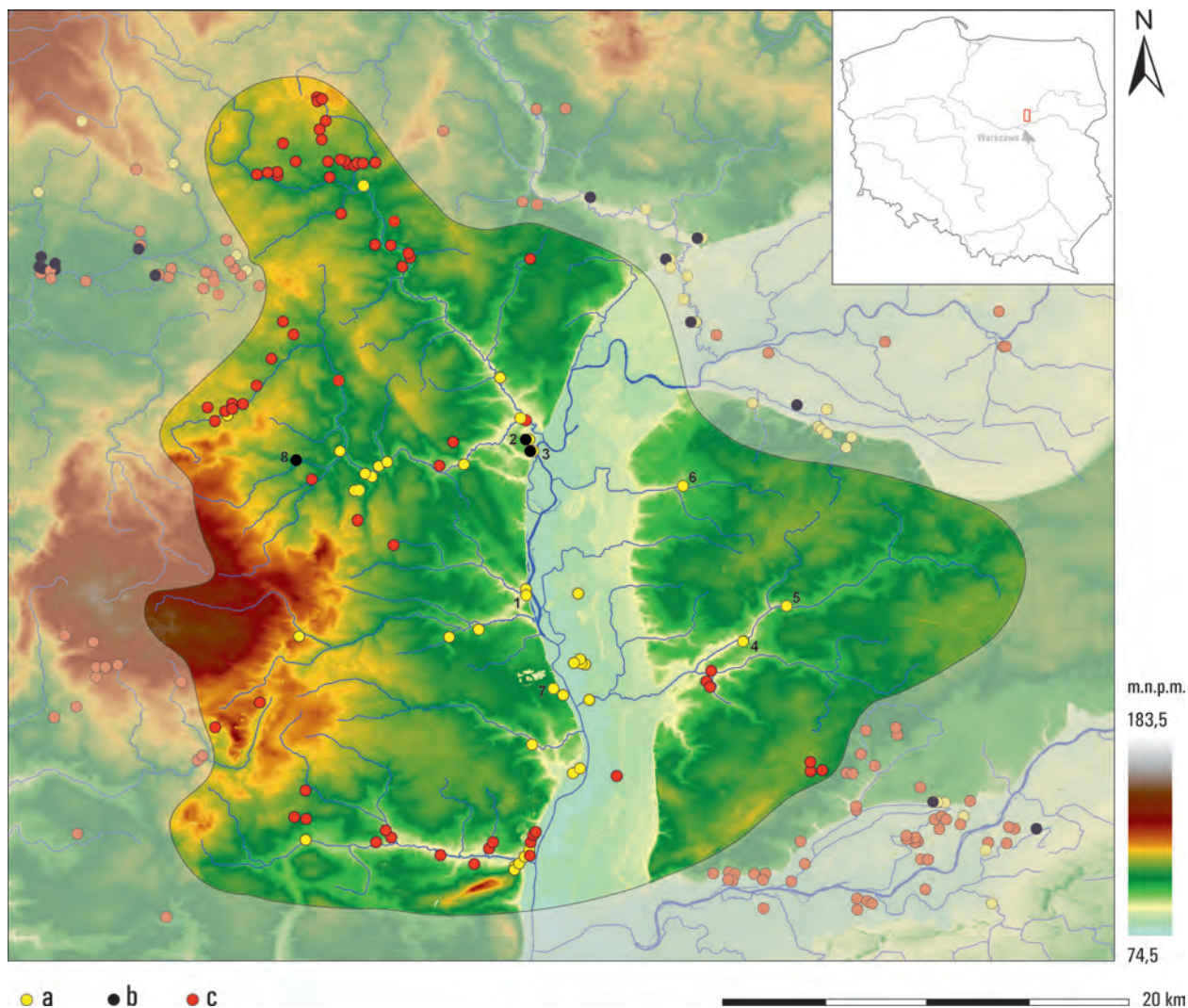


Fig. 89. Sites with material dating to the late pre-Roman period and/or the Roman period (a – Przeworsk culture, b – Wielbark culture, c – undetermined). 1 – Kleszewo, 2 – Kacice, 3 – Lemany, 4 – Lutobrok, 5 – Psary, 6 – Strzyże, 7 – Sulikowo. Finds from unknown locations have been omitted.

Rendered by M. Baczewski

dating the declining phase of the Cloche Grave culture. This difficulty actually applies to almost the entire area of Mazovia and Podlachia.¹³⁴⁹ The late dating of the earliest horizon of the Przeworsk culture, which in eastern Mazovia probably first appeared only in phase A₂, suggests the possibility of the survival of Cloche Grave culture settlement even up to the beginning of the late pre-Roman period.¹³⁵⁰ This interpretation obviously assumes that the formation of the Przeworsk culture in the areas to the east of the Vistula was primarily related to a cultural transformation of the older groups. It is possible that the people of the Jastorf culture al-

so played some part in this process, but the scarcity of finds associated with this unit indicates that this factor is unlikely to have played a major role. In the case of the lands by the Lower Narew River, i.e., close to the zone where the unit discussed formed somewhat earlier, an influx of Przeworsk culture representatives from the neighbouring areas can also be expected.

The oldest sites of the Przeworsk culture from the area in question have been discovered mainly on the western bank of the Narew River and along its right-bank tributaries (Fig. 89). This is probably the result of better archaeological investigation of these lands. The distribution of early Przeworsk culture sites overlaps to some extent with the occurrence of “early Iron Age” finds (cf. Fig. 87). However, this cannot be the basis for

¹³⁴⁹ T. Dąbrowska 2008, 93–95.

¹³⁵⁰ T. Dąbrowska 2008, 95.

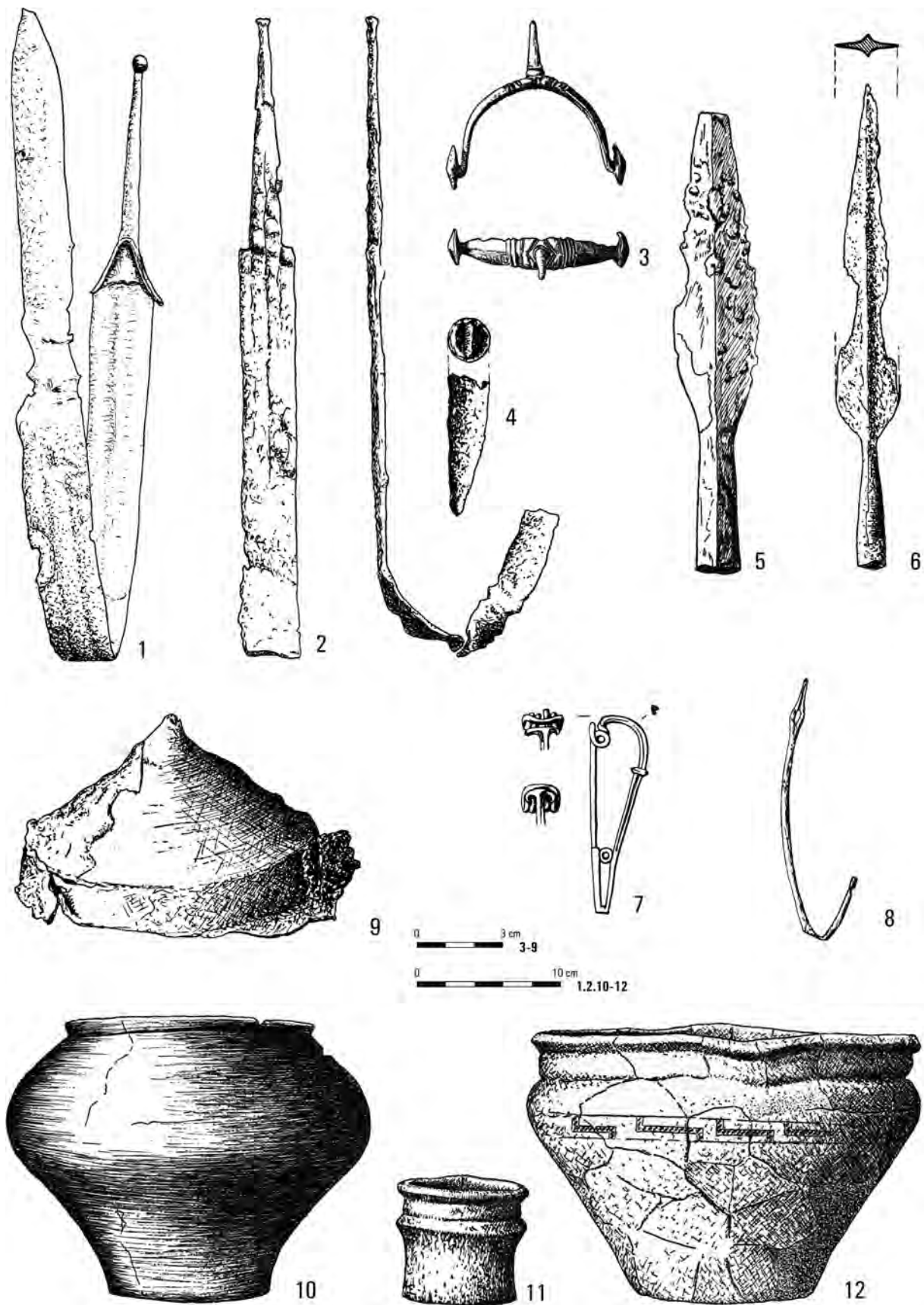


Fig. 90. Artefacts from Przeworsk culture graves from Kacie. 1.4.6.9,11.12 – grave discovered in 1947; 2.3 – pit 2; 5.10 – grave discovered in 1946; 7 – grave discovered in 1964; 8 – pit 3. After: K. Musianowicz 1950 (1–6.8–12), T. Liana 1966 (7)



Fig. 91. Brooch from Psary.
Photo by M. Woźniak

forming far-reaching conclusions. The observed situation is likely a result of the use by different communities of the same ecological niches, convenient for settlement, which were located near river valleys. The better-dated material from Kleszewo indicates that local settlement stabilised in the developed section of phase A₂, i.e., in the horizon of type-K brooches. It is presumed that the cemetery at Lemany, which functioned until the end of the early Roman period and was, unfortunately, largely destroyed,¹³⁵¹ was also established in the chronological section indicated, as suggested by grave 31, furnished with a short brooch of type A and vessels of the first ceramic phase, among others. Further development of the local settlement cluster can be observed in phases A₃–B_{1a}. From this section come both the oldest and almost all reliably dated graves from the cemetery at Kacice, *nota bene*, located in the same place as the above-mentioned site of the Cloche Grave culture. Eight graves¹³⁵² were discovered there, some of which were richly furnished with elements of weaponry, among others (Fig. 90:1–6.9). One feature yielded a silver (?) fibula of Almgren type 18a, *Wederath* variant,¹³⁵³ which is rare in Poland (Fig. 90:7). The chronological episode under discussion is also the best-attested phase in the material from the Lemany cemetery, with several dozen so-dated graves containing, among others, brooches of types N-a and Almgren 2 and, above all, weapons, which were found there in great numbers. At the transition between the late pre-Roman period and the Roman period, or at the beginning of the latter, a cem-

¹³⁵¹ The number that can be found in the literature of 156 Przeworsk culture graves, supposedly discovered at the site (e.g., T. Dąbrowska 2008, 151), is incorrect. It includes, as it were, all features explored by B. Jankowska, including Bronze Age and medieval pits and numerous modern cuts. The actual number of graves will be possible to establish only after an analysis of the site, however, it likely does not exceed 120.

¹³⁵² T. Musianowicz 1950, 32–36, pl. VIII–X; T. Liana 1966; T. Dąbrowska 2008, 140.

¹³⁵³ Cf. T. Völling 2005, 116, fig. 29.

etry was established at Lutobrok,¹³⁵⁴ located about 4 km east of Lemany. A bronze brooch of Late La Tène construction from Psary¹³⁵⁵ (Fig. 91), found by metal detectorists, should most probably be also associated with the end of the late pre-Roman period. Its unequivocal classification is hampered by the absence of the foot. The fibula most closely resembles La Tène brooches of the *Gorica* type,¹³⁵⁶ in particular – variant IIa1 defined by S. Demetz. It is characterised by a bow of triangular or trapezoidal cross-section, decorated with a punched ornament.¹³⁵⁷ This form is mainly dated to the late La Tène period and, in absolute terms, to the second half of the 1st century BCE.¹³⁵⁸ The brooch from Psary also shows some similarity to Roman *Drahtfibeln*.¹³⁵⁹ These items, however, are usually undecorated, have a more strongly curved bow and, most importantly and unlike the find from the Narew River, are characterised by a spring made from an angular wire.¹³⁶⁰

One characteristic feature of the Kleszewo cemetery is the small number of graves containing items considered to be archaeological markers of male burials, mainly but not only, weapons. The few graves¹³⁶¹ in which such items were found presumably¹³⁶² come exclusively from phase I of the cemetery's use. From phase II onwards, the Kleszewo cemetery adopts the character of a “female”,¹³⁶³ or rather “non-male”, cemetery. An attempt at explaining this phenomenon has already been made.¹³⁶⁴ It is thought that the appearance of “mono-gender” cemeteries in the Przeworsk culture may be a result of an eastward spread of burial customs characteristic of the Elbe basin, where, in the pre-Roman period and the early Roman period, “mono-gender” cemeteries are commonly recorded and actually prevail over “mixed” sites.¹³⁶⁵ A few Przeworsk culture cemeteries of the “mono-gender” type have so far been registered in Kuyavia and northern Mazovia. Late pre-Roman sites of the Przeworsk culture with no

¹³⁵⁴ B. Jurkiewicz 2008; 2009b; 2011; J. Affelski, B. Jurkiewicz 2015; 2022.

¹³⁵⁵ MZZ collection, inv. no. MZZ/A/1402.

¹³⁵⁶ S. Rieckhoff 1975, 24.

¹³⁵⁷ S. Demetz 1999, 107–108.

¹³⁵⁸ S. Demetz 1999, 108–109; D. Božič 2008, 114, 120, 147, table 5; M. Dzidar, A. Tonc 2013,

¹³⁵⁹ E.g., type 9 acc. to Jobst (1975, 51–53, pl. 12, 13); type I.6 acc. to E. Riha (1975, 59–61, pl. 3).

¹³⁶⁰ E. Riha 1979, 59; 1994, 56–59.

¹³⁶¹ Graves 147, 402, 409A, 655.

¹³⁶² In two cases, the dating is a bit broader: phases I–IIa.

¹³⁶³ Understood as gender rather than as biological sex.

¹³⁶⁴ A. Maciałowicz, M. Woźniak 2015.

¹³⁶⁵ H. Derks 2012, 45.

weapons, located at the shortest distance from Kleszewo, have been discovered at Dąbek, site 9,¹³⁶⁶ and Magnuszew Mały, site 4.¹³⁶⁷ The latter is situated about 10 km north-east of Kleszewo. However, it has been investigated only to a limited extent, which does not permit drawing far-reaching conclusions.

Stable settlement of the Przeworsk culture in the region continued also in the early Roman period. At least 114 graves from Kleszewo come from this period, as do numerous features discovered at the cemeteries at Lemany and Lutobrok and one feature from Kacice. The map of sites from this period is supplemented by chance finds and sites discovered during surface investigations. Intensive development of early Roman settlement is also recorded in the neighbouring areas and manifests itself, among other things, in the densification of the settlement network, including the establishment of new cemeteries next to those functioning from the late pre-Roman period.¹³⁶⁸

In the early Roman period (from subphase B_{1b} onwards), the cemeteries by the Narew River show distinct eastern-Przeworsk-culture characteristics.¹³⁶⁹ They are visible, for example, in the elements of clothing and decorations specific to this region, which, in general, show close links to the dress of the Wielbark culture people, as well as in the widespread use of copper alloys in the manufacture of these items. However, the eastern zone of the Przeworsk culture is not a cultural monolith. The existence of disparities between settlement micro-regions has been signalled for a long time.¹³⁷⁰ These differences primarily concern burial rites and forms and ornamentation of earthenware. The cemetery at Kleszewo and the nearby burial ground at Lemany, in terms of grave and pottery forms, are most similar to the nearby sites in the basins of the Lower and Middle Orzyc¹³⁷¹ and Sona¹³⁷² rivers and, in a broader perspective, to eastern Mazovian sites from the Lower Bug River basin.¹³⁷³ Many analogous features can also be found at sites in the

Middle Narew region,¹³⁷⁴ although, in their case, stone circles, rings and pavements, which are not attested by the Lower Narew, were relatively often discovered. Extensive stone structures are also a characteristic feature of cemeteries from northern Mazovia; however, this is not the only aspect in which they differ from the cemeteries at Kleszewo and Lemany. In northern Mazovia, graves usually contained more vessels, characterised by a different manufacturing style. Significant disparities can also be observed in the way human remains were deposited in the graves – at Kleszewo, Lemany and the neighbouring cemeteries, there were no cases of burials in multiple vessels, covering of burnt debris deposited at the bottom of the pit with upturned vessels, or of several vessels placed inside one another, one of which, usually the innermost one, served as an urn.¹³⁷⁵ The feature that theoretically links the Kleszewo burial ground to cemeteries in the Upper and Middle Wkra River region is the already mentioned lack of weapons.¹³⁷⁶ In the early Roman period, the custom prohibiting the placement of items used in combat inside graves was practised at most of the cemeteries of northern Mazovia. However, it was slightly different from the one observed at the “mono-gender” cemeteries of the Kleszewo type, as it concerned only weapons *sensu stricto*.¹³⁷⁷ The custom has been linked to the influence coming from the Wielbark culture, where the taboo on weapons was one of the main features of the funerary rites.¹³⁷⁸ These two trends – the older one, rooted in the late pre-Roman period, and the younger one, originating in the early Roman period – should be considered separately.¹³⁷⁹ The rites practised by the people burying the dead at Kleszewo in the early Roman period are a result of the survival of older customs rather than the introduction of new norms. This tradition was firmly rooted in the local consciousness and persisted until the end of the functioning of the Przeworsk culture cemetery, i.e., until the beginning of the younger Roman period. This burial ground was then eminently “female” in character throughout the early Roman period. On the other

¹³⁶⁶ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021.

¹³⁶⁷ A. Maciałowicz, M. Woźniak 2015, 245, footnote 32.

¹³⁶⁸ E.g., in the forks of the Narew and Vistula rivers, and in the Lower Orzyc River basin.

¹³⁶⁹ Cf. T. Dąbrowska 1981a; J. Andrzejowski 2001b; 2005b, 113–115; 2020.

¹³⁷⁰ E.g., J. Okulicz 1970, 425–433; 1983, 172–177; K. Godłowski 1981b, 125–126; J. Andrzejowski 2005b, 113.

¹³⁷¹ E.g., Dobrzankowo (J. Okulicz 1971), Stary Szelków (excavations of R. Prochowicz, PMA collection).

¹³⁷² E.g., Pajewo-Szwelice (Z. Dłubakowski 2005).

¹³⁷³ E.g., Kamieńczyk (T. Dąbrowska 1997), Nadkole, site 2 (J. Andrzejowski 1998a), Tuchlin (Ł. Okuliczowa 1964), Wyszków (H. Machajewski 2007).

¹³⁷⁴ Brzeźno (J. Okulicz 1965c, 240–242, pl. XXV–XXVI), Rostki (J. Okulicz 1965a, pl. 88; 1965c, 249–256, pl. XXV–XXVI, LIV:1–26, LV), Todzia (J. Andrzejowski 1997).

¹³⁷⁵ W. Ziemlińska-Odojowa 1999a, 126–128; A. Mistewicz 2005, 227–228; A. Szela 2021, 101–104.

¹³⁷⁶ Recently, J. Andrzejowski 2020, 17, with earlier literature.

¹³⁷⁷ Spurs and other elements characteristic of male burials, such as buckles associated with the warrior's outfit, were still deposited in the graves.

¹³⁷⁸ E.g., K. Godłowski 1985, 50–51; J. Andrzejowski 1989, 106; 2001b, 82.

¹³⁷⁹ A. Maciałowicz, M. Woźniak 2015, 256.

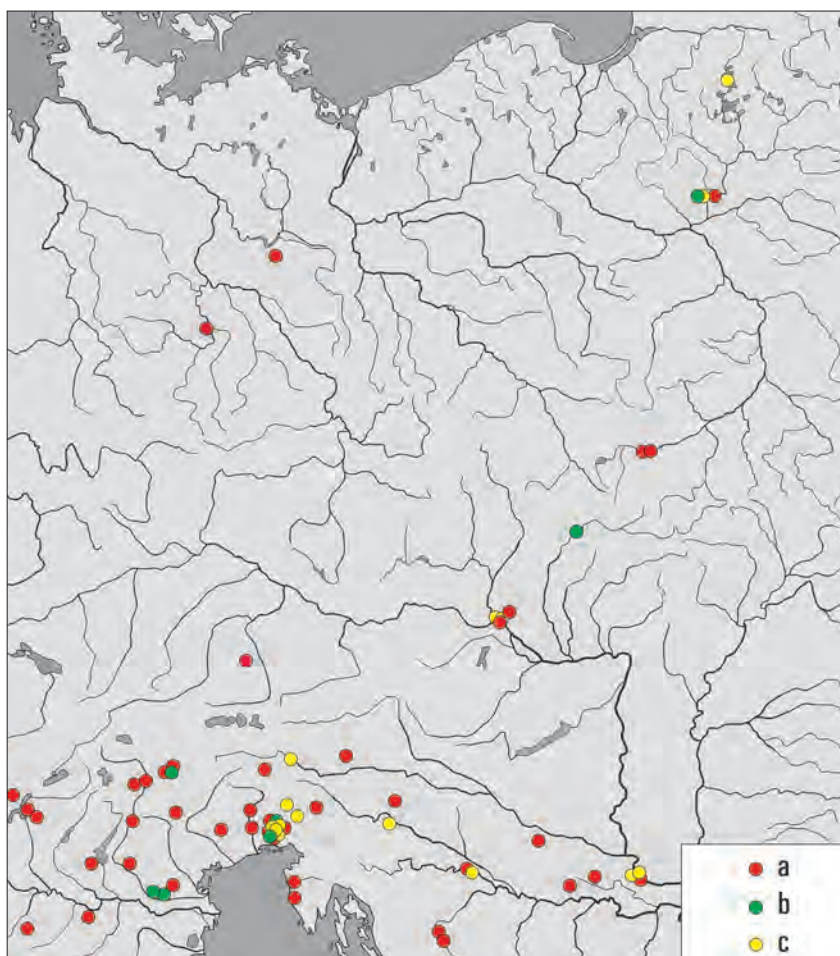


Fig. 92. Distribution of brooches of types Gorica (a), Jezerine III (b) and Jezerine II or III, with a rib on the underside of the bow (c). After: S. Demetz 1999; M. Dzidar, A. Tonc 2013; M. Woźniak 2020, with additions

hand, other better-explored cemeteries from the Lower Narew River basin (Lemany, Lutobrok) were characterised by funeral practices standard for the Przeworsk culture, with both male (with weapons) and female graves. Therefore, this region was not affected by the changes in the rules concerning the deposition of grave goods noted at sites located in the Upper and Middle Wkra basin. This observation confirms the interpretation of the origins of the early Roman funerary rites at Kleszewo, presented above.

The Kleszewo cemetery, like other Przeworsk culture burial grounds of the region, yielded objects of foreign origin, testifying to contacts between the local population and people inhabiting other areas. Their number varied during the various stages of the site's development. The rhythm of the influx of imports discovered by the Lower Narew River as well as their nature confirm the observations presented in the literature regarding the connections of the population of right-bank Mazovia in the late pre-Roman period and the early Roman

period.¹³⁸⁰ In the former period, wares of the La Tène culture were predominant among forms foreign to the local manufacturing, while the latter period was dominated by items of Roman origin; objects manufactured in other cultural circles are noticeably rarer.

The oldest, relatively few, items of foreign origin were discovered at Kleszewo. These are a Celtic sword and belt fitting from grave 402 and a bracelet of unclear provenance from grave 3. The sword from Strzyże may also have been a La Tène import.¹³⁸¹ Moreover, the glass beads from “grave” 832 at Kleszewo may also date to the same period. One of them – the ring-shaped one (832/10) – is a La Tène product, possibly made in Czechia or Moravia. The origin of the other two beads, i.e., forms with spiral eyes (832/11.12), is unknown, but it

¹³⁸⁰ E.g., J. Andrzejowski 1998, 74; T. Dąbrowska 2003; 2008, 105–112; T. Bochnak 2014, 192–193; A. Maciałowicz 2015, 288; M. Woźniak 2019b, 198–199.

¹³⁸¹ Cf. T. Bochnak 2014, 101–107.

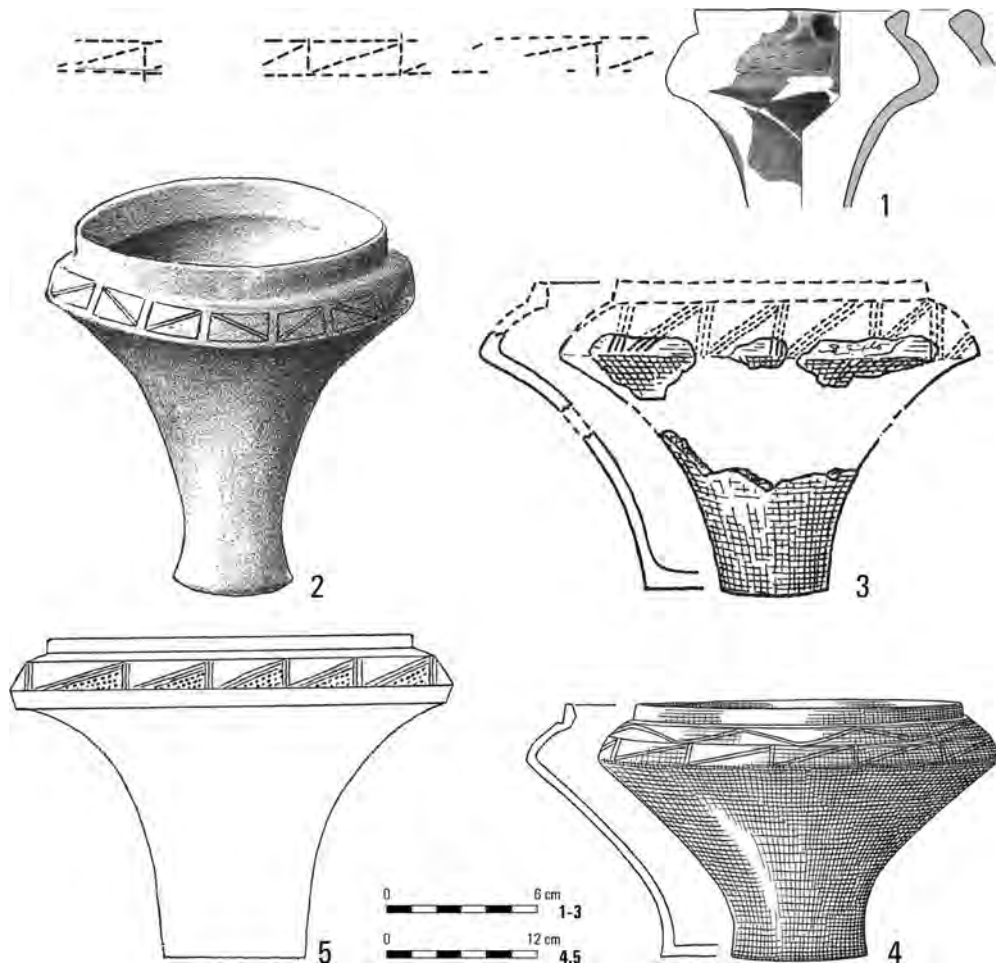


Fig. 93. Beaker from grave 69 at Lemany (1) and its analogies from Czechia and Germany (2–5).

After: A. Maciałowicz, M. Woźniak 2015

can be assumed that they also came to Mazovia from the La Tène culture. The period of the most intensive influx of imports to the areas by the Lower Narew River fell on the youngest section of the late pre-Roman period and the initial phase of the Roman period. In the case of Kleszewo, these items are mainly represented by dress accessories and decorations, at Lemany and Kacice – by weapons. Most of these artefacts originate in the La Tène culture (e.g., brooches of Almgren types 18 and 65 from Kleszewo, a spur from Kacice,¹³⁸² an ornamented spearhead from Lemany¹³⁸³) or are local products inspired by Celtic forms (fibulae of type J). These finds have long been interpreted as evidence of intensive contacts between the people of Mazovia and the Bohemian-Moravian oppidum zone, and, after its

collapse, with the Danube region.¹³⁸⁴ It is presumed that the intermediary in these contacts was the Tyniec group.¹³⁸⁵ This direction of influence is also indicated by the painted vessel made on a potter's wheel from grave 615 from Kleszewo, which was probably created in one of the workshops near Kraków. The finds of northern Italian *Jezerine*-type fibulae from grave 1047 from Kleszewo and – if its typological classification is correct – the *Gorica*-type brooch from Psary prove that right-bank Mazovia was an important element in the mosaic of long-distance connections between southern Europe (Fig. 92) and the south-eastern Baltic zone. The decline in the intensive influx of imports in the Lower Narew River region took place at the beginning of the early Roman period. It is marked by fibulae of Almgren

¹³⁸² K. Musianowicz 1950, 33, pl. VIII:5; T. Bochnak 2014, 123.

¹³⁸³ MSHM collection, inv. no. MSHM/A/1181; por. T. Bochnak 2014, 108–109, fig. 54:3.

¹³⁸⁴ E.g., T. Bochnak 2014, 192–193; A. Maciałowicz 2017, 96–98; M. Woźniak 2020, 185–186.

¹³⁸⁵ Z. Woźniak 2004, 56–57; T. Dąbrowska 2008, 109; T. Bochnak 2014, 192.

type 67a, found at Kleszewo and Lemany, a brooch of Almgren type 18b, discovered at the former cemetery, and, possibly, also specimens of Almgren type 236c, recovered from Kleszewo, Lemany and Lutobrok, although the chronology of this last form may be broader. Contacts along the north-south axis are not the only direction of influence indicated by the material from local cemeteries. The sword scabbard of T. Bochnak's type IX, or the eastern variant of the *Ludwigshafen* type distinguished by P. Łuczkiwicz, discovered in grave 48 at Lemany may indicate connections with western Celtic lands.¹³⁸⁶ Also of western, more precisely – Rhineland, provenance is the Almgren-18a brooch of the *Wederath* variant from Kacice (Fig. 90:7). Among the few objects originating from other cultural circles that can be linked to the period in question is a sharp-profiled beaker from grave 69 at Lemany, which finds good analogies at cemeteries of the *Großromstedt* culture¹³⁸⁷ (Fig. 93), as well as the hoop ornaments of the *Şilmeul Silvaniei* type from Kleszewo, whose roots can be traced to the Dacian cultural circle.

In phases B_{1b}–B₂, the number of finds of foreign provenance from Kleszewo and the nearby sites is significantly lower than in phases A₃–B_{1a}. This is in line with the general trend noted at Mazovian-Podlachian sites of the Przeworsk culture. The reason for this phenomenon is a certain isolation of northern and eastern Mazovia from the main travel routes, which were the axis of long-distance connections as part of the so-called Amber Road.¹³⁸⁸ The finds of artefacts of foreign origin from the Lower Narew River region include Roman imports and barbarian forms made probably outside the Przeworsk culture area. The first group is dominated by glass beads, mostly melon specimens, and brooches, as long as they were not barbarian imitations (cf. the discussion on fibulae of Almgren type 68). Moreover, early Roman graves from Kleszewo yielded fragments of vessels made of glass (832/13.14) and bronze (61/1.2). Both were preserved in a residual state. A typological determination of these artefacts, and thus an attempt at indicating the direction from which they arrived, is not possible. Of the potential Roman wares, a *Cantebury-Kopki*-type¹³⁸⁹ sword, discovered at Lutobrok, is worthy of note.¹³⁹⁰ Found at Kleszewo were also artefacts that can be indicative of contacts of the local population with the northern zone of central European *Bar-*

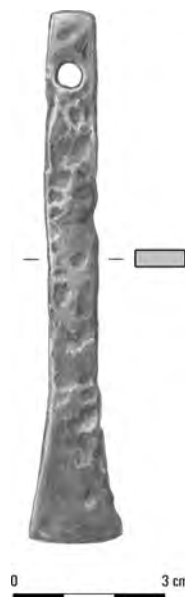


Fig. 94. Rod-shaped fire striker from the cemetery at Lemany. Drawn by P. Holub

baricum. They include a brooch of (probably) type N-c from grave 861 and a bowl from grave 253. The fibula represents forms characteristic of the south-western Baltic zone, while the vessel finds its closest analogies among the forms of Bogaczewo culture. The presence of these objects in the Lower Narew River region is not surprising. The relations of the Mazovian population with both regions mentioned above are confirmed by the finds from other Mazovian cemeteries of the Przeworsk culture.¹³⁹¹

The terminal phase of the use of the Kleszewo cemetery by the people of the Przeworsk culture fell on the beginning of the younger Roman period, i.e., phases B₂/C₁–C_{1a}. It is possible that the above-mentioned feature with a sword from Lutobrok also dates to this chronological section. On the other hand, the youngest Przeworsk culture grave from Lemany contained a spring-cover brooch of Almgren type 38–39 type (possibly a fibula with characteristics of Almgren groups II and IV), i.e., it came from subphase B_{2b}. However, a brooch of Almgren group VI of crossbow construction with an arched bow and short spring, characteristic of the older section of phase C₁, was also discovered there. According to the surviving documentation, the artefact lay at the top level of grave 98, although it most likely came from a modern cut that had heavily disturbed the prehistoric feature. Such an interpretation is suggested by the compact chronology of other items from said grave, which can be dated to the beginning of the Roman period.¹³⁹² A fire striker of A. Kokowski's type

¹³⁸⁶ T. Bochnak 2014, 100–101; P. Łuczkiwicz 2021, 46, with older literature.

¹³⁸⁷ A. Maciałowicz, M. Woźniak 2015, 255–256, fig. 22:1.

¹³⁸⁸ Cf. T. Dąbrowska 2008, 117–118.

¹³⁸⁹ Cf. M. Biborski, J. Illkjær 2006, 169–176.

¹³⁹⁰ B. Jurkiewicz 2008; 2009a, 26–27.

¹³⁹¹ J. Andrzejowski, A. Ciesliński 2007, 279–304; A. Szela 2015.

¹³⁹² Cf. T. Dąbrowska 2008, 152.

Table 36. Chronological ranges of the better-explored Przeworsk culture cemeteries in the areas east of the Middle Vistula (a – confident dating, b – probable dating, c – tentative dating).

The asterisk marks cemeteries of bicultural, Przeworsk-and-Wielbark, character

	Stanowisko	Datowanie:						
		A1	A2	A3	B1	B2	B2/C1	C1a
dorzecze górnej i środkowej Wkry i Lydyny	Stupsk*	[Red bar from A1 to B2]						
	Dąbek, stan. 9*	[Red bar from A1 to B2 with a red line and '?' in the middle]						
	Gołębiewo	[Red bar from A2 to B2]						
	Niedanowo*	[Red bar from A2 to B2]						
	Księży Dwór	[Red bar from A3 to B2]						
	Gródki, stan. 3	[Red bar from A3 to B2]						
	Bartki	[Red bar from A3 to B2]						
	Modła*	[Red bar from A3 to B2]						
	Brudnice*	[Red bar from A3 to B2]						
	Zgliczyn-Pobodzy*	[Red bar from A3 to B2]						
	Dąbek, stan. 29	[Red bar from A3 to B2]						
dorzecza dolnej Wkry, Sony, Narwi i dolnego Bugu	Legionowo	[Red bar from A2 to B2]						
	Pajewo-Szwelice*	[Red bar from A2 to B2]						
	Karczewiec	[Red bar from A2 to B2]						
	Kołacz	[Red bar from A2 to B2]						
	Garwolin	[Red bar from A2 to B2 with a red line and '?' in the middle]						
	Dobrzankowo	[Red bar from A2 to B2]						
	Glinki	[Red bar from A2 to B2]						
	Kołożąb*	[Red bar from A2 to B2]						
	Stary Szelków*	[Red bar from A2 to B2]						
	Lutobrok	[Red bar from A2 to B2 with a red line and '?' in the middle]						
	Łajski*	[Red bar from A2 to B2]						
	Kleszewo*	[Red bar from A2 to B2]						
	Krupice*	[Red bar from A2 to B2]						
	Kamieńczyk	[Red bar from A2 to B2]						
	Nadkole, stan. 2	[Red bar from A2 to B2]						
	Oblin	[Red bar from A2 to B2]						
	Niemirów	[Red bar from A2 to B2]						
	Lemany	[Red bar from A2 to B2 with a red line and '?' in the middle]						
Piastowo	[Red bar from A2 to B2]							
Dzierzgowo	[Red bar from A2 to B2]							
Załużbice Stare	[Red bar from A2 to B2]							
Rostki	[Red bar from A2 to B2]							

[Red bar] a [Red line] b [Red line with ?] c

IIB¹³⁹³ (Fig. 94), which was a stray find from the same site, may also be of late Roman origin. There were no graves recorded at the Lemany cemetery that could be attributed to the Wielbark culture. Hence, both artefacts can be hypothetically assigned to the Przeworsk culture.

Assuming a “late” chronology of the Lutobrok feature and Przeworsk culture attribution of the discussed artefacts from Lemany, all the better-explored Przeworsk culture cemeteries would have functioned in the area of interest until the beginning of the younger Roman period. In this, they would have corresponded to the development of eastern Mazovian cemeteries (Table

¹³⁹³ Cf. A. Kokowski 1985, 114, 122, fig. 1.

36) and differed from the chronology of most other northern Mazovian cemeteries, whose youngest phase of functioning fell within the horizon of occurrence of early spring-cover brooches of the eastern series and late trumpet fibulae, i.e., in subphase B_{2b}.

7.4. WIELBARK CULTURE

Phases B₂/C₁–C_{1a} are a time of great cultural changes in right-bank Mazovia and Podlachia, associated with the replacement of the Przeworsk culture with the Wielbark culture. This phenomenon is commonly identified with the migrations of Gothic tribes known from Roman written sources.¹³⁹⁴ This process of transformation was a complex one and involved, among others, the assimilation of the older foundation by the new arrivals, manifested, for example, in the use of some of the cemeteries by both the Przeworsk and Wielbark communities.¹³⁹⁵

The number of sites confidently associated with the Wielbark culture discovered in the discussed region is unfortunately small, which makes it difficult to attempt even a general characterisation of local settlement. The only other excavated site, apart from the cemetery at Kleszewo, is the settlement in the same locality, which was, unfortunately, explored on a very small scale. It yielded, among others, a fragment of a glass vessel (cup or beaker), which, based on its morphological features, can be generally dated to phases C₂–D (Fig. 95). The map of finds is complemented by the stray find of a bead of type TM 316 from Sulnikowo¹³⁹⁶ and Roman coins, mostly denarii (Fig. 96). The cultural attribution of coins is not always clear, especially considering the possibility of the survival of the Przeworsk culture until the beginning of the younger Roman period, as suggested above. The coins minted during the reign of the Severan dynasty and later can likely be attributed to the Wielbark culture. The inflow of older coins, primarily from the 1st century CE and the beginning of the 2nd century CE is subject to debate.¹³⁹⁷ Some of them may have appeared in Mazovia at the time when the area was still inhabited by the people of the Przeworsk culture. It is noteworthy that a significant number of coins were discovered in the north-eastern part of the discussed

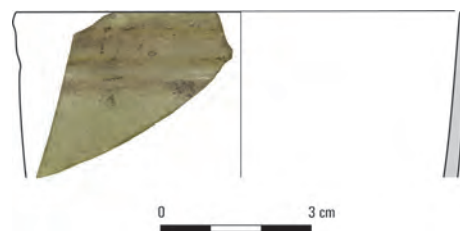


Fig. 95. Fragment of a glass vessel from the settlement at Kleszewo, site 2. Photo by M. Woźniak



Fig. 96. Finds of Roman coins from the Lower Narew River basin. 1 – Gładczyn Rządowy; 2,3 – Karniewo (vicinity); 4 – Pułtusk (vicinity). After: A. Romanowski 2005

region and in its direct vicinity, i.e., near Karniewo and Gołymin-Ośrodek¹³⁹⁸ (Fig. 97), which corresponds, to some extent, to the results of surface surveys and indicates the existence of a mostly unexamined local settlement cluster in that area.

Wielbark culture settlement in the region under discussion started probably at the beginning of the younger Roman period, i.e., still during the time of the functioning of the Przeworsk culture cemetery at Kleszewo, and probably also of those at Lemany and Lutobrok. However, no Wielbark culture material dated to that phase has been discovered there to date. On the other hand, this

¹³⁹⁴ Recently, J. Andrzejowski 2019, with earlier literature.

¹³⁹⁵ J. Andrzejowski 1989.

¹³⁹⁶ M. Kmicik 2015, 22, photo 18.

¹³⁹⁷ Cf. A. Bursche 2004, 197–198; M. Erdrich 2001, 127–128; A. Dymowski 2011, 50; 2013, 112; 2019; A. Dymowski, K. Myszgin 2014, 53–54

¹³⁹⁸ A. Romanowski 2005, map 2.

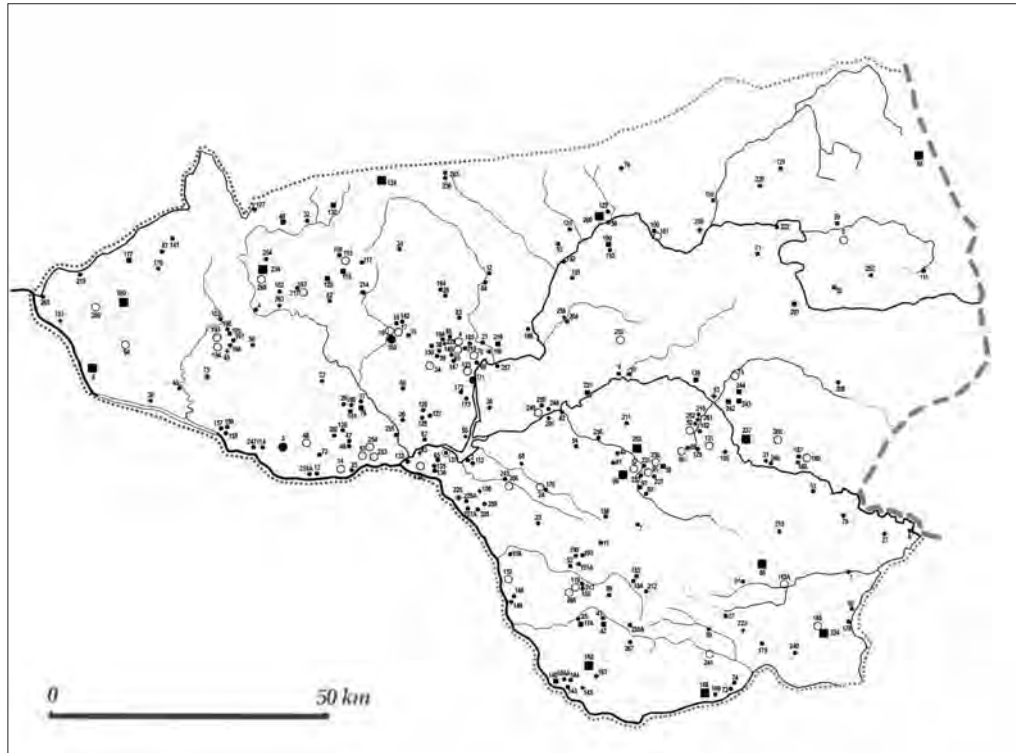


Fig. 97. Finds of Roman coins in right-bank Mazovia and Podlachia. After: A. Romanowski 2005

possibility is indirectly indicated by the finds from the adjacent areas located to the north, west and south of the titular site. Numerous graves from this period have been recorded, e.g., at Stary Szelków, Pajewo-Szwelice and Łajski.¹³⁹⁹ The artefacts found in the vicinity of Gołymin-Ośrodek¹⁴⁰⁰ also date to the same time (Fig. 85:4.5). The lack of Wielbark culture graves dating to phases B₂/C₁–C_{1a} at Kleszewo is then difficult to explain, but it may result from the longer operation of the Przeworsk culture site. Lemany and Lutobrok also yielded no finds that could be unequivocally associated with the Wielbark culture. It seems that both these sites represent a monocultural model and, with the disappearance of the Przeworsk culture, they ceased to be used. However, verification of this hypothesis will only be possible after the material from these cemeteries has been fully analysed. Regardless, even if that were the case, it would

¹³⁹⁹ Cf. J. Andrzejowski 1989, 107, 109, 111; 2019, 231; R. Prochowicz 2017a; 2019.

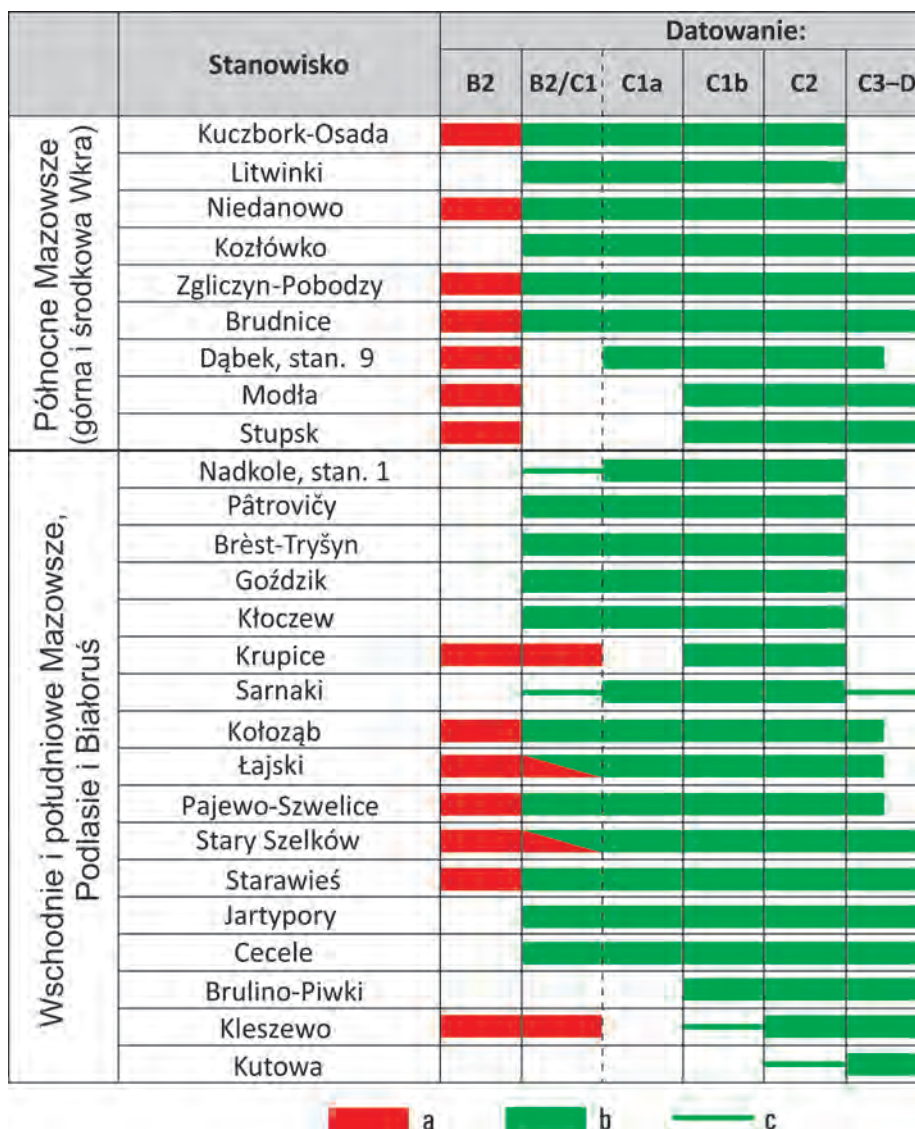
¹⁴⁰⁰ The site yielded, among others, brooches of Almgren types 96 and 128. Of course, it cannot be ruled out that these items were manufactured in the Przeworsk culture. However, it should be noted that no brooch of Almgren type 128 found to date in the areas to the east of the Middle Vistula has been discovered in a context that would indicate its connection to the Przeworsk culture (cf. J. Andrzejowski 2007, 233).

not be unusual, as similar cemeteries are known from both northern and eastern Mazovia and Podlachia (Table 36). In the case of the Kleszewo cemetery, which is bicultural, both horizons of its functioning – the Przeworsk and Wielbark one – are separated by a time gap. The population of the Wielbark culture began to bury their dead at the titular site only in the later section of phase C₁ or, which seems more likely, in phase C₂. In this light, the cemetery could have remained unused for even several dozen years. Only a few Wielbark culture cemeteries with no artefacts confidently dated to phases B₂/C₁–C_{1a} are known from Mazovia and Podlachia¹⁴⁰¹ (Table 37). Most are located near Mława, i.e., Modła,¹⁴⁰²

¹⁴⁰¹ I have included here only those cemeteries at which at least a dozen or so features associated with this cultural unit have been discovered. Most of these sites have been only partially explored.

¹⁴⁰² Cf. J. Andrzejowski 2009, 68. In an article from 2006, J. Andrzejowski (2006, 19, 21, fig. 2) tentatively identified the foot of a brooch from grave 10 as a part of a fibula of Almgren type 41, thus dating the feature to phase B₂/C₁. In his doctoral dissertation from 2009, he assigned it to Almgren type 38–39 (J. Andrzejowski 2009, 77–78) and linked it to the Przeworsk culture horizon of the site's functioning in subphase B_{2b}, which I find more likely.

Table 37. Chronological ranges of selected Wielbark culture cemeteries from Mazovia, Podlachia and Belarus
(a – Przeworsk culture, b – Wielbark culture, confident dating, c – Wielbark culture, probable dating)



Stupsk¹⁴⁰³ and Dąbek, site 9.¹⁴⁰⁴ It seems that the absence of so-dated material, especially at the first two – more thoroughly explored – sites, is the result of the actual lack of graves from the phase in question rather than of some other factors, e.g., poor grave contents. The existence of such cemeteries, including the Kleszewo site, is a manifestation of the development of local settlement structures, which resulted in a denser settlement network. The same trend can also be linked to the general increase in the number of graves dating to the developed section of the younger Roman period compared to the preceding phase, which has been registered at ma-

ny cemeteries, primarily those in eastern Mazovia and Podlachia.¹⁴⁰⁵ This increase was probably related to the population growth in the region, perhaps also as a result of the arrivals of new human groups, e.g., from northern Greater Poland, Kashubia and central Pomerania, where the Wielbark culture was disappearing during the discussed period.¹⁴⁰⁶

¹⁴⁰³ Cf. A. Grzymkowski 1996, 167–178; 2015, 58–61.

¹⁴⁰⁴ A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 201.

¹⁴⁰⁵ Cf. the cemeteries at Brulino-Piwki (A. Kempisty 1968, 445–446), Cecele (J. Jaskanis 1996, 110–112), Goździk (A. Niewęglowski 1984, 154), Krupice (J. Jaskanis 2005, 122–123), Kozłówko (M. Woźniak 2011, 198), Nadkole, site 1. (J. Andrzejowski, A. Żórawska 2002, 54–55), Jartypory (J. Andrzejowski 2023).

¹⁴⁰⁶ Recently, A. Cieśliński 2016, 224–228.

The chronological structure of the Kleszewo cemetery indicates that the site was used until the beginning of the Migration period (stage VIIb of the cemetery's use). However, few finds can be unequivocally attributed to this section. A larger group consists of features from the end of the Roman period (stage VIIa) and those dated in broad terms to phase VII of the cemetery's functioning, which corresponds to phases C₃-D. The ratio of graves from phase VI to features from phase VII (including features dated precisely to both its stages) is 1 to 2 (14:30). This clearly indicates that stable settlement structures existed in the Kleszewo area in phase C₃, perhaps also in phase D₁. This state of affairs is not exceptional, however, similar scenarios are primarily encountered in northern Mazovia.¹⁴⁰⁷ In that region, the material that can be associated with phases C₃-D has been recorded at all the better-explored sites and, importantly, it usually constituted a significant percentage of all the assemblages of the Wielbark culture.¹⁴⁰⁸ The situation is different in eastern Mazovia and, to a lesser extent, Podlachia, where the number of finds from the end of the Roman period and the beginning of the Migration period is smaller than in the previous phase;¹⁴⁰⁹ moreover, such finds are not found at all at some of the cemeteries.¹⁴¹⁰ This means that the definitive disappearance of the Wielbark culture from the Mazovian-Podlachian settlement zone, which took place in the developed section of the early Migration period, was, in fact, a long-term process that started already at the end of the younger Roman period and gradually encompassed all the different settlement clusters. The archaeological material discovered in northern Mazovia indicates that the collapse of settlement in this region was preceded by a period of intensive development, manifested, among others, by lively contacts with other cultural zones, mainly groups of the so-called Gothic cultural circle, and, presumably, by a further increase in population, as indicated by the high number of graves from that time found at many sites. This period of prosperity was probably related to the fact that one section of a long-distance travel route connecting Scandinavia and the Black Sea areas ran through northern Mazovia. Flowing into the northern

areas via this route were, among others, Roman vessels made from cut glass and, in the case of Mazovia, also items made in the environment of the Chernyakhov and Sântana de Mureş cultures, many of which were also discovered at Kleszewo.¹⁴¹¹ On the other hand, the above-mentioned period of settlement boom coincides with a crisis and, consequently, probable depopulation, at least to some extent, of the Wielbark culture settlement clusters in Warmia and on the Elbląg Plateau.¹⁴¹² Therefore, some population shifts from the north to Mazovia cannot be ruled out.

In terms of funeral rituals and grave assemblages, the cemetery at Kleszewo follows patterns typical of the Wielbark culture in Mazovia and Podlachia. It is a bi-ritual site, mostly with pit graves, which usually contained pyre remains. At Kleszewo, there were no burials in an urn or in the form of clusters of burnt bones (in urns made of organic materials?) deposited in the so-called pure sand, commonly recorded at Wielbark culture cemeteries, which results from the "late" chronology of the titular site. Such graves are characteristic of phases B₂/C₁-C₁, when the site was not yet in use. Similar to other Mazovian-Podlachian cemeteries, Kleszewo also yielded relatively modest grave goods,¹⁴¹³ usually limited to one or two brooches, a buckle, decorations and everyday tools. More abundant items were found only in a few inhumation burials containing, for example, from three to five brooches, also those made of silver,¹⁴¹⁴ and elaborate necklaces, composed of amber and glass beads and pendants.¹⁴¹⁵ The most numerous Roman imports are glass beads, which were found in several features (cf. Subchapter 2.2.3.2). Roman vessels (or fragments thereof), made of clay (150/1), bronze (524/7) and glass (708/23?, 884/1), were also discovered in several graves. Of course, as per the canon of the Wielbark culture, there were no weapons or specialist tools present in the Kleszewo graves. Metal objects were mainly made of copper alloys. Only a few iron items were discovered, e.g., two buckles (386/1, 621/2) and a brooch (621/1). Many vessels found in the pit graves from Kleszewo show traces of burning, which is also commonly recorded at other Wielbark culture sites of Mazovia and Podlachia. The presence of such artefacts is sometimes

¹⁴⁰⁷ M. Woźniak 2013, 443-446.

¹⁴⁰⁸ Cf. the cemeteries at Kozłówko (M. Woźniak 2011, 198), Modła (J. Andrzejowski 2006, 19), Niedanowo (W. Ziemińska-Odojowa 1999a, 139-140).

¹⁴⁰⁹ E.g., Cecele (J. Jaskanis 1996, 111-112), Jartytory (J. Andrzejowski 2023).

¹⁴¹⁰ E.g., Krupice (J. Jaskanis 2005, 122-123), Goździk (A. Niewęglowski 1984, 154), Nadkole, site 1 (J. Andrzejowski, A. Żórawska 2002, 54-55).

¹⁴¹¹ E.g., the beaker from grave 884 (884/1), some of the pottery made on a potter's wheel (cf. Subchapter 2.7.2), the stray find of a silver plate brooch (ZL/26).

¹⁴¹² Cf. A. Cieśliński 2008; A. Cieśliński, D. Wyczółkowski 2008; A. Cieśliński, A. Rau 2017, 335-337; cf. also M. Natuniewicz-Sekuła, J. Okulicz-Kozaryn 2011, tab. 1.

¹⁴¹³ Cf. J. Andrzejowski 2005b, 117.

¹⁴¹⁴ Graves 158, 884.

¹⁴¹⁵ Graves 158, 385, 386, 884.

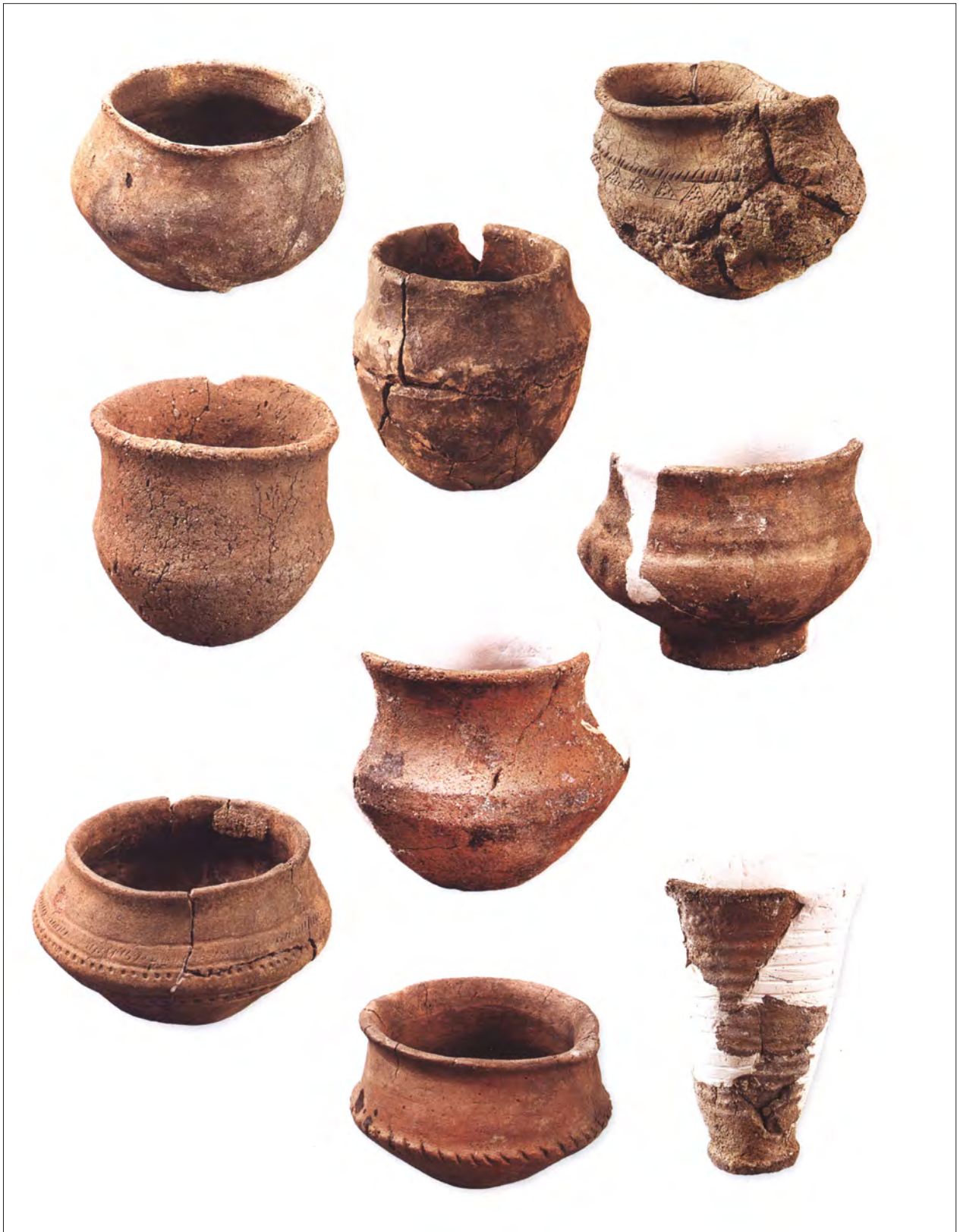


Fig. 98. Examples of secondarily burnt Wielbark culture vessels from the cemetery at Węgrowo in Chełmno Land.
Scanned in a scale of 1:2. After: M. Kurzyńska 2013

associated with the survival of funeral customs of the Przeworsk culture in the environment of the Wielbark culture.¹⁴¹⁶ It should be noted, however, that such vessels have also been recorded in other settlement zones of the Wielbark culture, where this unit crystallised on a different substrate (Fig. 98).¹⁴¹⁷ Nevertheless, the issue of possible connections between both groups in the developed Roman period and later requires further in-depth studies. The Almgren-158 brooch and some clay vessels made using a potter's wheel (cf. Section 2.7.2) that were discovered at Kleszewo suggest that such contacts may have taken place.

¹⁴¹⁶ K. Godłowski 1985, 75; J. Andrzejowski 2001b, 122; 2007, 233.

¹⁴¹⁷ E.g., in Chełmno Land and by the Lower Vistula (W. Heym 1939, 18–19; M. Kurzyńska 2013, 56).

8. CONCLUSIONS

The Kleszewo cemetery is one of the few fully excavated cemeteries of the Przeworsk and Wielbark cultures in Mazovia and Podlachia. It is also the largest Przeworsk culture burial ground discovered in the Lower Narew River basin¹⁴¹⁸ and the only Wielbark culture cemetery in that area. The material discovered there is, therefore, the main source of information about the population inhabiting the region in question in the Late Iron Age. It was a flat cemetery, which yielded 520 graves and 44 other features. The majority of features were attributed to the Przeworsk culture (320 graves and 24 other features). In addition, 91 graves and two other features were associated with the Wielbark culture. Cultural attribution of the remaining 109 graves and 18 other features has not been determined due to their poor contents. The grave goods found in most features allowed them to be dated with greater or smaller precision. Seven main phases of the cemetery's functioning were distinguished, which, in some cases, were further divided into stages (e.g., IIa, IIb, Va, Vb, Vc). In phases I–V, the cemetery was used by the people of the Przeworsk culture, and in phases VI–VII – by the Wielbark culture community. The chronological system developed for the cemetery was correlated with the periodisation of the two cultural groups of interest (Table 14). The two systems are largely consistent, especially in regard to the material known from Mazovia and Podlachia. Some differences result primarily from the specificity of the Kleszewo material, e.g., type-N brooches were generally found there in the horizon of fibulae of type M rather than type O/Almgren 2.¹⁴¹⁹ What stands out

the most, however, is a slightly different division of the period covered by phases B₂–C_{1a}. At the best-explored cemeteries of eastern Mazovia, i.e., Kamieńczyk and Nadkole, site 2, the period in question was divided into four chronological horizons (Table 37), at Kleszewo – only three (stages Va–c). This disparity is due to the lack of weapons in the Kleszewo graves. At the two aforementioned sites, the co-occurrence of weapons from group 4 defined by K. Godłowski,¹⁴²⁰ typical of subphase B_{2b}, and fibulae characteristic mainly of the early section of phase B₂ provided grounds for distinguishing another short section between the horizon of early brooches of the Prussian series and the first appearance of spring-cover fibulae of Almgren type 38–39, trumpet brooches of variant 5 and fibulae with features of groups II and IV.¹⁴²¹ In the case of Kleszewo, the graves that could have come from this horizon were assigned to stage Va or Vb.

The Przeworsk culture cemetery at Kleszewo was probably established at the beginning of phase A₂ of the late pre-Roman period, synchronously with most of the large eastern Mazovian cemeteries of this unit and slightly later than some northern Mazovian sites that functioned from the later section of phase A₁. The oldest horizon is marked by brooches of Middle La Tène construction, e.g., the specimen from grave 27. Most of the material from phase I of the cemetery's operation should likely be dated to the developed section of phase A₂, recently distinguished as subphase A_{2b}.¹⁴²² The Przeworsk culture cemetery at Kleszewo

sented by T. Dąbrowska in her work of 1988 mostly apply (cf. T. Dąbrowska 2008, 32).

¹⁴²⁰ K. Godłowski 1992, 72, fig. 2.

¹⁴²¹ Cf. T. Dąbrowska 1997, 118–119 (phase 7); J. Andrzejewski 1998a, 107–108 (phase 2a).

¹⁴²² A. Mistewicz, A. Maciałowicz, M. Woźniak 2021, 102.

¹⁴¹⁸ Within the boundaries defined in Chapter 7.

¹⁴¹⁹ Cf. T. Dąbrowska 1988, 46. It should be borne in mind that, among the Kleszewo brooches of type N, dominant are forms with wire- or rod-shaped bows (type N-a). There are no stylistically late examples with wide bows to which the remarks pre-

Table 37. Attempt at synchronising chronological divisions of the cemeteries at Kleszewo, Nadkole and Kamieńczyk

Kleszewo		Nadkole	Kamieńczyk
I		-	1
II	a	0	2
	b		3
III		-	4
IV		1a	
V	a	1b	6
		2a	7
	b	2b	8
	c	3	9
VI		-	-
VII	a	-	-
	b	-	-

was used intensively until the end of the early Roman period, with the last features dating to the beginning of the younger Roman period.

In terms of grave contents and funeral rites, the Przeworsk culture cemetery represents a model typical of Mazovian and Podlachian sites. It most closely resembles eastern Mazovian cemeteries, primarily those located in the Lower Bug River basin. In some aspects (e.g., lack of stone structures above the graves), it differs from northern Mazovian sites. The local character of the site becomes particularly clear in the early Roman period. Most of the discovered material finds perfect analogies at other cemeteries of eastern Mazovia. This remark also applies to the forms of clay vessels, which are one of the basic cultural identifiers. One feature that distinguishes the Kleszewo cemetery from other sites of the region in question is the almost complete lack of elements considered to be archaeological markers of male burials, mainly weapons but also specialist tools and dress accessories, e.g., double-pin buckles. Weapons were recorded only in graves from the oldest phase of the cemetery's use. Starting in phase II, the cemetery adopted a "mono-gender" character. Sites of this type are extremely rarely found in the Przeworsk culture. It is

possible that this phenomenon has its roots in cultural impulses coming from the Jastorf culture.¹⁴²³

The Przeworsk culture cemetery was used until the beginning of the younger Roman period, just like many other cemeteries of eastern Mazovia (e.g., Kamieńczyk, Nadkole site 2, Załubice Stare) and longer than northern Mazovian sites (more precisely: those located in the Middle and Upper Wkra River basin), which were abandoned at the end of the early Roman period. The final stage of its functioning coincided with the period of cultural changes related to the expansion of the Wielbark culture into Mazovia and Podlachia.¹⁴²⁴ The chance finds from the region and sites located near the titular cemetery indicate that the population of the Wielbark culture appeared in the Lower Narew River basin already in phases B₂/C₁-C_{1a}. Thus, both cultural models could have functioned side by side for some time while retaining their own character. The final disappearance of the Przeworsk culture from the region probably took place in the late section of subphase C_{1a}. There is no material from subphase C_{1b} known from the area in question that could be clearly associated with the Przeworsk culture.

In late phase C₁, and most probably in phase C₂, the people of the Wielbark culture began to bury their dead at the Kleszewo cemetery. The use of the same burial grounds by both Przeworsk and Wielbark populations is a common phenomenon in Mazovia and Podlachia.¹⁴²⁵ Nevertheless, the cemetery at Kleszewo is one of the few sites of this type where Przeworsk culture graves from phases B₂/C₁-C_{1a} have also been recorded. In eastern Mazovia and Podlachia, cemeteries with so-dated Przeworsk culture features are usually monocultural and were no longer used after having been abandoned by the Przeworsk people. A separate issue is the "late" chronology of the Wielbark culture cemetery at Kleszewo. The lack of obvious features from phases B₂/C₁-C₁, commonly recorded at other Wielbark culture sites in Mazovia and Podlachia, has not been caused by the destruction or incomplete exploration of the site, as indicated by the lack of stray finds from this period and the clear planigraphy of the Wielbark part of the cemetery. This fact is difficult to explain. One possible reason may have been the survival of some remnants of Przeworsk culture settlement by the Lower Narew River deep into the younger Roman period. In such a case, we could expect the existence of monocultural Wielbark culture cemeteries in the Lower Narew River basin that functioned there from phase B₂/C₁-C_{1a}. Such

¹⁴²³ A. Maciałowicz, M. Woźniak 2015, 244-256.

¹⁴²⁴ Recently, J. Andrzejowski 2019.

¹⁴²⁵ J. Andrzejowski 1989.

a phenomenon, i.e., the establishment of Wielbark culture cemeteries *in cruda radice* next to the Przeworsk culture cemeteries that were in use at that time, has already been recorded near the confluence of the Liwiec and Bug rivers.

The cemetery was used by the Wielbark culture people until the early Migration period, like most of the better-explored sites of this formation in its Mazovian-Podlachian zone. What is noteworthy is the predominance of features from phases C₃-D (phase VII of the cemetery's use) over graves from phase C₂ (phase VI). A similar phenomenon has been recorded at several large cemeteries of northern Mazovia. Moreover, less or more ample material from phases C₃-D is present at almost all cemeteries from the area in question. This trend coincides with the collapse of the Wielbark culture settlement structures in Warmia, Masuria and the Elbląg Plateau. It is, therefore, possible that the development of settlement (and, consequently, the increase in population) in northern Mazovia and the Lower Narew region in the late Roman period is evidence of internal migrations of the population of this group across various settlement zones.

In terms of funerary rites and the characteristics of grave assemblages, the Kleszewo cemetery is a typical sepulchral site of the Wielbark culture in Mazovia and Podlachia. The cemetery was bi-ritual, with the cremation graves outnumbering the inhumation ones. The former group consist exclusively of pit burials, which is due to the "late" chronology of the site rather than the particular funeral practices of the local community. Urn graves were typical of the region in question in phases B₂/C₁-C_{1a}, i.e., when the Kleszewo cemetery was still used by the Przeworsk culture population. The grave goods were relatively modest, and only a few inhumation graves contained more impressive items.

Graves from all phases of the cemetery's use, of both the Przeworsk and Wielbark cultures, contained objects

indicating connections of the local population with inhabitants of other regions. These items were made in various parts of *Barbaricum* or were manufactured in Roman workshops (cf. Subchapters 7.3 and 7.4). The former are manifestations of contacts between barbarians that are difficult to clearly define, mostly related to isolated incidents (?), e.g., of a commercial, personal (e.g., marriage) or military (e.g., robbery) nature. This is also probably how at least some finds of Roman imports can be interpreted. The number of items of foreign provenance in particular phases of the cemetery's development indicates that, in some periods, their inflow was more intense than in others. This tendency concerns primarily the end of the pre-Roman period and the initial phase of the Roman period, as well as the late Roman period, which fits well into the picture of long-distance connections of the population of northern and eastern Mazovia emerging from the analysis of archaeological sources. Artefacts discovered in graves from the earlier of the above-mentioned stages, e.g., Roman *Jezerine*-type brooches, can be associated with the functioning of one of the branches of the so-called Amber Road. Late Roman glass vessels, e.g., the beaker from grave 884, as well as contemporaneous pottery made on a potter's wheel, probably reached Mazovia as part of the network of connections linking the Black Sea areas with Scandinavia. The relatively large number of imports (from the Mazovian perspective) discovered at the Kleszewo cemetery could be ascribed to many reasons. It seems that one of the most important factors was the proximity of the Narew River – one of the largest watercourses in this part of Europe. The river allowed convenient travel between various regions of this part of *Barbaricum*, and the local community could have benefited by acting as an intermediary in interregional contacts.

WYKAZ NAZW MIEJSCOWYCH (NAZWY DAWNE OZNACZONO KURSYWĄ)

- Aleksandrowice, pow. krakowski, PL
Arbasy, pow. siemiatycki, PL
Augsburg, Kr. Augsburg, DE
Babi Dół-Borcz, pow. kartuski, PL
Babięta (*Babienten*), pow. mławowski, PL
Baiv, Volins'ka obl. [Баїв, Волинська обл.], UA
Bartki (*Bartkengut*), pow. nidzicki
Bartlikowo (*Bartlickshof*), pow. giżycki, PL
Białowieża, pow. hajnowski, PL
Bieliny, pow. niżański, PL
Bielsk Podlaski, pow. bielski, PL
Błonie, pow. sandomierski, PL
Boldești-Grădiștea, jud. Prahova, RO
Bol'soe Isakovo (*Lauth*), Kaliningradskaâ obl. [Большое Исаково, Калининградская обл.], RU
Borkowice (*Borkenhagen*), pow. koszaliński, PL
Bornice (*Bornitz*), pow. iławski, PL
Brachlewo (*Bystrzec, Weißhof*), pow. kwidzyński, PL
Bratysława, Bratislavský kraj, SK
Bratysława-Dúbravka, Bratislavský kraj, SK [Bratislava]
Bråten, Viken fylke, NO
Brëst-Tryšyn, Brëskaâ vobl., [Брëст-Трышын, Брëсская вобл.], BY
Brzeźno, pow. ostrołęcki, PL
Brzyno, pow. pucki, PL
Brudnice, pow. żuromiński, PL
Brulino-Piwki (*Brulino-Koski*), pow. wysokomazowiecki, PL
Cadimarco, prov. di Brescia, IT
Cecele, pow. siemiatycki, PL
Charłupia Mała, pow. sieradzki, PL
Chmielów-Piaskowy, pow. ostrowiecki, PL
Chorula, pow. krapkowicki, PL
Chorvátsky Grob, Bratislavský kraj, SK
Chynowie (*Chinow*), pow. wejherowski, PL
Cieblówice Duże, pow. tomaszowski, PL
Ciemniewko, pow. ciechanowski, PL
Ciepłe (*Warmhof*), pow. tczewski, PL
Corent, Puy-de-Dôme dép., FR
Cybulino (*Zeblin*), pow. koszaliński, PL
Czarnówko, pow. łęborski, PL
Czersk, pow. piaseczyński, PL
Czerwony Dwór, pow. olecki, PL
Černeliv-Rus'kij, Ternopil's'ka obl. [Чернелів-Руський, Тернопільська обл.], UA
Dănceni, Ialoveni rai., MD
Dąbek, pow. mławski, PL
Dębczyno, pow. białogardzki, PL
Dobrodzień, pow. oleski, PL
Dobrzankowo, pow. przasnyski, PL
Dobrzeń Mały, pow. opolski, PL
Doss Zelor, prov. di Trento, IT
Drohiczyn, pow. siemiatycki, PL
Drochlin, pow. częstochowski, PL
Dzierzgowo, pow. mławski, PL
Dzierżenin, pow. pułtuski, PL
Dzierżysław, pow. głubczycki, PL
Elanovka (*Wackern*), Kaliningradskaâ obl. [Елановка, Калининградская область], RU
Elbląg-Pole Nowomiejskie (*Elbing-Neustädter Feld*), pow. elbląski, PL
Este-Baratella, prov. di Padova, IT
Fântânele, jud. Bistrița-Năsăud, RO
Garwolin, pow. garwoliński, PL
Gąbinek, pow. wrocławski, PL
Gašior (*Gonschor, Jaskowska See*), pow. piski, PL
Gdańsk, pow. Gdańsk, PL
Gdynia-Oksywie, pow. Gdynia, PL
Gledzianówek, pow. łączycki, PL
Glinki, pow. otwocki, PL
Głazów, pow. myśliborski, PL
Głogów-Nosocice, pow. głogowski, PL
Głuszyno, pow. słupecki, PL

Gnaty-Lewiski, pow. pułtuski, PL
 Gola, pow. jarociński, PL
 Gołębiewo (*Taubendorf*), pow. nidzicki, PL
 Gołymin-Ośrodek, pow. ciechanowski, PL
 Gościeradów, pow. kraśnicki, PL
 Gozdowo, pow. sierpecki, PL
 Goździk, pow. garwoliński, PL
 Górzycza, pow. ślubicki, PL
 Grodzisk Mazowiecki, pow. grodzisk, PL
 Gronowo, pow. drawski, PL
 Gronowo Górne (*Grunau Höhe*), pow. elbląski, PL
 Gropello Cairoli, prov. di Pavia, IT
 Gródek, pow. hrubieszowski, PL
 Gródek, pow. otwocki, PL
 Gródek, pow. wysokomazowiecki, PL
 Gródki (*Grodtken*), pow. działdowski, PL
 Grudziądz-Rządź (*Rondsen*), pow. Grudziądz, PL
 Grunajki (*Grunaikien*), pow. gołdapski, PL
 Grzybnica, pow. koszaliński, PL
 Gulb, pow. iławski, PL
 Gzowo, pow. pułtuski, PL
 Hrazany, okres Písek, CZ
 Hrustal'noe (*Wieckau*), Kaliningradskaâ obl. [Хрустальное, Калининградская обл.], RU
 Hryniewiczze Duże (*Hryniewiczze Wielkie*), pow. bielski, PL
 Hunedoara Timișană, jud. Arad, RO
 Husby, Kr. Schleswig-Flensburg, De
 Husynne, pow. chełmski, PL
 Igllice (*Geiglitz*), pow. łobeski, PL
 Illerup, reg. Midtjylland, DK
 Inowrocław, pow. inowrocławski, PL
 Jacewo, pow. inowrocławski, PL
 Jakuszowice, pow. kazimierski, PL
 Janowo (*Heinrichsdorf*), pow. mławowski, PL
 Jartypory, pow. węgrowski, PL
 Jasieniec (*Gross Eschenort*), pow. giżycki, PL
 Jerzmanowice, pow. krakowski, PL
 Jeziórki (*Jeziorki*), pow. brodnicki, PL
 Juskowo, pow. gdański, PL
 Kaborga, Mikolaïvs'ka obl. [Каборга, Миколаївська обл.], UA
 Kacice, pow. pułtuski, PL
 Kalinów (*Kalinow*), pow. strzelecki, PL
 Kalisz-Piwonice, pow. Kalisz, PL
 Kalisz-Zawodzie, pow. Kalisz, PL
 Kamienica Szlachecka, pow. kartuski, PL
 Kamieńczyk, pow. wyszkowski, PL
 Karczewiec, pow. węgrowski, PL
 Karczyn/Witowy, pow. inowrocławski, PL
 Karniewek, pow. pułtuski, PL
 Karniewo, pow. makowski, PL
 Kaszowo, pow. milicki, PL
 Kietrz, pow. głubczycki, PL
 Kitki, pow. mławski, PL
 Kleszewo, powiat pułtuski, PL
 Kłoczew, pow. rycki, PL
 Koczek (*Kotzek, Waldersee*), pow. szczycieński, PL
 Kolonia Nieszawa (*Nieszawa Kolonia*), pow. opolski, PL
 Kolonia Rychłocice, pow. wieluński, PL
 Kolonia, DE [Köln]
 Kołat-Rybniki, pow. lipnowski, PL
 Kołacz, pow. miński, PL
 Kołoząb, pow. płoński, PL
 Komariv, Černivec'ka obl. [Комарів, Чернівецька обл.], UA
 Konin, pow. Konin, PL
 Kosewo (*Kossewen*), pow. mławowski, PL
 Kosmów, pow. hrubieszowski, PL
 Kościelna Jania, pow. starogardzki, PL
 Kościeszce, pow. pułtuski, PL
 Коврово (*Dollkeim*), Kaliningradskaâ obl. [Коврово, Калининградская обл.], RU
 Kowalewko, pow. obornicki, PL
 Kowalki (Kowalk), pow. białogardzki, PL
 Kowanówko, pow. obornicki, PL
 Kozłówko (*Klein Koslau*), pow. nidzicki, PL
 Kraków-Pychowice, pow. Kraków, PL
 Krasnystaw, pow. krasnostawski, PL
 Kraśnik-Piaski, pow. kraśnicki, PL
 Krosno (*Crossen*), pow. pasłęcki, PL
 Kraszewo, pow. ciechanowski, PL
 Krupice, pow. siemiatycki, PL
 Krusza Zamkowa, pow. inowrocławski, PL
 Kryspinów, pow. krakowski, PL
 Księży Dwór (*Niederhof*), pow. działdowski, PL
 Kuczbork-Osada, pow. żuromiński, PL
 Kurzątkowice, pow. oławski, PL
 Lachmirowice, pow. inowrocławski, PL
 Lamadelaine [=Rolleng], canton d'Esch-sur-Alzette, LU
 Legionowo, pow. legionowski, PL
 Lehndorf, Kr. Fischhausen, Ostpreußen [obecnie Kaliningradskaâ obl. / Калининградская обл.], RU
 Lemany, pow. pułtuski, PL
 Lejdy (*Legden*), pow. bartoszycki, PL
 Lekowo (*Leckow*), pow. świdwiński, PL
 Leśniewo (*Fürstenau*), pow. kętrzyński, PL
 Leśno, pow. chojnicki, PL
 Linowo, pow. grudziądzki, PL
 Lipianki, pow. kwidzyński, PL
 Litwinki (*Litffinken*), pow. nidzicki, PL
 Lubartów, pow. lubartowski, PL
 Lubieszewo, pow. nowodworski, PL
 Lubieszewo, pow. gryficki, PL
 Lubowidz, pow. lęborski, PL

Lugovskoe (*Lobitten*), Kaliningradskaâ obl. [Луговское, Калининградская обл.] RU
 Lutobrok, pow. pułtuski, PL
 Lûblino (*Serappen*), Kaliningradskaâ obl. [Люблино, Калининградская обл.], RU
 Łajski, pow. legionowski, PL
 Łazówek, pow. sokołowski, PL
 Łęg Piekarski, pow. turecki, PL
 Łęgonice Małe, pow. przysuski, PL
 Łężany, pow. kętrzyński, PL
 Łubienica-Superunki, pow. pułtuski, PL
 Magdalensberg, Bezirk Klagenfurt-Land, AU
 Magnuszew Mały, pow. makowski, PL
 Majdan, pow. otwocki, PL
 Malbork, pow. malborski, PL
 Malbork-Wielbark (*Willenberg*), pow. malborski, PL
 Małe Czyste, pow. chełmiński, PL
 Mały Garc, pow. tczewski, PL
 Manching, Ldk. Pfaffenhofen an der Ilm, DE
 Maślomęcz, pow. hrubieszowski, PL
 Mników, pow. krakowski, PL
 Modlniczka, pow. krakowski, PL
 Modła, pow. mławski, PL
 Moszna, pow. lubelski, PL
 Nadkole, pow. węgrowski, PL
 Naryjski Młyn, pow. ostródzki, PL
 Netta, pow. augustowski, PL
 Niecieplin, pow. garwoliński, PL
 Niedanowo, pow. nidzicki, PL
 Niemirów, pow. siemiatycki, PL
 Niezgoda, pow. trzebnicki, PL
 Nowe Dłutowo (*Dłutowo*), pow. działdowski, PL
 Nowy Łowicz, pow. drawski, PL
 Nowy Targ, pow. sztumski, PL
 Nur (*Nur Kolonia*), pow. ostrowski, PL
 Nydam, reg. Syddanmark, DE
 Oblin, pow. garwoliński, PL
 Obrowiec, pow. krapkowicki, PL
 Odry, pow. chojnicki, PL
 Okunevo (*Grebieten*), Kaliningradskaâ obl. [Окунево, Калининградская обл.], RU
 Olszak, pow. pułtuski, PL
 Olsztyn, pow. częstochowski, PL
 Opatów, pow. kłobucki, PL
 Opoła, pow. puławski, PL
 Opole-Gosławice (*Ehrenfeld*), pow. Opole, PL
 Ornavasso-San Bernardo, prov. del Verbano-Cusio-Ossola, IT
 Oronne, pow. garwoliński, PL
 Orșova, Jud. Mehedinți, RO
 Osie, pow. świecki, PL
 Osiek nad Notecią (*Osiek-Pracz*), pow. pilski, PL
 Otałążka, pow. grójecki, PL
 Otłoczyn, pow. aleksandrowski, PL
 Otten, Kr. Heilingenbeil, Ostpreußen [obecnie Kaliningradskaâ obl. / Калининградская обл., RU]
 Rajewo-Szwelice, pow. ciechanowski, PL
 Pančevo, Južnabanatski okrug [Панчево, Јужнобанатски округ], RS
 Papowo Toruńskie, pow. toruński, PL
 Paprotki Kolonia, pow. giżycki, PL
 Pâtrovičy, Brèsckaâ vobl. [Пятровицы, Брэсцкая вобл.], BY
 Piastowo (*Pajki*), pow. przasnyski, PL
 Pelplin-Maciejewo (*Maciejewo*), pow. tczewski, PL
 Podwiesk, pow. chełmiński, PL
 Podzamcze, pow. zawierciański, PL
 Polwica, pow. oławski
 Povarovka (*Kirpehnen*), Kaliningradskaâ obl. [Поваровка, Калининградская обл.], RU
 Poznań, pow. Poznań, PL
 Pólko, pow. grójecki, PL
 Prawików, pow. wołowski, PL
 Pressana-Sant' Agata, prov. di Verona, IT
 Pruszcz Gdański, pow. gdański, PL
 Przewodowo-Majorat, pow. pułtuski, PL
 Przewodowo Nowe, pow. pułtuski, PL
 Przewodowo-Parcele, pow. pułtuski, PL
 Psary, pow. pułtuski, PL
 Pułtusk, pow. pułtuski, PL
 Purzyce-Trojany, pow. ciechanowski, PL
 Putilovo (*Corjeiten*), Kaliningradskaâ obl. [Путилово, Калининградская обл.], RU
 Púchov, Trenčiansky kraj, SK
 Radzymin, pow. wołomiński, PL
 Redzyńskie, pow. miński, PL
 Regów, pow. grodziski, PL
 Rębowo, pow. płocki, PL
 Rogowo, pow. toruński, PL
 Rosenau, Kr. Königsberg [obecnie Kaliningrad/Калининград, Kaliningradskaâ obl. / Калининградская обл., RU]
 Rostki, pow. ostrołęcki, PL
 Rostoły, pow. białostocki, PL
 Równina Dolna, pow. kętrzyński, PL
 Różyny, pow. gdański, PL
 Ružičanka, Hmel'nic'ka obl. [Ружичанка, Хмельницька обл.], UA
 Rzeczki, pow. ciechanowski, PL
 Sanzkow, Ldk. Mecklenburgische Seenplatte, DE
 Sarnaki, pow. łosicki, PL
 Sarnia Zwola, pow. ostrowiecki, PL
 Sevegliano, prov. di Udine, IT
 Sieluń, pow. makowski, PL
 Siemiechów, pow. łaski, PL
 Skiwy Małe, pow. siemiatycki, PL

Skowarcz (*Schönwarling*), pow. gdański, PL
 Sławosze (*Heinriettenfeld*), pow. kętrzyński, PL
 Sławsk Wielki, pow. inowrocławski, PL
 Spiczyn, pow. łęczycki, PL
 Spychówko (*Klein Puppen*), pow. szczycieński, PL
 Sobieszyn, pow. rycki, PL
 Sobocisko (*Zottwitz*), pow. oławski, PL
 Starachowice, pow. starachowicki, PL
 Stara Rzeka, pow. świecki, PL
 Starawieś (*Stara Wies*), pow. węgrowski, PL
 Stary Targ (*Altmark*), pow. sztumski, PL
 Stary Szelków, pow. makowski, PL
 Stary Zamek (*Altenburg*), pow. wrocławski
 Stradonice, okres Beroun, CZ
 Straduń, pow. czarnkowsko-trzcianecki, PL
 Strassoldo, prov. di Udine, IT
 Stręgiel (*Groß Strengehn*), pow. węgorzewski, PL
 Strzyże, pow. pułtuski, PL
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 Sulnikowo, pow. pułtuski, PL
 Supraśl, pow. białostocki, PL
 Swaryczów, pow. zamojski, PL
 Swołowo (*Schwołow*), pow. śląski, PL
 Szczepkowo-Zalesie, pow. nidzicki, PL
 Szczyty-Dzięciołowo, pow. bielski, PL
 Szynych, pow. grudziądzki, PL
 Szwajcaria, pow. suwalski, PL
 Święty Gaj, pow. elbląski, PL
 Świlcza, pow. rzeszowski, PL
 Thorsberg, Kreis Schleswig-Flensburg, DE
 Třebusice, okres Kladno, CZ
 Todzia, pow. ostrołęcki, PL
 Tomasze, pow. ostrołęcki, PL
 Tuchlin, pow. wyszkowski, PL
 Tumiany (*Daumen*), pow. olsztyński, PL
 Turza Mała (*Klein Tauersee*), pow. działdowski, PL
 Ulów, pow. tomaszowski, PL
 Verbična (*Werbyczka*), Hmel'nic'ka obl. [Вербична, Хмельницька обл.], UA
 Waplewo, pow. olsztyński, PL
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 Warszawa-Dotrzyma, pow. Warszawa, PL
 Warszawa-Kawęczyn, pow. Warszawa, PL
 Warszawa-Wilanów, pow. Warszawa, PL
 Wekllice, pow. elbląski, PL
 Węgrowo, pow. grudziądzki, PL
 Wielka Kletna, pow. hajnowski, PL
 Wielki Łęck (*Groß Lensk*), pow. działdowski, PL
 Wiktorów, pow. zgierski, PL
 Wilkowo Nowomiejskie, pow. łęborski, PL
 Witaszewice, pow. łęczycki, PL
 Witkowo (*Wittichow*), pow. stargardzki, PL
 Włocławek-Szpetal, pow. Włocławek, PL
 Woldegk, Ldk. Mecklenburgische Seenplatte, DE
 Woźnice (*Wosnitzen*), pow. mławowski, PL
 Wymysłowo, pow. gostyński, PL
 Wyszembork, pow. mławowski, PL
 Wyszomierz, pow. sokołowski, PL
 Zaborów, pow. warszawski zachodni, PL
 Zadowice, pow. kaliski, PL
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 Zaostrov'e (*Rantau*), Kaliningradská obl. [Заостровье, Калининградская обл.], RU
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 Zawichost, pow. sandomierski, PL
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 Zdory (*Sdorren*), pow. piski, PL
 Zgliczyn Pobodzy, pow. żuromiński, PL
 Zofipole, pow. krakowski, PL
 Zohor, Bratislavský kraj, SK
 Żabieniec, pow. częstochowski, PL
 Żdźarów, pow. sochaczewski, PL
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ANEKS 1

ŁUKASZ MAURZYC STANASZEK, *ANTHROPOLOGICAL ANALYSIS OF THE HUMAN BONE REMAINS FROM THE KLESZEWO CEMETERY*

The human remains that are the subject of this analysis come from accidental discoveries and excavations conducted at the cemetery at Kleszewo, Pułtusk County. Most of the bones come from cremation graves, and a few – from inhumation graves.

The analysis of the anthropological material was carried out using generally accepted methods and anatomical descriptions of the skeleton, as well as some findings based on the results of analyses of the material from other cemeteries.¹

The main goal of this analysis was to estimate the sex and age of the buried people, reconstruct their body height at death, record anatomopathological changes leaving visible traces on the bones, and record all stress indicators (e.g., *cribra orbitalia*, enamel hypoplasia) in order to determine the well-being of the population. Therefore, diagnostic fragments of the skeleton were isolated from the bone material total to facilitate formulating conclusions. This concerned in particular the cremated remains, for which other information, helpful in reconstructing funeral customs prevailing in the Late Iron Age (i.e., the weight, colour and degree of burning of the bones, the number of people in the grave or the presence of animal bones), was also recorded. The description of each assemblage was standardised in accordance with the standards adopted for the analyses of the Anthropological Laboratory of the State Archaeological Museum in Warsaw.

When determining the sex of the individuals, special attention was paid to the descriptive and metric

differentiating features, combined with the so-called overall morphological impression.² This approach was mainly applied to the distinctive elements of the skull and pelvic bones, in which sexual dimorphism is the most visible. In some cases, metric measurements of the thickness and/or diameter of individual bones of the skeleton, as well as an analysis of their mass, were used. In general, however, the few obtained determinations of the sex of the deceased are subject to much greater error than the age determinations. This is due to the fact that male and female body features, in the case of both sexes, may be expressed with varying intensity due to hormonal imbalance.³ The sex determinations are then either less (recorded with a question mark) or more likely, but never certain.

The approximate age of the deceased was determined based on a comprehensive (multi-feature) analysis of changes occurring in the formation of individual morphological features of the skeleton and teeth. First of all, attention was paid to the degree of obliteration of the cranial sutures, general state of skeletal ossification, pathological changes in the skeletal system (i.e., spine degeneration), degree of compactness of the cancellous bone and wall thickness of the canals of the marrow cavities in the proximal epiphyses of long bones. In the cases where the dental crowns have been preserved, special attention was paid to the course and severity of wear of the chewing surfaces⁴ and the sequence of eruption of individual deciduous and permanent teeth⁵ in the early stages of ontogenesis. In addi-

¹ Cf. T. Dzierżykraj-Rogalski 1960; 1968; J. Gładkowska-Rzeczycka 1972; 1974; J. Strzałko, J. Piontek, A. Malinowski 1973; 1974; J. Szydłowski 1974; M. Reicher 1990; J.E. Buikstra, D.H. Ubelaker 1994; W.M. Bass 1995; J. Piontek 1996; A. A. Bochenek, M. Reicher 1990; M. Brickley, J.I. McKinley 2004; M. Pyżuk 2004, 33–48; Ł.M. Stanaszek 2017; 2021.

² Cf. T. Dzierżykraj-Rogalski 1968, 631; G. Acsádi, J. Nemeskéri 1970; J. Strzałko, M. Henneberg 1975; J. Piontek 1996, 127–141.

³ Cf. J. Strzałko, J. Piontek, A. Malinowski 1973, 184; A. Malinowski 1974, 11–12; J. Piontek 1996.

⁴ C.O. Lovejoy 1985; J. Piontek 1996, 169–172.

⁵ D.H. Ubelaker 1989, 112–113.

tion, the degree of formation of the tooth buds, thickness of the tooth walls and condition of the roots were analysed.

The age determinations were divided into categories designating the subsequent periods of human development: *fetus* – foetal (prenatal) period, *infans I* – early childhood (from birth to 6–7 years of age), *infans II* – late childhood (from 6–7 to 12–14 years of age), *iuvenis* – adolescence (from 12–14 to 20–22 years of age), *adultus* – adulthood (from 20–22 to 30–35 years of age), *maturus* – mature age (from 30–35 to 50–55 years of age), *senilis* – old age (over 55 years of age). Whenever possible, individual stages (phases) were distinguished within the adopted categories (e.g., early *adultus*, approx. 20–25 years of age) or more specific intermediate categories were created (e.g., *adultus/maturus*). Moreover, in the case of less diagnostic material, the age of the deceased was expanded to include two categories (e.g., *adultus–maturus*) or general terms were used (adult/non-adult).

When reconstructing the height of the body at death, the degree of bone shrinkage during the cremation process and the relationship between the size of the epiphyses of some long bones and their length were taken into account. The approximate height was determined on the basis of conversion standards created by Poznań anthropologists, which, in turn, were based on the tables proposed by M. Trotter and G.C. Gleser for unburnt remains.⁶

The analysis of pathological changes was difficult due to the unsatisfactory condition of the bones (incomplete and fragmented material). The examination of the bones was limited to macroscopic observations, and all pathological changes were described, stating the bone on which the lesion was observed. The classification of the few afflictions and injuries was based on the studies of numerous researchers.⁷

The assessment of the degree of burning of the bone material from Kleszewo has been simplified. Instead of the five-point numerical scales usually used,⁸ only three categories (defined verbally) were introduced. They reflected the general nature of bone burning and were thus easier to distinguish. The degree of burning was described as low (partial burning or charring; bones slightly cracked, lightly deformed and shrunken, of ashen-black colour and with strongly blackened perio-

steum), medium (more pronounced cracks and thermal deformations; grey-ashen colour) and high (significant cracks and deformations; brittle and small bone fragments, cream-white in colour; complete absence of organic components). Moreover, the descriptions of the colour of the bones include mentions of discolourations testifying to the presence of metal artefacts in the vicinity of the bones.

Table 1 summarises the most important results of the anthropological analysis of cremation and inhumation burials discovered at the Kleszewo site. They include a brief osteological description of the diagnostic material, weight, degree of burning of the bones, age and sex of the deceased, pathological changes, estimated body height, as well as comments and observations on selected morphological features and bone discolouration, secondary admixtures or the co-occurrence of animal bones. Moreover, numerous small fragments of pottery, bone and metal artefacts and charcoal, not included in the present analysis, were separated from the human bones.

ANALYSIS RESULTS

The vast majority of the bones were cremated, as only 11 graves⁹ contained inhumation burials (158, 184, 186, 385, 386, 629, 634, 636, 750, 884, 887), including one (158) not included in the further analysis due to the poor state of preservation of the material (one nondescript bone). In cremation graves 525B and 655, there was undoubtedly secondary admixture in the form of isolated unburnt bones. For the purposes of this analysis, all burials were examined jointly, without going into any possible cultural differences that could be manifested in specific funeral rites.

In general, the cremated human bones were relatively poorly preserved (fragmented and incomplete material), as were the unburnt bones (broken *postmortem*, eroded, incomplete). In many cases, it was impossible to clearly determine the age and sex of the deceased, as well as to comprehensively record individual characteristics (pathology, stress markers or body height). The most poorly preserved and/or non-diagnostic skeletal remains from 18 burials (graves 40, 128, 204, 231A, 265, 304, 305, 361, 523, 531, 577, 578, 614, 630, 691, 959, 1030, 1064) were omitted from the analysis. The statistical compilations also do not include five obvious secondary admixtures from graves 277, 351, 802, 920 and the above-mentioned graves 525B and 655, as

⁹ The values given include only features which yielded the bones subjected to the anthropological analysis.

⁶ Cf. M. Trotter, G.C. Gleser 1952; J. Strzałko, J. Piontek, A. Malinowski 1972, 285; 1974, 37.

⁷ J. Gładkowska-Rzeczycka 1976; 1989; 1994; W.M. Bass 1995; D.J. Ortner, W.G.J. Putschar 1981; J.E. Buikstra, D.H. Ubelaker 1994; D.J. Ortner 2003; R.H. Steckel *et alii* 2018.

⁸ E.g., J. Gładkowska-Rzeczycka 1972; A. Malinowski 1974, 10.

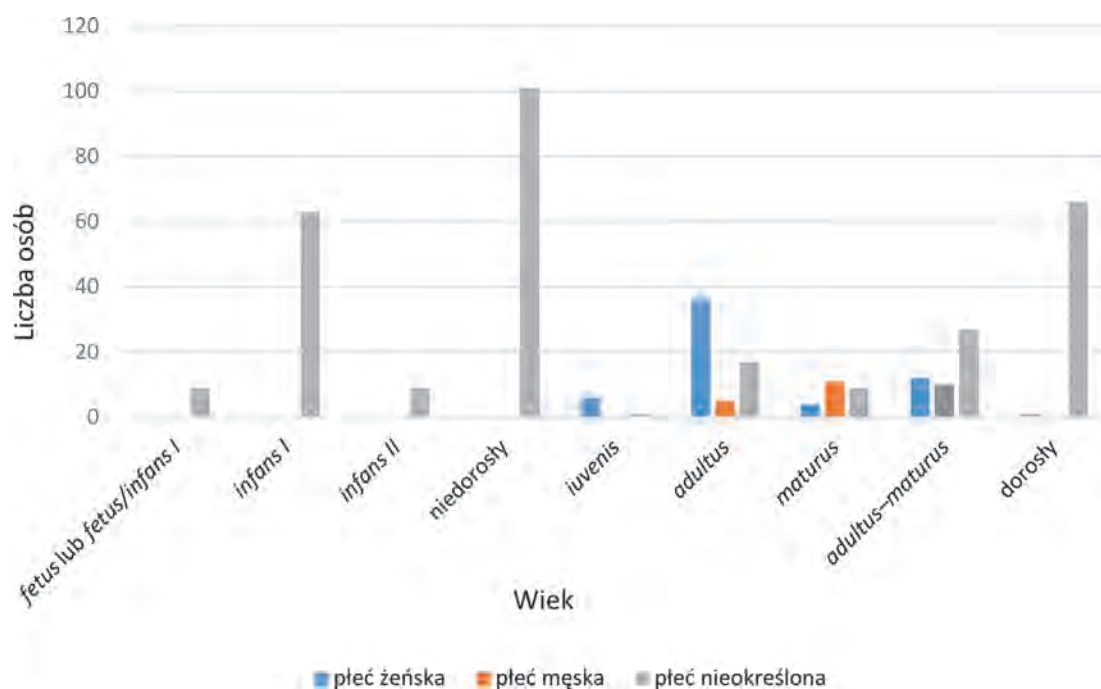


Fig. 1. Age and sex structure of individuals buried at the Kleszewo cemetery

well as burnt bones from the fills of six inhumation graves (158, 183, 184, 884.2, 887, 917).

Most of the Kleszewo burials contained the remains of one person, and only 15 of them (graves 128, 200B, 245, 282, 283, 352, 359, 365B, 370, 383, 537, 968, 1025, 1027B, 1044D2) were intentional or secondary double burials. Interestingly, each of these graves contained the remains of an adult and a child, probably connected by family ties. In five cases, a woman + a child were recorded, in two - a man + a child; in the remaining cases, the sex of the deceased was not determined.

In total, the remains of 388 individuals were identified in terms of age and/or sex (Fig. 2). The analysis of the age and sex structure of the examined group showed certain regularities, making it possible to formulate more general conclusions.

The most numerous, by a slight margin, remains from the Kleszewo cemetery belonged to adult or almost adult individuals (approx. 53%), who died between the ages of *iuvenis* and *maturus* (15–55 years old). This age category included seven young women (from graves 111, 132, 258, 282, 708, 985 and 1024B) and four adolescents of unspecified sex (from graves 73B, 136, 218, 404), who had already reached reproductive age (*iuvenis*, *iuvenis/adultus*, 15–18 years old) and were presumably treated as adults by the rest of the community.

Of the 207 adults, the largest group (64.3%) consisted of individuals who died at the age of *adultus* or *maturus* (35–55 years old), which may indirectly indi-

cate the relative longevity of both women and men. This group would undoubtedly be even larger if we possessed exact determinations for the 63 people classified broadly as adults. Interestingly, no individuals who died at an old age (*senilis*) were recorded, which may, however, be due to the state of preservation of the material and not necessarily due to biological reasons.

Of the 181 identified non-adult individuals, the largest age category (39.2%) were children who died in the early stages of ontogenesis (*fetus-infans I*), and – as in the case of adults – their number could be greater if we had more detailed information about 82 individuals whose age was determined only in general terms (non-adult or *infans I–II*). The high mortality rate of both women and their newborn children was undoubtedly caused by difficult births and postpartum periods, as well as the generally insufficient hygiene of life at that time.¹⁰

It was possible to determine, less or more confidently, the sex of 85 adults or almost adults (59 women, 26 men), which constitutes 41.1% of the deceased in this age group. This group was clearly dominated by women (69.4%), which may, however, be a random configuration, considering the lack of more than half of the gender markers. The largest category of people at the Kleszewo cemetery were women who died at the *adultus*

¹⁰ Cf. M. Pyżuk 2004, 41.



Fig. 2. Bone ridges on a hand phalanx of a mature man from grave 262. Photo by M. Woźniak



Fig. 3. Porosity of the orbital roof (*cribra orbitalia*) of a young woman from grave 132. Photo by M. Woźniak

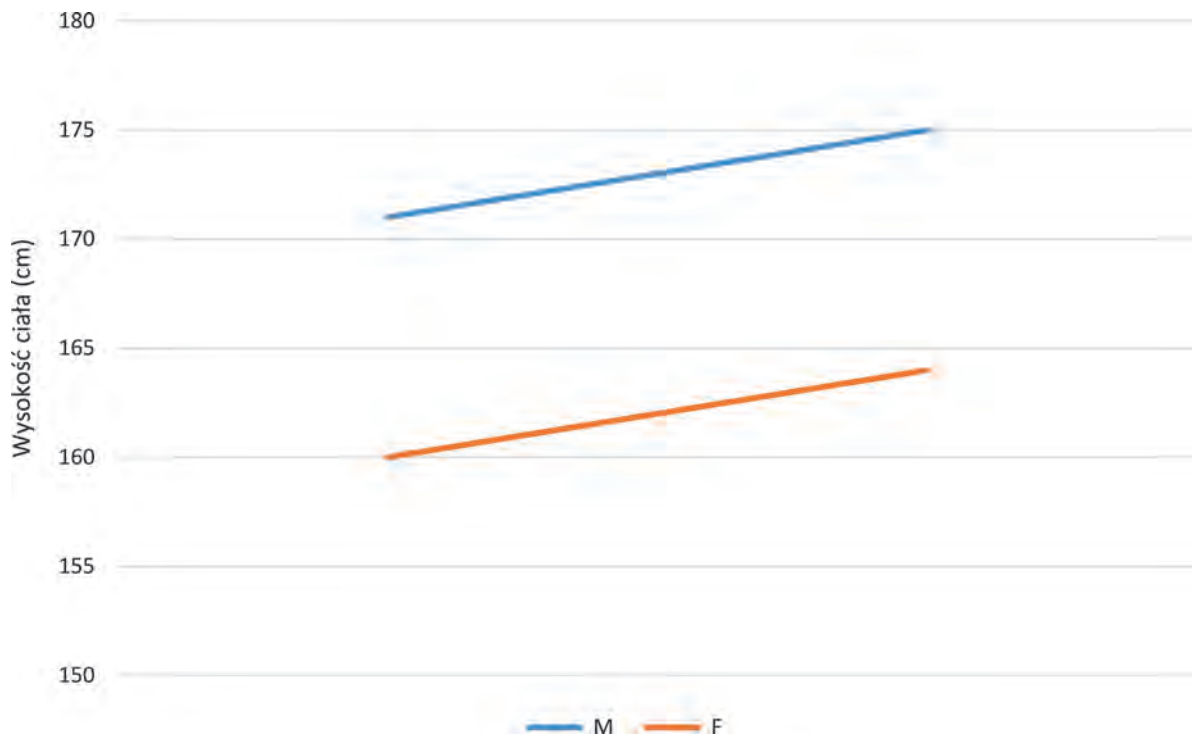


Fig. 4. Variability of body heights of men (M) and women (F) buried in inhumation graves

age (44.7%), as well as mature men who died at the age of *maturus* (12.9%).

The inhumation burials included in the analysis (184.1, 186, 385, 386, 629.1, 634, 636, 750, 884.1, 887.1), which are a distinct minority at the cemetery, require a few separate words. As many as seven of them are graves of non-adults, who died mostly in the early stages of ontogenesis (*fetus–infans I*). The remaining three graves contained the remains of adults (*adultus–maturus*), including two mature men (graves 634 and 887).

Few lesions were observed on the bones, which is mainly due to the poor state of preservation of the material (high fragmentation, small number of bones in the graves), but may also be due partly to biological reasons (good condition of the population or relatively low survival rate). Due to the fact that the recording of diseases was somewhat random and incidental, no statistical assessments were carried out.

The few pathological changes observed were primarily connected with age-related degenerative and de-

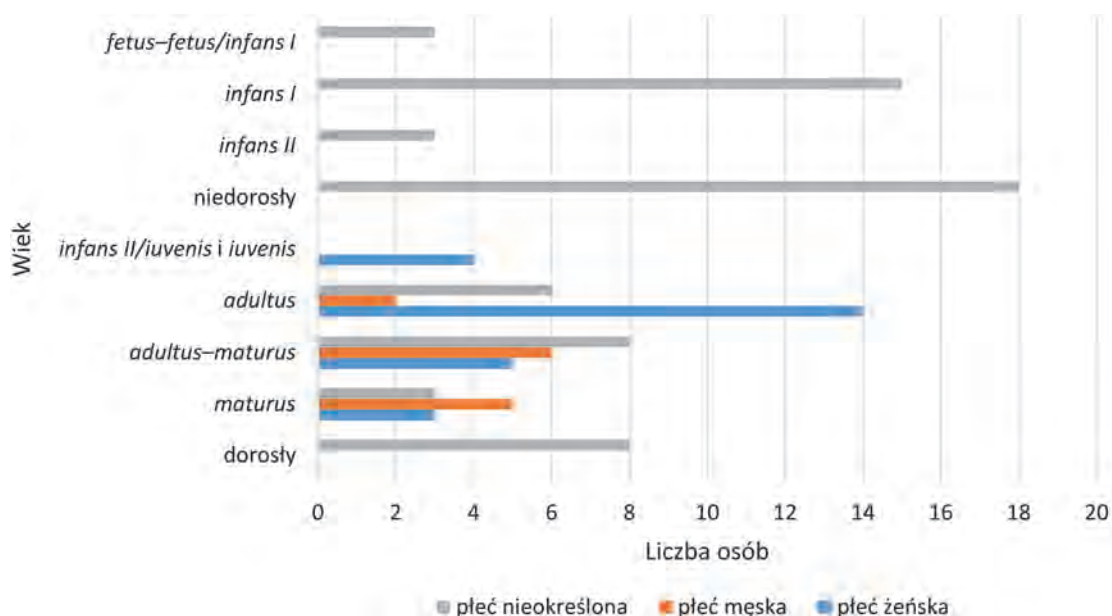


Fig. 5. Age and sex structure of individuals whose burials contained animal bone fragments

forming processes and overload, which was particularly manifested in the spine and limbs. This type of affliction was observed in two mature people buried in graves 121 and 269A, who had flattened vertebral bodies and osteophytes at their edges. In the case of a mature man from grave 262 and an adult woman from grave 23, bone ridges were recorded on the edges of the phalanges of the hand, indicating its intensive use (overload), e.g., as a result of archery (Fig. 3).

In grave 979, with the burial of a mature man, carious lesions were observed on the root of the first molar. In the case of a young (approx. 15 years old) woman from grave 132, quite strong *cribra orbitalia* were noted in the roof of the right eye orbit (Fig. 4), indicating a weak physical condition of the buried person (anaemia, parasitic infections).

The body height could be determined for four people only: two women from graves 132 and 521B (160–164 cm) and two men from graves 257 and 864 (171–175 cm). Even this small sample is sufficient to observe clear dimorphic differences (Fig. 5), and the relatively large height of the individuals may indirectly indicate quite good living conditions.

The degree of burning was analysed for the bones from 358 cremation graves. This parameter is closely related to the cremation temperature of the bodies and thus helpful in the reconstruction of funeral practices. The bones usually showed a medium (n=229) or high (n=123) degree of burning; bones showing a low degree of burning were rare (n=6). These results suggest that the people using the Kleszewo site applied meti-

culous (long) cremation treatments to the bodies of their loved ones. No significant correlations (regularities) were found between the degree of burning of the bones and the sex and/or age of the deceased.

In the case of as many as 105 human burials (27.1%), fragments of animal bones and teeth were also found to be present. This percentage could be further increased by adding decorations made from animal remains and antler-and-bone items omitted from the analysis. The age and sex structure of the deceased whose burials contained animal bone fragments is shown in the histogram below (Fig. 6).

As can be seen, the majority of animal bone fragments (63.8%) were identified in the burials of adults. It is also visible that they were deposited much more often in the graves of women (41.8%) rather than men (19.4%), although we do not possess information about the sex of as many as 38.8% of the adults of interest. As for the slightly less numerous (38) children's burials with fragments of animal bones, half of them belonged to individuals who died in the early phases of ontogenesis (*fetus-infans I*). It is possible that this percentage could be further increased if more precise determinations of the 12 people whose age was identified in general terms only (non-adult or *infans I-II*) were available.

Recorded on the bones of 39 people were green (graves 7, 32, 46, 48, 74, 121, 132, 163A, 184.1, 186, 224, 240, 262, 264, 282, 303, 363, 364, 365B, 383, 386, 413, 524, 526, 529, 629.1, 636, 637, 677, 734, 750, 968) and rusty (graves 84, 121, 245, 363, 968, 1019, 1026A) di-

scolourations, which, in most cases, were probably traces of metal objects deposited in the vicinity of human remains.

The results obtained from the anthropological analysis allowed only a limited reconstruction of the biostructure of the population using the Kleszewo cemetery. This outcome is primarily due to the destructive cremation process, erosion and fragmentation of most of the material.

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Table 1. Compilation of the skeletal material recovered from graves

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
2/1961	86,6 g	moderate	<i>adultus</i>	F?	cranial vault flat bones, including squamous part of occipital bone; zygomatic arch; root of permanent tooth (probably formed); vertebral arches (ossified); iliac crest (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone, small size)	poorly diagnostic bones
1	0,6 g	heavy	non-adult (?)	?	cranial vault flat bones (thin, unobliterated sutures)	poorly diagnostic bones
2	8,4 g	heavy	adult	?	cranial vault flat bones (thin, gracile); diaphyses of long bones, including femur (thick walls of medullary cavities, weakly pronounced linea aspera)	poorly diagnostic bones
3	17,4 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, gracile squamous part of temporal bone, unobliterated suture); diaphyses of long bones (thick walls of medullary cavities)	poorly diagnostic bones
5	24,7 g	medium	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness); left condylar process of the mandible (not large, ossified); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	poorly diagnostic bones; animal bone
6	20,4 g	heavy	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, pronounced sutures); diaphyses of long bones (gracile, medium-thick walls of medullary cavities); phalanx (gracile, ossified)	poorly diagnostic bones
7	21 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, pronounced suture, weakly pronounced temporal line); dens of an axis (not large, ossified); vertebrae transverse process (gracile); diaphyses of long bones (medium-thick walls of medullary cavities); distal phalanx I of foot (ossified)	poorly diagnostic bones; green discoloration on skull bones
9	0,7 g	moderate	non-adult (?)	?	diaphysis of long bone (gracile)	poorly diagnostic bone
10	95,6 g	moderate	<i>adultus-maturus</i>	M?	cranial vault flat bones (medium thickness); right supra-orbital margin (rounded edge, strongly pronounced temporal line); diaphyses of long bones (medium-thick walls of medullary cavities, moderately pronounced surface features), including humerus and femur (moderately pronounced linea aspera)	poorly diagnostic bones; animal bones
13	86,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (quite thin, gracile); petrous parts of temporal bones (not large); diaphyses of long bones (medium-thick walls of medullary cavities), including femur (weakly pronounced linea aspera); phalanx of hand (not large, ossified)	-
15	7,4 g	heavy	<i>late infans I</i>	?	cranial vault flat bones (gracile, bilateral unobliterated sutures); petrous part of right temporal bone (not large); diaphyses of long bones (thin walls of medullary cavities)	=
18	0,7 g	moderate	adult (?)	?	diaphyses of long bones (thin walls of medullary cavities, large diameter)	poorly diagnostic bone
20	5,3 g	moderate	adult	?	cranial vault bone (quite gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
22	1,3 g	moderate	non-adult (?)	?	cranial vault bone (gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
23	13,8 g	moderate	<i>adultus</i>	F?	cranial vault bones (gracile); diaphyses of long bones (thin walls of medullary cavities); phalanx of hand (not large); root of permanent tooth I (formed, not large)	bone slats on the edge of phalanx of hand; animal bones
26	26 g	heavy	<i>adultus-maturus</i>	F?	cranial vault flat bones (gracile, quite thin); phalanx of hand (small, gracile, ossified); diaphyses of long bones (medium-thick walls of medullary cavities), including tibia (acute cross-section)	poorly diagnostic bones; animal bone
27	15,8 g	moderate	adult	?	cranial vault flat bones (gracile, thin); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features),	poorly diagnostic bones
29	3,7 g	moderate	adult	?	diaphyses of long bones (quite thick walls of medullary cavities, large diameters)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
32	528,2 g	moderate	early <i>adultus</i>	F?	cranial vault bones (gracile, bilateral unobliterated sutures, weakly pronounced temporal lines); petrous part of right temporal bone (not large, gracile); maxilla and mandible (not large dental arch, dental alveoli of permanent teeth); condylar process of the mandible (gracile, ossified); roots of permanent teeth (gracile, formed); vertebrae (ossified); scapula; hip bones; epiphyses of long bones, including femur, humerus, tibia (compact structure of spongy bone); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); phalanx III of hand (not large, ossified)	bones from all parts of the skeleton; green discolouration; animal bones
34	15,2 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile); petrous part of left temporal bones (small, gracile); teeth: primordia of M1, C, 2×I; diaphyses of long bones (thin walls of medullary cavities, small diameters)	=
36	0,2 g	moderate	non-adult (?)	?	diaphysis of long bone (gracile, small diameter)	poorly diagnostic bone
38	2,2 g	moderate	non-adult (?)	?	diaphyses of long bones (quite thin walls of medullary cavities, not large)	poorly diagnostic bones
39	6,2 g	moderate	non-adult	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (not large, thin walls of medullary cavities)	poorly diagnostic bones
40	0,4 g	heavy	?	?	diaphyses of long bones	poorly diagnostic bones, probably human
41	79,5 g	moderate	<i>adultus</i>	?	cranial vault flat bones (quite thin); diaphyses of long bones (thick walls of medullary cavities); head of tibia (not large, ossified, compact structure of spongy bone)	poorly diagnostic bones; animal bones
42	30,6 g	moderate	<i>fetus/infans I</i>	?	cranial vault flat bones (very thin, unobliterated sutures); petrous parts of temporal bones (small sizes); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (unossified)	moreover, two fragments of the diaphyses of long bones from an adult person of undetermined sex; animal bones
43	54,9 g	heavy	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); petrous part of left temporal bone (medium size, gracile); right condylar process of the mandible (diam. ~18 mm); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones
44	0,9 g	moderate	adult (?)	?	diaphysis of long bone (medium-thick walls of medullary cavities)	poorly diagnostic bones
45	85,8 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (beginning of sutures obliteration); petrous part of temporal bone (quite large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	poorly diagnostic bones
46	113,3 g	heavy	<i>adultus-maturus</i>	F?	cranial vault flat bones (gracile, medium thickness, unobliterated sutures); petrous part of right temporal bone (gracile, medium size); vertebrae (gracile), including axis (diam. of dens 9 mm); iliac crest (ossified, weakly pronounced surface features); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	green discolouration on bones
47	34,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (quite gracile); diaphyses of long bones (medium-thick walls of medullary cavities, large sizes), including tibia (acute cross-section)	poorly diagnostic bones
48	7,8 g	moderate	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities, quite large diameters)	poorly diagnostic bones; green discolouration on bones
51	51,3 g	heavy	non-adult (?)	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (quite thin walls of medullary cavities, gracile)	poorly diagnostic bones
54	1,4 g	heavy	adult (?)	?	diaphyses of long bones (medium-thick walls of medullary cavities, quite large diameters)	poorly diagnostic bones
55	0,4 g	heavy	<i>infans I</i> (?)	?	cranial vault bones and diaphyses of long bones (both very thin, gracile)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
59	61,2 g	moderate	<i>adultus</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones
61	31,7 g	heavy	<i>adultus</i>	?	cranial vault flat bones (quite thin, gracile); vertebra bodies (ossified); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	poorly diagnostic bones; animal bones
62	60,3 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness); right supra-orbital margin (quite sharp edge, pronounced superciliary ridge); petrous part of right temporal bone (not large); vertebra bodies (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); two hand phalanges (gracile, small, ossified)	-
63	3,1 g	heavy	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
65/66	39 g	heavy	<i>adultus</i>	F?	cranial vault flat bones (unobliterated sutures, gracile); zygomatic process of right temporal bone (gracile); root of permanent tooth (gracile, formed); diaphyses of long bones (medium-thick walls of medullary cavities)	animal bones
68	5,3 g	heavy	non-adult (?)	?	diaphyses of long bones (thin and medium-thick walls of medullary cavities, gracile)	poorly diagnostic bones
69	11,9 g	heavy	<i>adultus</i>	F?	cranial vault flat bones (thin, gracile); left supraorbital margin (weakly pronounced temporal line); epiphyses of long bones, including humerus (compact structure of spongy bone, ossified); diaphyses of long bones (medium-thick walls of medullary cavities)	-
70	25,9 g	moderate	<i>adultus</i>	M?	cranial vault flat bones (medium thickness, sigittal suture unobliterated); supraorbital margin (rounded edge); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	-
73A	39,9 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (gracile, medium thickness, unobliterated sutures); diaphyses of long bones (gracile, thin walls of medullary cavities)	poorly diagnostic bones
73B	30,1 g	moderate	<i>iuvenis/adultus</i>	?	cranial vault flat bones (gracile, medium thickness, unobliterated sutures); zygomatic arch (thin, gracile), epiphyses of long bones (incomplete ossification), diaphyses of long bones (gracile, quite thin walls of medullary cavities)	poorly diagnostic bones
74	7,6 g	heavy	<i>early infans I</i>	?	cranial vault flat bones (thin, gracile); petrous part of temporal bone (small size); primordia of four permanent teeth (M); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (incomplete ossification)	green discolouration on bones; animal bones
76	30 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (quite thin, gracile); roots of permanent teeth (formed); diaphyses of long bones (thin walls of medullary cavities) epiphyses of long bones (ossified)	-
77	34 g	moderate	adult	?	cranial vault flat bones (medium thickness); petrous part of left temporal bone (quite large); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones
81	21 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); body of mandible (medium size); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	poorly diagnostic bones; animal bones
82	4,6 g	heavy	adult	?	cranial vault flat bones (gracile, unobliterated sutures), diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones
84	42,1 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones, including distal epiphyses of humerus (compact structure of spongy bone, ossified)	poorly diagnostic bones; ferruginous discolouration on bones
85/86	13,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); diaphyses of long bones (medium-thick walls of medullary cavities), including femur (weakly pronounced <i>linea aspera</i>)	poorly diagnostic bones
89	0,3 g	moderate	adult (?)	?	zygomatic arch (gracile, medium size)	poorly diagnostic bone

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
91	13,5 g	moderate	adult (?)	?	cranial vault flat bones (medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
93	10,6 g	moderate	adult	?	right condylar process of the mandible (not large, ossified); diaphyses of long bones (medium-thick walls of medullary cavities); distal epiphysis of phalanx (ossified)	poorly diagnostic bones
95	54,1 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); roots of permanent teeth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	animal bones
99	12 g	moderate	adult	?	cranial vault flat bones (quite thin); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
100	67,5 g	moderate	early <i>adultus</i> (?)	F?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); mandible (not large); roots of permanent teeth (eroded); diaphyses of long bones (medium-thick walls of medullary cavities); phalanges (small, formed)	poorly diagnostic bones
101	18,7 g	moderate	<i>adultus</i>	?	cranial vault bones (medium thickness, unobliterated sutures); temporal bone including petrous part (medium size); diaphyses of long bones (medium-thick walls of medullary cavities), including femur (pronounced linea aspera)	poorly diagnostic bones
103A-B	37,5 g	moderate	non-adult	?	cranial vault flat bones (thin, gracile, unobliterated sutures); mandible (small); diaphyses of long bones (thin walls of medullary cavities); phalanges (small)	poorly diagnostic bones; bones from upper layer of graves 103A and 103B (probably from grave 103A).
103A	25,7 g	heavy	<i>infans II</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones; animal bones
104	13,4 g	moderate	<i>fetus/infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); petrous parts of temporal bones (very small, unformed); diaphyses of long bones (thin, gracile walls of medullary cavities)	-
105	2,7 g	heavy	<i>infans I</i>	?	cranial vault bones (thin, gracile); diaphyses of long bones (thin, gracile walls of medullary cavities)	moreover, fragment of the vertebra of an adult person of undetermined sex
110	20,9 g	heavy	<i>adultus</i>	?	cranial vault bones (thin, gracile, unobliterated sutures); root of permanent teeth (formed); scaphoid bone (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
111	44,8 g	heavy	<i>iuvenis/adultus</i>	F?	cranial vault bones (thin, gracile, unobliterated sutures); supraorbital margin (sharp edge, gracile); root of permanent tooth (gracile, newly formed); diaphyses of long bones (quite thin walls of medullary cavities)	-
114	20 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness); root of permanent tooth (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
115	9,4 g	heavy	<i>adultus</i>	?	cranial vault flat bones (gracile); epiphyses of long bones (ossified); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
117	90,3 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness, partly obliterated sutures); diaphyses of long bones (quite massive walls of medullary cavities)	poorly diagnostic bones
118	47,9 g	moderate	<i>adultus</i>	?	cranial vault flat bones (quite thin, gracile); roots of permanent teeth (formed, small); diaphyses of long bones (medium-thick walls of medullary cavities); phalanx (small, ossified)	poorly diagnostic bones; animal bone

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
121	1165,1 g	moderate	<i>maturus</i>	M?	cranial vault flat bones (medium thickness, partly obliterated sutures, strong pronounced nuchal line); right supraorbital margin (quite gracile edge); petrous parts of temporal bones (large, massive); body of mandible (quite massive, alveoli of M2 teeth obliterated); roots of permanent teeth (formed); vertebrae; diaphyses of long bones (medium-thick walls of medullary cavities, quite massive); epiphyses of long bones (large, visible losses of spongy bone); carpal bones; phalanges (not large, ossified)	bones from all parts of the skeleton, morphologically ambiguous with slight predominance of male sex traits; vertebral bodies slightly flattened with osteophytes on edges; green and ferruginous discolouration on bones; animal bones
122	4,4 g	moderate	non-adult (?)	?	diaphyses of long bones (quite thin walls of medullary cavities); epiphyses of long bones	poorly diagnostic bones; animal bones
125	1,6 g	moderate	non-adult (?)	?	diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
127	574,9 g	moderate	<i>maturus</i>	M?	cranial vault flat bones (medium thickness, beginning of sutures obliteration); mastoid process (large); left frontal process of zygomatic bone (with edge nodule); roots of permanent teeth (formed); epiphyses of long bones, including humerus (large); diaphyses of long bones (thick, massive walls of medullary cavities); talus bone (large)	-
128	38,7 g	moderate	non-adult and/or adult	?	cranial vault flat bones (thin, unobliterated sutures); diaphyses of long bones (of various massiveness)	poorly diagnostic bones (mixed?); animal bones
129	55,7 g	moderate	adult	?	cranial vault flat bones (thin, gracile); petrous part of temporal bones (large); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones
132	935,7 g	poor	<i>iuvenis (ca. 15)</i>	F?	cranial vault flat bones (quite gracile, unobliterated sutures); right supraorbital margin (sharp edge); maxilla and mandible (both gracile); petrous parts of temporal bones (not large, gracile); root of permanent teeth (newly formed); hip bones (uncompletely ossified); epiphyses of long bones, including proximal epiphysis of femur (unossified, diam. of head ~42mm) and tibia; diaphyses of long bones (medium-thick walls of medullary cavities, large fragments)	bones from all parts of the skeleton; advanced <i>cribra orbitalia</i> in right orbital plate; green discolouration on bones; animal bones
133	7,1 g	heavy	non-adult	?	root of permanent tooth (?); diaphyses of long bones (thin walls of medullary cavities)	high of body: 160–164 cm poorly diagnostic bones; animal bones
135	19,2 g	moderate	non-adult (?)	?	cranial vault flat bones (gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
136	6,4 g	heavy	<i>iuvenis/adultus (?)</i>	?	cranial vault flat bone (gracile, thin); dental arch of mandible (quite large); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
137	1,4 g	heavy	<i>fetus/infans I</i>	?	cranial vault flat bones (very thin, gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
138	71,5 g	moderate	<i>adultus–maturus</i>	M?	cranial vault flat bones (medium thickness); mastoid process of temporal bone (large); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
140	5 g	moderate	<i>infans I–II</i>	?	cranial vault flat bones (gracile); roots of primary teeth (?); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones; animal bones
141	54 g	light	adult (?)	?	cranial vault flat bones (medium thickness); petrous part of right temporal bone (medium size); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
146	67,1 g	moderate	adult (?)	?	cranial vault flat bones (gracile); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; animal bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
147	163,6 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness, beginning of sutures obliteration); petrous part of left temporal bone (large); supraorbital margin (edge slight rounded); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	poorly diagnostic bones; animal bones
148	56,5 g	moderate	<i>maturus-senilis</i>	?	cranial vault flat bones (medium thickness); petrous part of right temporal bone (not large); right condylar process of mandible (diam. ~16mm); roots of permanent teeth (formed); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
149	11,7 g	heavy	adult (?)	?	vertebrae (ossified); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
150	18,7 g	heavy	<i>infans I (ca. 4)</i>	?	cranial vault flat bones (thin, unobliterated sutures); crown of II tooth (primordium); root of primary tooth (formed); diaphyses of long bones (quite thin walls of medullary cavities); phalanx (small)	animal bones
151	2,7 g	heavy	<i>early infans I (?)</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones (human or [less probably] animal bones)
153	2,2 g	heavy	adult (?)	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
154	104 g	heavy	<i>adultus-early maturus</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); right condylar process of mandible (diam. ~16mm); vertebrae (small, ossified bodies); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
155	10,3 g	heavy	<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones; animal bones
157	53,7 g	moderate	adult (?)	?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); vertebrae (ossified); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
158.1	-	-	?	?	diaphysis of long bone	bones unburnt, poorly diagnostic, green discoloration on bones
158.2	8 g	moderate	adult (?)	?	frontal process of maxilla (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones, from inhumation grave filling
160	4,4 g	moderate	non-adult (?)	?	cranial vault flat bones (gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
163A	277,5 g	moderate	<i>infans I/II</i>	?	cranial vault flat bones (quite thin, unobliterated sutures); petrous part of temporal bone (not large); root of primary tooth (M) (formed); crown of permanent tooth (M1); epiphyses of long bones (unossified); diaphyses of long bones (quite thin walls of medullary cavities); talus (unossified)	green discoloration on bones
165	27,2 g	moderate	non-adult (?)	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
166	8,7 g	heavy	adult (?)	?	cranial vault flat bones (gracile, quite thin); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
168	1,9 g	heavy	non-adult	?	cranial vault flat bones (thin); mandible body (small size); (thin walls of medullary cavities)	poorly diagnostic bones
172	0,9 g	heavy	non-adult	?	cranial vault flat bones (thin)	poorly diagnostic bones
174	79,1 g	moderate	<i>adultus</i>	?	cranial vault flat bones (gracile); roots of permanent teeth (formed, small); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (ossified)	poorly diagnostic bones; animal bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
175	11,3 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); petrous parts of temporal bones (small, unformed); diaphyses of long bones (thin walls of medullary cavities)	=
177	5,5 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (gracile, thin); petrous part of right temporal bone (small, unformed); diaphyses of long bones (thin walls of medullary cavities)	=
180	0,3 g	heavy	<i>infans I-II</i>	?	cranial vault flat bone (thin, gracile); diaphyses of long bones (thin walls of medullary cavities, small diameters)	poorly diagnostic bones; animal bones
183	0,2 g	heavy	?	?	diaphysis of long bone	poorly diagnostic bone, probably human; from inhumation grave filling
184.1	-	-	early <i>infans I</i>	?	vertebral arches, distal part of femur diaphysis	bones unburnt, poorly diagnostic, green discolouration on bones
184.2	1 g	heavy	early <i>infans I</i> (?)	?	diaphyses of long bones (gracile, thin walls of medullary cavities)	poorly diagnostic bones, from inhumation grave filling
185	50,9 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (gracile, medium thickness); petrous part of right temporal bone (gracile, medium size); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
186	-	-	early <i>infans I</i>	?	vertebral arches (ungrown), clavicle	bones unburnt, green discolouration on bones
187	17,8 g	moderate	non-adult (?)	?	cranial vault flat bones (quite thin); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; animal bone
190	4,6 g	moderate	non-adult (?)	?	sternum (?); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
191	59,9 g	medium	<i>adultus</i>	F?	cranial vault flat bones (quite thin); body and ramus of mandible (gracile); roots of permanent teeth (formed); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); phalanx (distal epiphysis ossified)	-
195	15,4 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); crowns of primary teeth (m); diaphyses of long bones (thin walls of medullary cavities)	=
197	8,1 g	heavy	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; animal bones
200B	395,6 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); roots of permanent teeth (formed, not large); diaphyses of long bones (medium-thick walls of medullary cavities)	bones of both persons mixed,
			non-adult (?)	?	cranial vault flat bones (thin, gracile); body of mandible (not large); diaphyses of long bones (quite thin walls of medullary cavities)	bones of adult person not numerous; animal bones
201	7,6 g	heavy	adult (?)	?	diaphyses of long bones (thick walls of medullary cavities, quite large sizes)	poorly diagnostic bones
203	5,9 g	moderate	adult	?	cranial vault flat bones (quite thin); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
204	0,6 g	moderate	?	?	diaphysis of long bone	poorly diagnostic bone, probably human
214	9,9 g	moderate	non-adult (?)	?	cranial vault flat bones (quite thin); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
218	24,7 g	heavy	<i>iuvenis</i>	?	cranial vault flat bones (gracile); diaphyses of long bones (quite thin walls of medullary cavities); phalanx (uncompletely ossified epiphyses)	poorly diagnostic bones; animal bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
219A-B	17,5 g	moderate	adult	?	cranial vault flat bones (gracile); mandible, vertebrae, ribs (all ossified)	bones of both persons mixed; animal bones
			<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (thin walls of medullary cavities)	
222	0,7 g	heavy	non-adult (?)	?	diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
224	584,9 g	light	early <i>maturus</i>	M?	cranial vault flat bones (medium thickness, quite massive, strong pronounced nuchal line, partial obliterated sutures); petrous parts of temporal bones (quite massive); frontal processes of zygomatic bones (with edge nodules, gracile); supraorbital margin (edge slightly rounded); dens of an axis (quite large); hip bones with greater sciatic notch (deep, quite narrow); diaphyses of long bones (thick walls of medullary cavities); epiphyses of long bones (ossified)	green discolouration on skull bones; animal bones
225	0,9 g	heavy	adult (?)	?	root of permanent tooth (formed); vertebra (?); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
231A	0,4 g	heavy	?	?	diaphysis of long bone (gracile)	poorly diagnostic bone probably human
240	288,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); petrous part of left temporal bone (slender, medium size); root of permanent tooth (formed); vertebrae (ossified, not large); diaphyses of long bones (thick walls of medullary cavities), including femur (weakly pronounced linea aspera); epiphyses of long bones (ossified, compact structure of spongy bone)	green discolouration on bones; animal bones
241	11,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile); roots of permanent teeth (formed); vertebrae, including axis (diam. of dens 9 mm, ossified); phalanx (ossified, small)	-
242	124,6 g	moderate	<i>maturus</i>	F?	cranial vault flat bones (medium thickness); body of mandible (quite high, alveoli of a permanent teeth); roots of permanent teeth (formed); vertebrae (small, ossified); patella (gracile, ossified); epiphyses of long bones (ossified); diaphyses of long bones (thick walls of medullary cavities); phalanges (ossified, small)	animal bones
243	86,2 g	moderate	late <i>infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); petrous part of temporal bone (small); diaphyses of long bones (thin walls of medullary cavities)	animal bones
244	85,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness); root of permanent teeth (formed); vertebrae (small, ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
245	624,9 g	moderate	<i>adultus</i>	F	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); right supraorbital margin (sharp edge, gracile); right condylar process of mandible (formed, diam. ~15mm); body of mandible (not large arch, alveoli of permanent teeth); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified, compact structure of spongy bone); carpal bones, phalanges (ossified)	ferruginous discolouration on bones; bones of child darker; animal bones
			<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (thin walls of medullary cavities)	
248	717,8 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); vertebrae (ossified); iliac crest (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	bones from all parts of the skeleton
250	1,2 g	moderate	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile); ribs, vertebrae (both unossified); diaphyses of long bones (thin walls of medullary cavities, small sizes)	-
251	1,2 g	heavy	<i>infans I</i>	?	rib (small, gracile); diaphyses of long bones (gracile, thin walls of medullary cavities)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
252	40,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); left supraorbital margin (sharp edge, gracile, weakly pronounced temporal line); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified, compact structure of spongy bone)	=
253	140,9 g	moderate	<i>adultus-early maturus</i>	F?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); roots of permanent teeth (newly formed, small sizes); vertebrae (ossified surface of bodies); diaphyses of long bones (medium-thick walls of medullary cavities)	-
255	106,7 g	moderate	<i>early maturus</i>	?	cranial vault flat bones (medium thickness); zygomatic arch (medium size); left condylar process of mandible (diam. 17 mm); root of permanent tooth (gracile, formed); patella (quite large, ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); phalanges (gracile)	-
257	675,3 g	moderate	<i>maturus</i>	M	cranial vault flat bones (quite thick, massive, partly obliterated sutures); right supraorbital margin (edge rounded); frontal processes of zygomatic bones (medium massive, without edge nodules); body of mandible (obliterated alveolus of M3 teeth); dens of an axis (diam. of dens 11 mm); diaphyses of long bones (thick walls of medullary cavities, strong pronounced surface features), including femur (strong pronounced linea aspera); epiphyses of long bones (large, ossified, compact structure of spongy bone), including humerus, femur and radius (diam. 22 mm); phalanges (ossified)	high of body: 171-175 cm
258	70,5 g	heavy	<i>iuvenis</i>	F?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); left coronoid process of mandible (small, gracile); hip bones (wide greater sciatic notch); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone); phalanges (small sizes)	animal bones
260	2,3 g	heavy	adult (?)	?	diaphysis of long bone (medium-thick walls of medullary cavities)	poorly diagnostic bone
261	164 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); petrous part of right temporal bone (medium size); mastoid process (quite gracile); roots of permanent teeth (newly formed, small); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	animal bones
262	536,3 g	moderate	<i>maturus</i>	M?	cranial vault flat bones (medium thickness, partly obliterated sutures); right temporal bone with mastoid process (quite large); petrous parts of temporal bones (not large); left patella (quite large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	bone slats on phalanx of hand; additional nodule at mastoid process of right temporal bone; green discolouration on bones; animal bones
264	21,3 g	heavy	adult (?)	?	cranial vault flat bones (quite thin); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; green discolouration on bones
265	0,3 g	heavy	?	?	diaphysis of long bone	poorly diagnostic bone probably human
267	37 g	light	adult (?)	?	cranial vault flat bones (medium thickness); petrous part of temporal bone (medium size); diaphyses of long bones (quite, gracile)	poorly diagnostic bones
268	1,7 g	heavy	non-adult (?)	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (gracile)	poorly diagnostic bones
269A	95,8 g	moderate	<i>early maturus</i>	?	cranial vault flat bones (medium thickness); vertebrae (ossified); epiphyses of long bones (ossified); diaphyses of long bones (quite massive, medium-thick walls of medullary cavities)	vertebral bodies (L) slightly flatten, with osteophits on edges

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
277	26,5 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (gracile, quite thin); temporal bone (not large); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; one fragment of thick vertebral body, probably from different (adult) person – secondary admixture
282	251,9 g	moderate	early <i>iuvenis</i>	F?	cranial vault flat bones (gracile delicate build, quite thin, unobliterated sutures); petrous part of right temporal bone (medium size); roots of permanent teeth (newly formed); patellae (small); diaphyses of long bones (medium-thick walls of medullary cavities, gracile); epiphyses of long bones (unossified); phalanges (small, unossified)	bones of fetus sparse; traces of green discoloration; animal bones
			<i>fetus</i>	?	cranial vault flat bones (gracile); petrous part of right temporal bones (small); diaphyses of long bones (gracile)	
283	146,8 g	moderate	<i>adultus-early maturus</i>	?	root of permanent teeth; diaphyses of long bones (quite massive, thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
			<i>infans I</i>	?	cranial vault flat bones (gracile, thin); petrous part of left temporal bones (small size)	
285	92,3 g	heavy	<i>adultus-maturus</i>	F?	cranial vault flat bones (gracile); vertebral bodies (ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	-
288	38,4 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (gracile); petrous parts of temporal bones (medium size); right temporal bone (frag. from vicinity of external acoustic meatus, gracile); body of mandible (acute shape of alveoli); root of permanent teeth (delicate, formed); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	-
297	17,3 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (thin, gracile); roots of permanent teeth (not large formed); hip bones from vicinity of greater sciatic notch (shallow, wide); diaphyses of long bones (walls quite thin, gracile); epiphyses of long bones (compact structure of spongy bone)	poorly diagnostic bones
299	1,9 g	heavy	non-adult (?)	?	root of permanent tooth; diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
300	72,6 g	heavy	<i>adultus</i>	F	cranial vault flat bones (gracile, quite thin, unobliterated sutures); petrous part of left temporal bone (not large); roots of permanent teeth (not large, formed); diaphyses of long bones (quite thin walls of medullary cavities); phalanges (gracile, small, ossified)	animal bones
303	64,6 g	moderate	<i>infans I (ca. 5)</i>	?	cranial vault flat bones (gracile, thin, unobliterated sutures); petrous parts of temporal bones (not large); root of primary tooth (m); primordia of crowns of permanent teeth (P, C); diaphyses and epiphyses of long bones (gracile, unossified)	green discoloration on bones; animal bones
304	0,2 g	moderate	?	?	diaphysis of long bone	poorly diagnostic bone probably human
305	0,1 g	moderate	?	?	diaphysis of long bone	poorly diagnostic bone probably human
313	1,6 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (gracile, thin); diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
314	1,6 g	moderate	non-adult (?)	?	diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
317	0,4 g	heavy	<i>infans I (?)</i>	?	cranial vault flat bones (gracile, thin); diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
331	24,1 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (uncompletely ossified)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
332	195 g	moderate	early <i>maturus</i>	F?	cranial vault flat bones (medium thickness, gracile, beginning of sutures obliteration); right condylar process of the mandible (diam. ~16 mm); vertebrae (ossified); right patella (not large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (ossified, not large)	=
333	7,9 g	moderate	<i>infans I-II</i> (6–8)	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); root of primary tooth (formed); diaphyses of long bones (gracile, quite thin walls of medullary cavities)	-
335	3,1 g	moderate	adult (?)	?	cranial vault flat bones (medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
336	35,5 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (gracile); left supraorbital margin (sharp edge, gracile); root of permanent teeth (formed); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); tarsus bones (ossified)	=
338	27,5 g	moderate	adult (?)	?	cranial vault flat bones (medium thickness); diaphyses of long bones (quite gracile)	poorly diagnostic bones
339	15 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (gracile, quite thin); rib (small); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
348	0,6 g	heavy	<i>fetus/infans I</i> (?)	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; unburnt animal tooth
349	0,9 g	heavy	adult (?)	?	vertebral arch; diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
351	81,5 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); supraorbital margin (sharp edge); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones; few beige-cream bones (lighter fragments of skull and diaphyses) are slightly larger and more massive - perhaps secondary admixture
352	215,5 g	moderate	<i>adultus</i> (20–30)	F?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); petrous part of left temporal bones (small, gracile); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
353	37,3 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (gracile, thin); diaphyses of long bones (thin walls of medullary cavities) cranial vault flat bones (gracile, medium thickness); left supraorbital margin (sharp edge, gracile); zygomatic arch (gracile); root of permanent tooth (M) (formed); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	animal bones
355	346 g	light	<i>adultus</i>	M?	cranial vault flat bones (medium thickness, unobliterated sutures); mastoid process of temporal bone (medium size); left supraorbital margin (quite sharp edge, strong pronounced brow ridge); petrous parts of temporal bones (not large); roots of permanent teeth (formed); diaphyses of long bones (quite thick walls of medullary cavities, massive)	-
356	17,3 g	moderate	<i>infans I</i> (1–2)	?	cranial vault flat bones (gracile, thin, unobliterated sutures); petrous parts of temporal bones (small, gracile); primordia of permanent teeth (M,C); vertebrae (arches ungrown); diaphyses of long bones (gracile, small sizes)	-
357	813,1 g	moderate	<i>adultus</i> (25–35)	F	cranial vault flat bones (medium thickness, unobliterated sutures); left and right supraorbital margins (sharp, gracile); right mastoid process (quite large); petrous parts of temporal bones (not large); maxilla (acute alveoli); right zygomatic bone (quite gracile); body and left condylar process (diam. ~13mm) of mandible; root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
358	19,6 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); root of permanent tooth (not large); diaphyses of long bones (not large, quite thin walls of medullary cavities)	poorly diagnostic bones
359	201,3 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness); root of permanent tooth; patella (medium size); diaphyses of long bones (quite thick walls of medullary cavities), including femur (strong pronounced linea aspera); epiphyses of long bones (ossified)	-
361	0,1 g	heavy	?	?	cranial vault flat bones (thin, gracile); root of primary tooth (newly formed); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones, probably human
362	54,6 g	heavy	<i>infans II-iuvenis</i>	?	root of primary tooth (?); diaphyses of long bones (very thin walls of medullary cavities)	poorly diagnostic bones
363	722,6 g	moderate	<i>adultus (25-35)</i>	F?	cranial vault flat bones (medium thickness, unobliterated sutures); petrous parts of temporal bones (not large); frontal process of left zygomatic bone (gracile, with edge nodule); right part of mandible (processes small); roots of permanent teeth (formed); left patella (not large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified, not large); phalanges (formed)	ferruginous and green discolouration on bones; animal bones
364	471,9 g	moderate	<i>adultus (20-25)</i>	F?	cranial vault flat bones (medium thickness, unobliterated sutures); petrous part of right temporal bone (not large); body of mandible; hip bones (wide greater sciatic notch); diaphyses of long bones (medium-thick walls of medullary cavities), including femur (pronounced linea aspera); phalanges (small, uncompletely ossified in proximal epiphyses)	green discolouration on bones
365A & B	872,7 g	moderate	<i>maturus (35-45)</i>	?	cranial vault flat bones (medium thickness, partly obliterated sutures); petrous parts of temporal bones (medium size); right mastoid process with fragment of temporal bone (quite large); frontal process of right zygomatic bone (edge nodule, quite gracile); body and left condylar process (not large) of mandible; diaphyses of long bones (quite large diameters, medium-thick walls of medullary cavities), including femur (pronounced linea aspera); epiphyses of long bones (ossified)	child bones in both graves, adult person only in grave 365B; green discolouration on bones; animal bones in grave 365B
			<i>fetus/infans I</i>	?	cranial vault flat bones (gracile); petrous part of right temporal bones (very small); diaphyses of long bones (thin walls of medullary cavities, gracile)	
			<i>adultus</i>	F?	cranial vault flat bones (medium thickness, unobliterated sutures); roots of permanent teeth (formed, not large); vertebrae (ossified); patella (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	animal bones
370	501,2 g	moderate	<i>infans I-II (6-8)</i>	?	cranial vault flat bones (thin, gracile); petrous part of right temporal bones (small); roots of primary teeth (formed); vertebrae (uncompletely ossified, small sizes); epiphyses of long bones and phalanges (unossified, small); diaphyses of long bones (thin walls of medullary cavities)	
371	2,8 g	heavy	<i>adultus-maturus</i>	?	roots of permanent teeth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
377	0,8 g	heavy	non-adult (?)	?	cranial vault flat bone and diaphysis of long bone (both gracile)	poorly diagnostic bones
378	4 g	heavy	<i>infans I (?)</i>	?	diaphyses of long bones (thin walls of medullary cavities, gracile); epiphyses of long bones	poorly diagnostic bones
380	194 g	moderate	<i>adultus-maturus</i>	M?	cranial vault flat bones (medium thickness); right condyloid process of mandible (diam. ~17 mm); right coronoid process of mandible (quite large); root of permanent tooth (formed); vertebrae (small); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (ossified)	morphologically ambiguous bones with slight predominance of male traits

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
381	0,8 g	heavy	non-adult (?)	?	diaphyses of long bones (gracile)	poorly diagnostic bones
383	919,5 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (medium thickness, unobliterated sutures), including squamous part of occipital bone (gracile); petrous parts of temporal bones (not large); maxilla (acute shape of alveoli); mandible (gracile); roots of permanent teeth (formed); vertebrae (ossified); hip bones, including ilium (ossified), greater sciatic notch (wide, shallow); patella (small); epiphyses of long bones (compact structure of spongy bone, ossified); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	green discolouration on bones; animal bones
385	-	-	<i>adultus</i>	?	cranial vault fbones, including petrous part of temporal bone (large, massive); crown of permanent tooth	bones unburnt, poorly diagnostic
386	-	-	<i>infans I-II</i>	?	clavicle (unossified) diaphyses of long bones (walls of medullary cavities, gracile, not large)	bone unburnt, green discolouration on bones
396	343,5 g	moderate	<i>adultus (25-35)</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); mastoid process (small); vertebrae (ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features), including tibia (acute cross-section); calcaneus (ossified)	animal bones
397	34,4 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (quite thin, gracile); vertebral (ossified); epiphyses of long bones (ossified); diaphyses of long bones (quite large sizes)	-
398	4,5 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bone (medium thickness, open cranial suture); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; animal bones
399	33,6 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (gracile, unobliterated sutures); condyloid process of mandible; right condylar process of mandible (small); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	poorly diagnostic bones
400	0,6 g	heavy	<i>infans I (?)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
401	8,5 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin walls of medullary cavities gracile)	poorly diagnostic bone; in addition: diaphyses of long bones (medium-thick walls of medullary cavities, large sizes) of an adult person
402	225 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness, partly obliterated sutures); epiphyses of long bones (ossified); diaphyses of long bones (quite thick walls of medullary cavities), including femur (strong pronounced linea aspera)	poorly diagnostic bones
403	124,1 g	heavy	<i>late infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); alveolar process of maxilla (gracile); petrous part of right temporal bone (small, gracile); right part of mandible (gracile); vertebrae (small, unossified)	in addition: cranial vault flat bones and diaphyses of long bones from an adult person; animal bones
404	19,7 g	heavy	<i>iuvenis-adultus</i>	?	cranial vault flat bones (gracile, quite thin); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	poorly diagnostic bones; animal bones
405	59,9 g	moderate	<i>adultus (25-35)</i>	F?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); roots of permanent teeth (formed); diaphyses of long bones (thin walls of medullary cavities, gracile); epiphyses of long bones and phalanges (ossified)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
406	330,4 g	moderate	<i>adultus-maturus</i>	M?	cranial vault flat bones (medium thickness, unobliterated sutures); right temporal bone; petrous part of temporal bone (quite large); frontal bone (quite large, rounded edge); condyloid process of mandible; left condylar process of the mandible (quite large); diaphyses of long bones (medium-thick walls of medullary cavities, quite massive); epiphyses of long bones (ossified); phalanx (ossified)	-
407	65,5 g	moderate	<i>infans II (?)</i>	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); root of permanent tooth (not large); diaphyses of long bones (medium and small thickness walls of medullary cavities); epiphyses of long bones (uncompletely ossified)	poorly diagnostic bones
408	2,9 g	heavy	<i>infans II-iuvenis</i>	?	cranial vault flat bone (medium thickness, gracile)	poorly diagnostic bone
409A & B	167,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (gracile, medium thickness, unobliterated sutures); right frontal process of zygomatic bone gracile, with edge); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	-
			<i>infans I</i>	?	cranial vault flat bones (thin, gracile); petrous part of temporal bone (not large); diaphyses of long bones (gracile, small, thin walls of medullary cavities)	
410	7,9 g	heavy	<i>early infans I</i>	?	cranial vault flat bones (very thin, gracile); diaphyses of long bones (small sizes, thin walls of medullary cavities)	-
411	28 g	heavy	<i>adultus</i>	F?	cranial vault flat bones (quite thin, gracile); left supraorbital margin (sharp, gracile); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); phalanx and metacarpal bone (ossified, small)	-
412	1,2 g	heavy	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
413	386,4 g	moderate	<i>maturus</i>	F?	cranial vault flat bones (medium thickness); zygomatic arch (gracile); roots of permanent teeth; patella (not large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (small ossified)	green discolouration on bones; animal bones
414	7,6 g	moderate	adult	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); root of permanent tooth; diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
415C	161,3 g	heavy	<i>adultus</i>	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); petrous part of left temporal bones (medium size); body of mandible; root of permanent tooth (not large); vertebrae (ossified), including atlas (quite large); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
429	117,1 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (quite thin, gracile); root of permanent teeth (formed); vertebrae, ribs (small, ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); cuneiform bone (small); phalanx (not large, ossified)	animal bones
450	15,5 g	heavy	<i>late infans I</i>	?	cranial vault flat bones (quite thin, gracile); zygomatic arch (gracile); petrous part of temporal bone (not large); diaphyses of long bones (thin walls of medullary cavities)	-
451	1,9 g	moderate	<i>infans I (?)</i>	?	diaphyses of long bones (thin walls of medullary cavities, small sizes)	poorly diagnostic bones
452	43,6 g	moderate	<i>adultus-early maturus</i>	M?	cranial vault flat bones (gracile, delicate build, medium thickness), including squamous part of occipital bone (strong pronounced external occipital protuberance); frontal process of left zygomatic bone (with edge nodule); petrous part of left temporal bone (medium size); diaphyses of long bones, including fibula (medium size); epiphyses of long bones (ossified)	animal bones
472	7,2 g	moderate	adult (?)	?	cranial vault flat bones (medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities); intermediate phalanx of hand (ossified, medium size)	poorly diagnostic bones, mixed (?)

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
474	7,5 g	moderate	adult	?	cranial vault flat bones (gracile, medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
476	21,5 g	moderate	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
477	4,6 g	moderate	adult	?	cranial vault flat bones (medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities, quite large sizes)	poorly diagnostic bones
479	3,7 g	heavy	adult	?	diaphyses of long bones (thin and medium thickness walls of medullary cavities)	poorly diagnostic bones
483	34,7 g	moderate	<i>adultus-early maturus</i>	F?	zygomatic process of right temporal bone (gracile); right supraorbital margin (sharp edge, strong pronounced supraorbital arch); petrous part of right temporal bone (quite large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified, compact structure of spongy bone)	animal bones
489	11,1 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures, weakly pronounced temporal line); diaphyses of long bones (gracile, medium-thick walls of medullary cavities)	poorly diagnostic bones
500	27,7 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); root of permanent tooth (formed); diaphyses of long bones (thin and medium thickness walls of medullary cavities); phalanges (ossified)	poorly diagnostic bones
501A	20,3 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (thin walls of medullary cavities); tarsus (ossified); phalanx (ossified)	poorly diagnostic bones
505	4,2 g	heavy	adult	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (medium thickness)	poorly diagnostic bones; animal bones
509	1 g	heavy	adult	?	diaphyses of long bones (thin walls of medullary cavities), epiphyses of long bones (ossified)	poorly diagnostic bones
514	3 g	moderate	adult	?	diaphyses of long bones (quite thick walls of medullary cavities)	poorly diagnostic bones
516	47,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, gracile); alveolar process of maxilla (gracile); root of permanent teeth (formed, small); atlas (not large); diaphyses of long bones (medium-thick walls of medullary cavities)	animal bones
517	2,7 g	heavy	<i>infans I</i>	?	cranial vault flat bones (quite thin, gracile); rib (small); diaphyses of long bones (thin walls of medullary cavities)	-
518	60,7 g	moderate	<i>infans I-II (6-8)</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); petrous parts of temporal bones (not large sizes); diaphyses of long bones (thin walls of medullary cavities)	-
521B	727,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, unobliterated sutures); petrous parts of temporal bones (quite gracile); body of mandible (with root of permanent M3 tooth); two condylar processes of mandible (diam. ~18 mm); root of permanent teeth (formed, not large); vertebrae (ossified), including axis (diam. of dens 8,5 mm); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified, compact structure of spongy bone), including radius (diam. of head ~18 mm); tarsal bone (not large); phalanges (ossified)	bones from all part of skeleton; animal bones high of body: 160-164 cm
522	596,4 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); temporeal bone (gracile); right condylar process of mandible (diam. ~16 mm); vertebrae (ossified); hip bones (greater sciatic notch wide); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (ossified, small)	=
523	0,4 g	moderate	?	?	no diagnostic bones	few small fragments of bone, maybe human

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
524	974,6 g	moderate	<i>maturus</i>	M?	cranial vault flat bones (medium thickness, partly obliterated sutures); alveolar process of maxilla (alveoli of a permanent teeth); frontal process of left zygomatic bone (with edge nodule); left and right supraorbital margins (sharp edges); petrous parts of temporal bones (quite massive); roots of permanent teeth (formed, not large); vertebrae, including axis (diam. of dens ~10 mm); diaphyses of long bones (medium-thick walls of medullary cavities, quite massive); epiphyses of long bones(ossified)	green discolouration on bones
525B.1	32,9 g	moderate	non-adult (?)	?	cranial vault flat bones (gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
525B.2	-	-	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities)	uburnt bones, poorly diagnostic bones (probably secondary admixture)
526	140 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); vertebrae (small); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (small, ossified)	green discolouration on bones
527	157,7 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); petrous parts of temporal bones (gracile, medium size); right condylar process of mandible(gracile); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); epiphyses of long bones (ossified)	animal bones
528	5,2 g	moderate	adult (?)	?	cranial vault bones (medium thickness, gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
529	55,8 g	moderate	<i>adultus</i>	F?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); root of permanent tooth (formed); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); distal phalanx of hand (gracile, ossified)	green discolouration on bones
531	1,7 g	moderate	?	?	cranial vault flat bones (quite gracile)	poorly diagnostic bones, maybe human poorly diagnostic bones;
532	0,9 g	heavy	<i>infans I</i>	?	diaphysis of long bone (small sizes)	moreover: one fragment of diaphysis of long bone with thin and medium thickness walls of medullary cavities probably from an adult person
533	35,7 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin and medium thickness walls of medullary cavities)	poorly diagnostic bones
534	177,7 g	moderate	early <i>maturus</i>	M?	cranial vault flat bones (medium thickness); left supraorbital margin (slightly rounded edge, weakly pronounced temporal line); right coronoid process of mandible (large); roots of permanent teeth (quite large, formed); vertebrae (ossified,not large); diaphyses of long bones (medium-thick walls of medullary cavities, quite massive); epiphyses of long bones (ossified, compact structure of spongy bone); phalanx (small, ossified)	=
535	18,5 g	heavy	adult	?	cranial vault flat bones (medium thickness, gracile); root of permanent tooth; diaphyses of long bones (medium-thick walls of medullary cavities); distal phalanx of hand (ossified)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
537	661,9 g	moderate	<i>adultus</i> (20–25)	M?	cranial vault flat bones (medium thickness, unobliterated sutures); temporal bones (quite large); petrous part of right temporal bone (quite massive); root of permanent tooth (formed); vertebrae (ossified), including axis (diam. of dens 12,5 mm); hip bones, including iliac crest (unossified); diaphyses of long bones (medium-thick walls of medullary cavities, quite massive)	bones from all parts of the skeleton; animal bones
538	427,2 g	moderate	<i>infans I</i> <i>adultus</i> –early <i>maturus</i>	? M?	cranial vault flat bones (quite thin, gracile); ribs (small, thin); diaphyses of long bones (thin walls of medullary cavities) cranial vault flat bones (medium thickness, unobliterated sutures); roots of permanent teeth (formed); vertebrae; hip bones, including iliac crest (ossified), pubis (acute subpubic angle); diaphyses of long bones (medium-thick walls of medullary cavities, massive); epiphyses of long bones (ossified); phalanges (small, ossified)	animal bones
577	0,2 g	moderate	?	?	no diagnostic bones	few small bone fragments, probably human
578	1,2 g	moderate	?	?	diaphyses of long bones; ribs (gracile)	poorly diagnostic bones, probably human
591	240,4 g	moderate	<i>adultus</i> – <i>maturus</i>	M?	cranial vault flat bones (medium thickness); right supraorbital margin (edge rounded, weakly pronounced temporal line); petrous part of temporal bone (medium size); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanx (ossified)	animal bones
593	70,1 g	moderate	adult	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
595	3,1 g	moderate	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
597	49,9 g	moderate	<i>infans II</i>	?	cranial vault flat bones (gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bone; animal bone
598	1,7 g	heavy	<i>infans I</i>	?	cranial vault flat bone (gracile, quite thin); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
601	32,9 g	moderate	<i>infans II</i> (?)	?	cranial vault flat bones (gracile); diaphyses of long bones (thin and medium thickness walls of medullary cavities)	poorly diagnostic bones
602	0,6 g	heavy	niedorosły	?	diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
604	52,2 g	heavy	<i>adultus</i> – <i>maturus</i>	F?	cranial vault flat bones (quite thin, gracile); left supraorbital margin (sharp edge, weakly pronounced temporal line); frontal process of right zygomatic bone (with edge nodule); zygomatic arch (gracile); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	animal bones
605	16,5 g	moderate	<i>infans I–II</i>	?	cranial vault flat bones (quite thin, gracile); supraorbital margin (quite sharp); diaphyses of long bones (thin and medium walls of medullary cavities)	poorly diagnostic bones; animal bones
606	18,2 g	moderate	<i>infans I–II</i>	?	cranial vault flat bones (quite thin, unobliterated sutures); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; animal bones
607	26,3 g	moderate	adult	?	cranial vault flat bones (medium thickness); root of permanent tooth (formed); rib (quite large); diaphyses of long bones (medium thickness walls of medullary cavities)	poorly diagnostic bones; animal bones
609	2,7 g	heavy	non-adult (?)	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones poorly diagnostic bones;
610	6,4 g	heavy	adult (?)	?	diaphyses of long bones (thin walls of medullary cavities)	moreover: fragment of massive diaphysis of long bone of other (?) adult person

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
611	2,6 g	heavy	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
612	1,2 g	heavy	<i>infans I</i>	?	cranial vault flat bone (quite small, gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
614	0,6 g	heavy	?	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones, probably human
615	45,2 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (quite thin, gracile build, unobliterated sutures); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	poorly diagnostic bones; animal bones
619	7,2 g	heavy	<i>infans II</i>	?	cranial vault flat bones (quite thin, gracile); root of primary tooth (formed); diaphyses of long bones (thin walls of medullary cavities); distal epiphysis of phalanx (ossified)	=
629.1	-	-	<i>fetus</i>	?	diaphysis of tibia? (unossified)	bone unburnt with green discolouration on bones
629.2	4,2 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin walls of medullary cavities, small sizes)	poorly diagnostic bones; material from inhumation grave filling
630	0,2 g	heavy	?	?	diaphysis of long bone (medium-thick walls of medullary cavities, massive)	poorly diagnostic bone, maybe human
631	4,7 g	heavy	non-adult	?	diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	poorly diagnostic bones
632	115,8 g	heavy	<i>adultus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); frontal process of left zygomatic bone (gracile, with small nodule on edge); petrous part of left temporal bone (quite large sizes); diaphyses of long bones (thick walls of medullary cavities, massive); phalanges and metatarsal bones (ossified, not large)	=
634	-	-	<i>maturus</i>	M?	cranial vault flat bones (massive), including parental bone with sagittal suture (S3 – obliterated, S2 and S2 – partly obliterated); petrous parts of temporal bones (medium size); crowns of permanent teeth (4×M1, 3×M2, large, massive, grated); vertebrae (ossified); hip bones (quite large); diaphyses of long bones (medium-thick walls of medullary cavities); proximal epiphyses of femurs (compact structure of spongy bone)	bones and teeth unburnt
636	-	-	late <i>infans I</i>	?	temporal bone (not large); crowns of permanent teeth in primordia (4×M1, 3×M2, 2×P, 2×C); roots of primary teeth; left scapula; proximal part of left humerus; diaphyses of long bones (thin, gracile); phalanges (gracile, non-growth epiphyses)	bones unburnt with fragment of skin; green discolouration on bones on teeth
637	1,6 g	moderate	adult	?	cranial vault flat bone (medium thickness)	poorly diagnostic bone, with green discolouration on bones
638	2,5 g	moderate	non-adult	?	diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
640	77,2 g	heavy	adult	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (medium-thick walls of medullary cavities, gracile); vertebrae (ossified)	poorly diagnostic bones
641	32,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	poorly diagnostic bones
655	879,7 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness, partly obliterated sutures); root of permanent teeth (formed); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	poorly diagnostic bones, quite massive; unburnt permanent C tooth (secondary admixture); animal bones
656	9,6 g	moderate	<i>infans I</i>	?	cranial vault flat bones (quite thin, gracile); petrous part of temporal bone (small sizes); diaphyses of long bones (quite thin walls of medullary cavities, small sizes)	=

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
657	2,8 g	moderate	non-adult	?	cranial vault flat bones (quite thin); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
660	8,4 g	moderate	<i>infans I</i>	?	cranial vault flat bones (quite thin); petrous part of right temporal bone (small, gracile); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
661A	89,7 g	heavy	adult	?	cranial vault flat bones (quite thin, gracile build); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features)	poorly diagnostic bones
677	27,2 g	heavy	<i>infans II-iuvenis</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones; green discoloration on bones
678	5,6 g	heavy	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, gracile); root of permanent tooth (formed); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
680	61,1 g	moderate	<i>adultus</i>	?	cranial vault flat bones (medium thickness, gracile); petrous part of right temporal bone (medium size); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
689	2,7 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
690A & B	3,8 g	heavy	<i>infans I-II (6-8)</i>	?	cranial vault flat bones (quite thin, gracile); vertebral body (unossified); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
691	0,5 g	moderate	?	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bone
692	69,2 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness, gracile, partly obliterated sutures); distal foot phalanx I (ossified, medium size); diaphyses of long bones (medium-thick walls of medullary cavities, quite massive)	-
693	75,9 g	moderate	<i>infans I/II (6-8)</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); left supraorbital margin (sharp edge, gracile); root of primary tooth (formed); crown of permanent P tooth (primordium); vertebrae, including axis (diam. of dens 9 mm); diaphyses of long bones (thin walls of medullary cavities)	=
695	5 g	heavy	<i>fetus</i>	?	cranial vault flat bones (very thin, gracile); primordia of primary teeth; diaphyses of long bones (thin walls of medullary cavities, unossified)	-
696	8,3 g	moderate	<i>infans II (?)</i>	?	cranial vault flat bones (gracile); diaphyses of long bones (gracile); epiphyses of long bones (uncompletely ossified)	poorly diagnostic bones
699	80,5 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); body of mandible (alveoli of a permanent teeth); root of permanent teeth (formed, not large); diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); phalanges (small, ossified)	poorly diagnostic bones
701A	3,8 g	moderate	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
702	17,2 g	heavy	<i>infans I</i>	?	cranial vault flat bones (gracile, thin); primary teeth; epiphyses of long bones (uncompletely ossified); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
703	0,7 g	heavy	<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (thin)	poorly diagnostic bones
704	33,1 g	moderate	<i>infans II-iuvenis (?)</i>	?	cranial vault flat bones (gracile, quite thin, unobliterated sutures); body of mandible (gracile); vertebrae; diaphyses of long bones (medium-thick walls of medullary cavities)	animal teeth
705	0,9 g	moderate	non-adult (?)	?	cranial vault flat bone (thin, gracile)	poorly diagnostic bones, probably human
706	101,4 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness); hip bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (not large, ossified)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
707	15 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, unobliterated sutures); diaphyses of long bones (quite thin walls of medullary cavities)	-
708	261,3 g	moderate	<i>iuvenis</i>	F?	cranial vault flat bones (medium thickness, gracile), root of permanent tooth (newly formed); crown of permanent P tooth; vertebrae, including atlas (gracile); diaphyses of long bones (medium-thick walls of medullary cavities, gracile); epiphyses of long bones (uncompletely ossified); tarsal bone; phalanges (newly ossified distal epiphyses)	-
711	14,6 g	moderate	non-adult	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin and medium thickness walls of medullary cavities)	poorly diagnostic bones; animal bones
713	10,5 g	moderate	non-adult	?	cranial vault flat bones (quite thin); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
716	556,4 g	moderate	<i>adultus</i>	M?	cranial vault flat bones (medium thickness, unobliterated sutures); of mandible (quite large); root of permanent teeth (newly formed); vertebrae (not large, ossified); diaphyses of long bones, including femur, humerus, tibia (massive); epiphyses of long bones (ossified)	-
717	1,3 g	moderate	adult	?	cranial vault flat bones (medium thickness, open cranial suture)	poorly diagnostic bones
718	8,3 g	moderate	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); diaphyses of long bones (small sizes, thin walls of medullary cavities); epiphyses of long bones (uncompletely ossified)	poorly diagnostic bones
719	22,3 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures; petrous part of temporal bone (not large); diaphyses of long bones (thin and medium thickness walls of medullary cavities)	poorly diagnostic bones
721A	3,9 g	heavy	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities, quite massive)	poorly diagnostic bones
721B	6,9 g	heavy	non-adult (?)	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (quite thin, gracile)	poorly diagnostic bones; animal bones
723	0,8 g	moderate	<i>infans I-II (6-8)</i>	?	cranial vault flat bones (thin, gracile); root of primary tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities, gracile)	poorly diagnostic bones
724	9,7 g	moderate	<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (thin walls of medullary cavities, small sizes); epiphyses of long bones (compact structure of spongy bone)	diaphysis of long bone of adult person (secondary admixture)
728	3,5 g	moderate	adult	?	cranial vault flat bones (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
729	3,3 g	heavy	<i>infans I (4-5)</i>	?	cranial vault flat bones (thin, gracile); root of primary tooth (formed); crown of permanent P tooth (primordium); vertebral arch (small); diaphyses of long bones (thin walls of medullary cavities gracile)	poorly diagnostic bones
730	0,5 g	heavy	non-adult	?	diaphysis of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bone
731	15 g	moderate	non-adult	?	cranial vault flat bones (gracile); body mandible (alveoli of primary teeth?); vertebrae (small); diaphyses of long bones (thin walls of medullary cavities gracile)	poorly diagnostic bones
732	1,3 g	heavy	non-adult	?	cranial vault flat bones (gracile); diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
734	72 g	moderate	<i>infans I (ca. 3)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); petrous parts of temporal bones (small sizes); roots of primary teeth; crown of permanent I1 tooth (primordium); ribs; vertebrae; diaphyses of long bones (gracile)	green discolouration on bones
737	14,8 g	moderate	adult	?	cranial vault flat bones (medium thickness); diaphyses of long bones (medium-thick walls of medullary cavities, gracile); epiphyses of long bones (ossified)	poorly diagnostic bones
738	76,1 g	moderate	<i>adultus</i>	M?	cranial vault flat bones (unobliterated sutures, gracile); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	animal bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
739	0,4 g	heavy	<i>fetus/infans I</i>	?	diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
740	2,9 g	heavy	<i>infans I (ca. 2)</i>	?	cranial vault flat bones (thin, gracile); root of primary tooth (newly formed); diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones
750	-	-	early <i>infans I</i>	?	vertebral arch (unossified)	bones unburnt, green discolouration on bones
798	34,6 g	moderate	adult	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (medium-thick walls of medullary cavities); proximal phalanx of foot (ossified)	poorly diagnostic bones
801	20,2 g	heavy	early <i>infans I (ca. 0,5)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); petrous part of left temporal bone (small); primordium of primary teeth (m1); diaphyses of long bones (thin walls of medullary cavities, gracile)	-
802	4,5 g	moderate	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones; diaphysis of long bone medium thickness (adult, secondary admixture); animal teeth
830	54,1 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); hip bones (greater sciatic notch wide); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone compact structure of spongy bone) Southern part of pit <i>Adult</i> : cranial vault flat bones (medium thickness, unobliterated sutures); root of permanent teeth (formed); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
832	169,6 g	moderate	<i>adultus</i>	F?	Northern part of pit <i>Adult</i> : cranial vault flat bones (medium thickness, gracile); vertebrae (ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); intermediate phalanx of hand (ossified) <i>Non-adult</i> : cranial vault flat bones (thin)	all bones belonged to the same two persons; animal bones
			<i>infans I</i>	?	Middle part of pit <i>Adult</i> : cranial vault flat bones (medium thickness, unobliterated sutures); petrous part of right temporal bone (medium size); root of permanent tooth (formed); vertebrae (ossified); epiphyses of long bones (ossified); diaphyses of long bones (medium-thick walls of medullary cavities) <i>Non-adult</i> : cranial vault flat bones (thin, gracile); diaphyses of long bones (small sizes)	
					Upper layer of whole pit <i>Adult/non-adult</i> : cranial vault flat bones (thin, gracile); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (ossified)	
833	6,7 g	heavy	<i>infans I/II</i>	?	cranial vault flat bones (quite thin, gracile); root of primary tooth; diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
834	7,7 g	heavy	<i>infans II-iuvenis</i>	?	cranial vault flat bones (gracile); body of mandible (small); diaphyses of long bones (thin and medium thickness walls of medullary cavities); epiphyses of long bones, including femur, humerus (medium size, compact structure of spongy bone)	poorly diagnostic bones
837	0,6 g	heavy	early <i>infans I</i>	?	diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
838	0,9 g	heavy	<i>infans I-II</i>	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
839	12,1 g	moderate	adult	?	cranial vault flat bones (gracile); diaphyses of long bones (thick walls of medullary cavities)	poorly diagnostic bones
844	6,6 g	moderate	<i>infans II (?)</i>	?	cranial vault flat bones (quite thin, gracile); roots of primary teeth (?); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
850	51,8 g	moderate	adult	?	body of mandible (gracile); vertebrae, including axis (diam. of dens 9 mm); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
851	15,3 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (quite thin walls of medullary cavities); frag. of epiphyses of long bones (small sizes. compact structure of spongy bone)	poorly diagnostic bones
852	15 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	poorly diagnostic bones
853	20,9 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	poorly diagnostic bones
854	1,8 g	heavy	non-adult	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
856	49,3	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); temporal bone (quite large); petrous part of temporal bone (medium size); diaphyses of long bones (medium-thick walls of medullary cavities); phalanx (ossified)	-
857	26,7 g	moderate	late <i>infans I</i>	?	cranial vault flat bones (thin, gracile); roots of primary teeth (formed); diaphyses of long bones (quite thin); epiphyses of long bones (compact structure of spongy bone); phalanges (uncompletely ossified)	animal bones
858	65,7 g	moderate	adult	?	diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	poorly diagnostic bones
859	29,4 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
860	102,9 g	moderate	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); frontal process of right zygomatic bone (quite gracile); petrous part of left temporal bone (quite large); vertebrae (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified)	-
861	2,1 g	moderate	non-adult	?	cranial vault flat bone (quite thin); vertebral arch (gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
862	17,2 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (quite thin); hip bones (small sizes); diaphyses of long bones (thin walls of medullary cavities) epiphyses of long bones (not large)	poorly diagnostic bones
863	7,9 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (quite thin, gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
864	679,2 g	moderate	<i>adultus-early maturus</i>	M?	cranial vault flat bones (medium thickness, unobliterated sutures); maxilla (alveoli of a permanent teeth); right zygomatic bone (frontal with edge nodule); petrous parts of temporal bones (medium size); body of mandible (arch quite large, alveolus of P2 tooth obliterated), condyloid process of mandible (diam. 18 mm); root of permanent tooth (formed); diaphyses of long bones (medium-thick walls of medullary cavities, strong pronounced surface features); epiphyses of long bones (ossified), including femur, radius bone (diam. of head ~20 cm); phalanges (ossified)	bones from all prts of the skeleton high of body: 171-175 cm
869	7,8 g	moderate	non-adult	?	cranial vault flat bone (gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
880	2,3 g	moderate	non-adult	?	cranial vault flat bones (thin), diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
881	100,5 g	moderate	<i>maturus</i>	?	cranial vault flat bones (medium thickness); frontal process of right zygomatic bone (gracile); hip bones, including iliac crest (ossified); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified,)	-
883	10,2	heavy	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); diaphyses of long bones (medium-thick walls of medullary cavities, small sizes)	-
884.1	-	-	non-adult	?	supraorbital margin (delicate, not large); diaphyses of long bones, including tibia (gracile, thin walls of medullary cavities)	bones unburnt, poorly diagnostic bones
884.2	50,9 g	heavy	<i>infans II (ca. 10)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); root of permanent C tooth (newly formed); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	material from inhumation grave filling
885	4,8 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (thin, gracile); crown of primary tooth (m); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
887.1	-	-	<i>maturus</i>	M	cranial vault flat bones (sagittal and coronary /C1/ sutures partly obliterated), including parietal and frontal bones and squamous part of occipital bone (thick, massive, strong pronounced nuchal line and external occipital protuberance); petrous part of left temporal bones (quite large, massive); right temporal bone with petrous parts (large, massive mastoid process); crown of permanent teeth (1×P, 1×M1, 1×M3); diaphyses of long bones (medium-thick walls of medullary cavities)	bones unburnt
887.2	5,1 g	heavy	adult	?	cranial vault flat bones (gracile, quite thin); diaphyses of long bones (medium-thick walls of medullary cavities)	material from inhumation grave filling
915	6,6 g	moderate	adult	?	phalanx (medium size); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
916 & 916A	34,8 g	moderate	non-adult	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (compact structure of spongy bone)	poorly diagnostic bones
917	4,4 g	moderate	non-adult (?)	?	diaphyses of long bones (gracile, thin walls of medullary cavities)	poorly diagnostic bones; material from inhumation grave filling
918	7,5 g	heavy	non-adult	?	cranial vault flat bones (medium thickness, gracile); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
919	26,9 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (thin, gracile); petrous part of left temporal bone (small); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
920	3,5 g	heavy	<i>infans I</i>	?	diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bone; fragment of diaphysis of long bones from adult person (secondary admixture)
930	16,8 g	moderate	<i>infans II</i>	?	cranial vault flat bones (quite thin); diaphyses of long bones (medium sizes, thin walls of medullary cavities); epiphyses of long bones (not large, compact structure of spongy bone)	poorly diagnostic bones; animal bones
931	2,3 g	heavy	non-adult (?)	?	cranial vault flat bone (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
932	0,3 g	heavy	early <i>infans I</i>	?	crown of primary m tooth (primordium); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
946	0,9 g	heavy	early <i>infans I</i>	?	cranial vault flat bones (thin)	poorly diagnostic bones
947	1,2 g	heavy	<i>infans I</i>	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
950	2,3 g	moderate	non-adult (?)	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
953	70 g	moderate	<i>adultus-maturus</i>	F?	cranial vault flat bones (medium thickness, gracile); supra-orbital margin (sharp, gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
954	13,4 g	heavy	<i>adultus-early maturus</i>	?	cranial vault flat bones (medium thickness, unobliterated sutures); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
957	1,4 g	heavy	non-adult (?)	?	diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
959	1,4 g	moderate	?	?	diaphysis of long bone and cranial vault bone (?)	poorly diagnostic bones, maybe human
967	61,3 g	moderate	<i>infans I (ca. 4)</i>	?	cranial vault flat bones (thin, unobliterated sutures); petrous part of right temporal bones (small); crowns of permanent teeth: 2×C (primordia); vertebrae (gracile, small); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (small sizes)	-
968	864,9 g	moderate	<i>early maturus</i>	M?	cranial vault flat bones (quite thick, partly obliterated sutures); frontal process of left zygomatic bone (with edge nodule); petrous part of left temporal bones (quite large); right condylar process of mandible (quite large); root of permanent tooth (formed); diaphyses of long bones (thick walls of medullary cavities, massive); epiphyses of long bones (ossified,)	few bones of child can be a secondary admixture; green and ferruginous discolouration on bones; animal bones
970	32,8 g	moderate	<i>infans I</i>	?	cranial vault flat bones (thin, gracile); diaphyses of long bones (small sizes)	poorly diagnostic bones
979	896,7 g	moderate	<i>adult (?)</i>	?	cranial vault flat bones (gracile); diaphyses of long bones (medium-thick walls of medullary cavities)	poorly diagnostic bones
979	896,7 g	moderate	<i>maturus (35-45)</i>	M	cranial vault flat bones (thick, massive, unobliterated sutures, strong pronounced external occipital protuberance); zygomatic process of temporal bone (massive arch); frontal process of right zygomatic bone (with edge nodule); right mastoid process (massive); petrous parts of temporal bones (quite large); condyloid process of mandible (large); roots of permanent teeth (formed); vertebrae, including axis (diam. of dens 11 mm); hip bones, including iliac crest (ossified); diaphyses of long bones (walls of medullary cavities), including femur (strong pronounced linea aspera); epiphyses of long bones (ossified)	bone form all part of the skeleton; decay on root of M1 tooth; animal bones
985	550,2 g	light	<i>infans II/iuvenis (ca. 14)</i>	F?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); petrous parts of temporal bones (medium size); maxilla and mandible (alveoli of a permanent teeth); roots of permanent teeth (newly formed); crown of premolar tooth; vertebrae (unossified surfaces); diaphyses of long bones (thin walls of medullary cavities); epiphyses of long bones (unossified); phalanges (unossified epiphyses)	fragments from all parts of the skeleton; animal bones
987	0,9 g	heavy	non-adult	?	petrous parts of temporal bones (small sizes); diaphyses of long bones (small diameters, thin walls of medullary cavities)	poorly diagnostic bone
1005	0,6 g	heavy	non-adult (?)	?	cranial vault flat bone (thin, gracile)	poorly diagnostic bone
1013	0,3 g	moderate	non-adult (?)	?	diaphyses of long bones (thin walls of medullary cavities, gracile)	poorly diagnostic bones, maybe human; animal bones
1019	768,7 g	moderate	<i>adultus-maturus</i>	M?	cranial vault flat bones (thick, massive, unobliterated sutures); right zygomatic bone (quite massive); petrous part of right temporal bone (medium size); condyloid process of mandible (quite large); vertebrae (ossified); hip bones, including greater sciatic notch (quite narrow, deep); epiphyses of long bones (ossified, compact structure of spongy bone); diaphyses of long bones (thick walls of medullary cavities, massive)	ferruginous discolouration on bones; animal bones
1021	1,8 g	moderate	<i>adultus-maturus</i>	M?	cranial vault flat bones (quite massive, strong pronounced external occipital protuberance)	-

Grave	Weight	Degree of bone burning	Age	Sex	Diagnostic bones	Pathologies, body height, comments
1022	494,2 g	moderate	<i>maturus</i>	F?	cranial vault flat bones (medium thickness, partly obliterated sagittal suture); petrous parts of temporal bones (medium size, gracile); temporal bones (gracile, mastoid process, not large); patella (small sizes); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified); phalanges (small, ossified)	animal bones
1024A	108,4 g	moderate	<i>infans II-iuvenis</i>	?	cranial vault flat bones (medium thickness, gracile, unobliterated sutures); left supraorbital margin (gracile, quite sharp edge); diaphyses of long bones (quite thin walls of medullary cavities, gracile)	poorly diagnostic bones; animal bones
1024C	85,4 g	moderate	<i>iuvenis</i>	F?	cranial vault flat bones (thin and medium size, unobliterated sutures); right temporal bone (mastoid process gracile, small); petrous part of temporal bones (gracile); maxilla (gracile); vertebrae; diaphyses of long bones (medium-thick walls of medullary cavities, weakly pronounced surface features); epiphyses of long bones, including head of humerus (quite large, compact structure of spongy bone)	-
1025	61,9 g	moderate	<i>infans I-II</i> <i>adult (?)</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); left temporal bone (gracile); vertebrae; diaphyses of long bones (thin and medium thickness walls of medullary cavities)	few bones of an adult person can be a secondary admixture; poorly diagnostic bone
1026A	293,2 g	moderate	<i>adultus-maturus</i>	?	cranial vault flat bones (medium thickness, quite gracile, unobliterated sutures, pronounced nuchal line); vertebrae (not large); diaphyses of long bones (medium-thick walls of medullary cavities); epiphyses of long bones (ossified), including head of humerus (quite large)	ferruginous discoloration on bones; animal bones
1026B	33,1 g	moderate	<i>infans I (4-5)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); petrous part of right temporal bone (not large); crown of permanent C tooth (primordium); diaphyses and epiphyses of long bones (unossified, small sizes)	animal bones
1027A	15,6 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); diaphyses of long bones (quite thin walls of medullary cavities)	poorly diagnostic bones
1027B	40 g	heavy	<i>infans I-II</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); diaphyses of long bones (quite thin walls of medullary cavities)	few bones of an adult person can be a secondary admixture
1030	0,1 g	moderate	?	?	diaphyses of long bones (thick walls of medullary cavities)	poorly diagnostic bones, maybe human
1035	185,1 g	moderate	<i>infans I/II (6-7)</i>	?	cranial vault flat bones (quite thin, gracile, unobliterated sutures); left supraorbital margin (sharp edge gracile); root of primary tooth (formed); diaphyses of long bones (thin and medium thickness walls of medullary cavities)	=
1044D2 (?)	49,1 g	heavy	<i>late infans I (ca. 6)</i>	?	cranial vault flat bones (thin, gracile, unobliterated sutures); supraorbital margin (sharp edge, gracile); petrous part of temporal bone (small); root of primary tooth (formed); vertebra (small); diaphyses of long bones (gracile)	=
			adult	?	cranial vault flat bones (quite thick); petrous part of temporal bone (quite large); root of permanent tooth (formed); vertebra (ossified)	
1047	13,7 g	moderate	<i>infans I-II</i>	?	cranial vault flat bones (gracile, quite thin); body of mandible (gracile, thin); diaphyses of long bones (thin walls of medullary cavities)	poorly diagnostic bones
1048	0,4 g	heavy	<i>infans I</i>	?	cranial vault bones (thin) i diaphyses of long bones (gracile)	poorly diagnostic bones
1064	0,1 g	heavy	?	?	diaphyses of long bones	poorly diagnostic bones, maybe human

ANEKS 2

ANNA GRĘZAK, ANALYSIS OF ANIMAL REMAINS FROM THE KLESZEWO CEMETERY

The analysed osteological material consisted of 47 bone artefacts and 478 bone and tooth fragments extracted by an anthropologist from human bone assemblages obtained from features discovered at the Kleszewo cemetery. The animal remains were examined using the standard methodology adopted for archaeozoological analyses (E. J. Reitz, E. Wing 1999, A. Lasota-Moskalewska 2008). Anatomical and species identification of the remains was performed macroscopically. The determinations of bird bones were consulted with dr hab. Teresa Tomek from the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences. The quantitative summaries were based on the NISP (Number of Identified Specimens per Species) estimates. The age of the animals was determined based on the criteria defined by J. Kolda (1936), and the sex of the birds was identified based on the presence of spurs on the tarsometatarsus of the domestic chicken and the medullary bone structure found in the marrow cavity of the bones of females during the egg-laying period. The bones were also examined with respect to taphonomic changes, anthropogenic modifications in particular.

The results of the archaeozoological analysis of the bone artefacts and animal remains are summarised in Table 1, including their zoological and anatomical identification and the characteristics of the animals from which they originated. Most of the worked and unworked teeth and bones were white or greyish-white in colour and showed traces of cracking, indicating burning at temperatures of 900–1000°C or higher (Wahl 1981). The degree of fragmentation and the scale of deformation caused by heat affected the identifiability of individual remains. In the case of 266 pieces, i.e., approximately 55% of the assemblage, the species of animal to which they belonged was determined. This group included remains identified without any doubt,

as well as less diagnostic fragments that probably also represented the proposed taxon (marked with ‘?’). Other remains included fragments of animal bones and teeth – about 32 % of the entire osteological material – belonging to mammals and birds that could not be assigned to specific species. The final, smaller category (c. 13 %) consisted of remains described as “undetermined”, which also included elements for which it is not even certain that they came from animals.

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Table 1. Bone artefacts and animal skeletal remains from Przeworsk and Wielbark culture graves at the Kleszewo cemetery
 Legend: unless stated otherwise, the bones were burnt; lack of information about the sex of the buried person indicates that it has not been determined

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
5	cremation burial in a pit	Przeworsk culture	IV-V			Bird: 1 frag. of ulna		<i>adultus-maturus</i> , ?
10	cremation burial in a pit	Przeworsk culture	I-IIa				2 frag. of animal (?) bones	<i>adultus-maturus</i> , M
12	cremation burial in a pit	Przeworsk culture	I-IIa				frag. of diaphysis of human or animal bone	?
23	cremation burial in a pit	Przeworsk culture	IV-V			Chicken: frag. of left tarsometatarsus of female Bird: frag. of long bone		<i>adultus</i> , F?
26	cremation burial in a pit	Przeworsk culture	II			Chicken (?): frag. of tarsometatarsus of female		<i>adultus-maturus</i> , F?
32	urn cremation burial	Przeworsk culture	Vb		Pig: 4 frag. of pelvis			early <i>adultus</i> F?
41	cremation burial in a pit	Przeworsk culture	I-IIa		Sheep or goat: frag. of right calcaneus, frag. of proximal phalanx, 2 frag. of diaphysis of bone	Chicken: frag. of left humerus		<i>adultus</i> , ?
42	urn cremation burial	Przeworsk culture	Vb			Greylag goose: 2 frag. of right radius, frag. of left radius Greylag goose (?): 5 frag. of left and right radii, frag. of right ulna Bird: 9 frag. of bones		<i>fetus-infans</i> , ?
43	cremation burial in a pit	Przeworsk culture	Vb		Sheep or goat: frag. of humerus, frag. of left metacarpal bone, frag. of metacarpal bones, frag. of metacarpal or metatarsal bone			<i>adultus-early maturus</i> , ?
59	cremation burial in a pit	Przeworsk culture	I-IIa		Mammal (small or medium size): 3 frag. of long bones			<i>adultus</i> , ?
61	cremation burial in a pit	Przeworsk culture	IV-V			Chicken: 2 frag. of left femur, frag. of right tibiotarsus Chicken (?): frag. of right tibiotarsus (?) of female	frag. of bone	<i>adultus</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
65/66	cremation burial in a pit	Przeworsk culture	IV-V				2 frag. of animal (?) bones	<i>adultus</i> , F?
73A-B	cremation burials	Przeworsk culture	V	Comb made from red deer antler (4 frag.).				
74	cremation burial in a pit	Przeworsk culture	I-IIa			Chicken: frag. of right coracoid		early <i>infans</i> , ?
77	cremation burial in a pit	Przeworsk culture	I-IIa			Bird (?): 2 frag. of diaphyses of long bones		adult, ?
81	cremation burial in a pit	Przeworsk culture	I-IIa			Sheep or goat: 4 frag. of metatarsal bones	frag. of bone	<i>adultus</i> -early <i>maturus</i> , ?
82	undetermined function	Przeworsk culture (?)	I-II and III-IV			Cattle or horse (?): 2 frag. of diaphysis of long bone		adult, ?
95	cremation burial in a pit	Przeworsk culture	III-V			Sheep: frag. of left talus Sheep or goat: frag. of tibia, 4 frag. of tibia or metatarsal bone, frag. of left calcaneus, tibia or metatarsal bone, frag. of long bone		<i>adultus</i> - <i>maturus</i> , ?
100	cremation burial in a pit	Przeworsk culture	IV-V	Pendant made from a talon of a bird from the family <i>Accipitridae</i> ; round hole at the base				early <i>adultus</i> (?), F?
103A	cremation burial in a pit	Przeworsk culture	I-IIa			Sheep or goat (?): frag. of sesamoid bone Pig: frag. of humerus Small ruminant or pig: 3 frag. of long bones Mammal: 2 frag. of bones	Chicken: frag. of right scapula, frag. of left humerus Bird: frag. of long bone	<i>infans</i> II (?), ?
118	cremation burial in a pit	Przeworsk culture	Vb			Sheep, goat or pig: frag. of proximal phalanx		<i>adultus</i> , F?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
120	undetermined function	Przeworsk or Wielbark culture	I-VII		Pig: 3 frag. of tibia, frag. of fibula			
121	urn cremation burial	Przeworsk culture	Vb		Sheep or goat (?): frag. of pelvis, 6 frag. of femur of individual younger than 3-3,5 years	Chicken: 2 frag. of femur, frag. of tibiotarsus Chicken (?); 2 frag. of diaphysis of bone		<i>maturus</i> , M?
122	cremation burial in a pit	Przeworsk culture	I				2 frag. of animal bones	non-adult (?), ?
128	cremation burial in a pit	Przeworsk culture	I-IIa (?)				2 frag. of animal (?) bones	non-adult and/or adult, ?
129	cremation burial in a pit	Przeworsk culture	IV-Va			Chicken: frag. of left humerus		adult, ?
132	urn cremation burial	Przeworsk culture	Vb		Sheep or goat: 4 frag. of left metacarpal bones of individual older than 20 months, frag. of proximal right phalanx, frag. of middle phalanx, frag. of rib Mammal: frag. of long bone, 3 frag. of bones	Chicken: 2 frag. of humerus, frag. of radius of female, frag. of right carpometacarpal, 2 frag. of left femur of female, frag. of right femur, frag. of left tibiotarsus Chicken (?): frag. of left tibiotarsus of female		<i>iuvenis</i> , F?
133	cremation burial in a pit	Przeworsk culture	V		Sheep or goat (?): proximal phalanx of young individual			non-adult, ?
138	cremation burial (in a pit or urn?)	Przeworsk culture	III-V (?)		Mammal: frag. of long bone of young individual	Chicken: frag. of right tibiotarsus of female Chicken (?): frag. of left radius		<i>adultus-maturus</i> , M?
140	cremation burial in a pit	Przeworsk culture	II			Bird: 2 frag. of long bones		<i>infans I-II</i> , ?
146	cremation burial in a pit	Przeworsk culture	V		Mammal: frag. of epiphysis of long bone	Bird: frag. of coracoid, frag. of ulna, 14 frag. of long bones		adult (?), ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
147	cremation burial in a pit	Przeworsk culture	I-IIa		Sheep or goat: 2 frag. of humerus or femur, frag. of rib	Chicken: frag. of left coracoid Bird: frag. of long bone		<i>maturus</i> , ?
148	cremation burial in a pit	Przeworsk culture	V			Bird: frag. of tarsometatarsus		<i>maturus-senilis</i> (late <i>matirus</i> ?), ?
150	cremation burial in a pit	Wielbark culture	VI			Bird: frag. of tibiotarsus		<i>infans I</i> , ?
151	cremation burial in a pit	Przeworsk or Wielbark culture	I-VII				7 frag. of human (early <i>infans I</i>) or animal (mammal) bones: frag. of skull, 2 frag. of rib, 2 frag. of long bones, 2 frag. of bones	early <i>infans I</i> (?), ?
154	cremation burial in a pit	Przeworsk culture	IV-V		Mammal: frag. of long bone	Goose: frag. of right ulna, frag. of left tibiotarsus Goose (?): frag. of long bone		<i>adultus</i> -early <i>maturus</i> , ?
155	cremation burial in a pit	Przeworsk culture (?)	I-V (?)		Sheep or goat: frag. of talus			<i>infans I</i> (?)
158	inhumation grave	Wielbark culture	VI		Mammal: frag. of long bone, 2 frag. of bones			adult (?), ?
163A	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (9 frag.)				<i>infans I</i> , ?
166	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (frag.)				adult (?), ?
174	cremation burial in a pit	Wielbark culture	VI-VII			Bird: frag. of pelvis (?)		<i>adultus</i> , ?
175	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (5 frag.)				early <i>infans I</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
177	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (5 frag.)				early <i>infans I</i> , ?
180	urn cremation burial (?)	Przeworsk culture	V (?)			Chicken (?), frag. of phalanx		<i>infans I-II</i> , ?
185	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (6 frag.)				<i>adultus-maturus</i> , ?
187	cremation burial in a pit	Przeworsk culture	II-III				frag. of long bone	non-adult (?), ?
195	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (3 frag.)				early <i>infans I</i> , ?
197	cremation burial in a pit	Przeworsk or Wielbark culture	I-VII			Pig: frag. of middle phalanx		non-adult, ?
200B	cremation burial in a pit and an urn	Przeworsk culture	Ila			Sheep or goat: 2 frag. of metapodium, frag. of distal phalanx, frag. of long bone		<i>adultus</i> , ?; non-adult (?), ?
218	cremation burial in a pit	Przeworsk culture	IV-V	"Knucklebone" made from horse's tarsus bone, perforated in the central part (frag.)				<i>iuvenis</i> , ?
219A-B	cremation burial in a pit	Przeworsk culture	II lub IV-V			Mammal: frag. of vertebra (?), frag. of bones	Chicken: frag. of humerus (?), frag. of left tibiotarsus	adult, ? <i>infans I</i> , ?
224	cremation burial in a pit	Przeworsk culture	Ila			Pig: frag. of molar (?)		early <i>maturus</i> , M?
240	cremation burial in a pit	Przeworsk culture	Vb			Mammal: frag. of long bone		<i>adultus</i> , F?
242	cremation burial in a pit	Przeworsk culture	Vb				Chicken: 2 frag. of right tibiotarsus	<i>maturus</i> , F?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
243	cremation burial in a pit	Przeworsk culture	IV-V			Chicken: frag. of left ulna		late <i>infans I</i> , ?
245	urn cremation burial	Przeworsk culture	II		Mammal: 2 frag. of long bone			<i>adultus</i> , F; <i>infans</i> , ?
257	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (ca. 20 frag.)				<i>maturus</i> , M
258	cremation burial in a pit	Wielbark culture	VII	Comb made from red deer antler (3 frag.)		Chicken: frag. of left scapula Chicken (?): frag. of right humerus, frag. of right ulna of female, frag. of right femur of female Bird: frag. of epiphysis of long bone		<i>iuvenis</i> , F?
261	cremation burial in a pit	Przeworsk culture	V		Sheep or goat: frag. of metapodium Mammal (?): 2 frag. of bones	Chicken: frag. of left coracoid of female Chicken (?): frag. of left humerus		<i>adultus</i> , F?
262	cremation burial in a pit	Przeworsk culture	Va	"Knucklebone" made from horse's tarsus bone, perforated in the central part (frag.)		Chicken: frag. of right ulna of female, frag. of right tibiotarsus of female, frag. of left tibiotarsus of female Chicken (?): frag. of right femur of female Goose (?): 2 frag. of left humerus, Bird: frag. of left humerus, frag. of long bone		<i>maturus</i> , M?
265	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (frag.)				?, ?
282	urn cremation burial	Przeworsk culture	Va		Sheep or goat: frag. of pelvis Mammal: 7 frag. of long bone			early <i>infans I</i> , ?/ <i>fetus</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
283	cremation burial in a pit				Mammal: frag. of long bone			<i>adultus-early maturus</i> , ?
300	cremation burial in a pit	Przeworsk culture	V (?)			Greylag goose: frag. of left radius Greylag goose (?): frag. of radius, frag. of ulna (?) Bird: 14 long bones		<i>adultus</i> , F
303	urn cremation burial	Przeworsk culture (?)	I-V				frag. of bones of bird or small mammal	<i>infans I</i> , ?
348	cremation burial in a pit	Przeworsk culture	II-III (?)		Pig: frag. of molar			<i>fetus/infans I</i> (?), ?
352	urn cremation burial	Przeworsk culture	IV			Chicken: frag. of right coracoid of female, frag. of right humerus, with traces of cutting, frag. of right ulna of female, frag. of left ulna of female, 2 frag. of right femur of female, frag. of left tibiotarsus of female, with traces of cutting, 2 frag. of right tarsometatarsus of female Bird: 4 frag. of long bones of female	3 frag. of animal bones	<i>adultus</i> , F?; early <i>infans I</i> , ?
353	cremation burial in a pit	Przeworsk culture	Va-b (Va?)				frag. of animal bones	<i>adultus-maturus</i> , F?
355	cremation burial in a pit	Wielbark culture	VI	Comb made from red deer antler (10 frag.)				<i>adultus</i> , M?
356	cremation burial in a pit	Wielbark culture	VI (?)	Plate (comb?) made from red deer antler or long bone (frag.)				<i>infans I</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
359	cremation burial in a pit	Wielbark culture	VI	Plate (comb?) made from red deer antler (frag.)				<i>adultus</i> -early <i>maturus</i> , ?; <i>infans I</i> , ?
363	cremation burial in a pit	Przeworsk culture	Vb		Sheep or goat: 8 frag. of talus		frag. of long bone, unburnt	<i>adultus</i> , F?
365B	urn cremation burial	Przeworsk culture	Vb		Pig: 1 frag. of pelvis		3 frag. of long bones	<i>maturus</i> , ?
370	cremation burial in a pit	Przeworsk culture	Vb-c	Comb made from red deer antler (5 frag.)			frag. of animal bone	<i>adultus</i> , F?; late <i>infans I</i> - early <i>infans II</i> , ?
378	cremation burial in a pit	Przeworsk culture	Vb-c	Comb made from red deer antler (6 frag.)				<i>infans I</i> (?), ?
380	cremation burial in a pit	Wielbark culture	VI	Comb made from red deer antler (6 frag.)				<i>adultus-maturus</i> , M?
383	urn cremation burial	Przeworsk culture	Vb		Mammal: frag. of long bone			<i>adultus-maturus</i> , F?; <i>infans I</i> , ?
386	inhumacyjny	Wielbark culture	VI (?)	Decomposed object (comb?) made from bone or antler, unburnt (9 frag.)				<i>infans I- II</i> , ?
396	cremation burial in a pit	Przeworsk culture	V			Chicken: frag. of right tibiotarsus		<i>adultus</i> , F?
398	cremation burial in a pit	Przeworsk culture	V	Comb made from red deer antler (frag.)	Sheep or goat (?); 2 frag. of metacarpal or metatarsal bones			<i>infans II- iuvenis</i> , ?
403	cremation burial in a pit and an urn	Przeworsk culture	Vb (?)			Chicken: frag. of left tibiotarsus of female		late <i>infans I</i> , ?
404	cremation burial in a pit	Przeworsk culture	III-IV			Bird (?): 4 frag. of bones		<i>infans I/II</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
411	cremation burial in a pit	Wielbark culture	VIIa	Comb made from red deer antler (frag.)				<i>adultus</i> , F?
413	cremation burial in a pit	Przeworsk culture	Vb	Needle made from long bone of (probably) large mammal (cattle or horse) (frag.)	Pig: frag. of humerus of young individual	Chicken: frag. of right femur of female, frag. of left tarsometatarsus of female (?) Chicken (?): frag. of tibio-tarsus of female Bird: frag. of left ulna of female (?)		<i>maturus</i> , F?
415C	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (3 frag.)				<i>adultus</i> , ?
429	cremation burial in a pit	Przeworsk culture	Vb			Goose: frag. of left ulna		<i>adultus</i> , F?
452	urn cremation burial	Przeworsk culture	Va-b			Chicken: frag. of left tarsometatarsus of female		<i>adultus</i> -early <i>maturus</i> , M?
483	cremation burial in a pit	Wielbark culture (?)	VI-VII (?)			Bird (?): frag. of bone		<i>adultus</i> -early <i>maturus</i> , F?
505	cremation burial in a pit	Wielbark culture	VII (?)		Mammal: frag. of long bone			adult, ?
516	cremation burial in a pit	Przeworsk culture	Vb		Pig (?): 3 frag. of right humerus	Chicken (?): frag. of left ulna of female		<i>adultus</i> - <i>maturus</i> , ?
521B	urn cremation burial	Przeworsk culture	IV		Pig: frag. of atlas 5 frag. of ribs of young individual, 3 frag. of thoracic vertebrae of young individual Mammal (?): 5 frag. of long bones	Chicken: frag. of right femur, with traces of cutting, frag. of left femur of female, with traces of cutting, 2 frag. of right tibiotarsus of female, frag. of left tibio-tarsometatarsus, frag. of left humerus Chicken (?): 2 frag. of left humerus		<i>adultus</i> , F?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
524	cremation burial in a pit	Wielbark culture	VI	1. Comb made from red deer antler (1 frag.) 2. Container (?) from a worked bone of sheep or goat				<i>maturus</i> , F?
527	cremation burial in a pit	Przeworsk culture	Vb-c	Comb made from red deer antler (1 frag.)	Pig or small ruminant: frag. of ischium		frag. of animal bone	<i>adultus</i> , F?
537	urn cremation burial	Przeworsk culture	Va		Pig: 2 frag. of cervical vertebra of young individual Mammal: 4 frag. of vertebrae	Chicken: 2 frag. of left femur of female, frag. of right femur of female, with traces of cutting, frag. of right tibiotarsus of female, with traces of cutting (?), frag. of left tibiotarsus, with traces of cutting (?) Chicken (?) : frag. of left tibiotarsus of female (?), with traces of cutting Bird: frag. of bone		<i>adultus</i> , M?
538	cremation burial in a pit	Przeworsk culture	Va-b		Mammal: 2 frag. of rib, 2 frag. of humerus or femur	Chicken: frag. of right scapula, frag. of right tibiotarsus of female Chicken (?) : frag. of left humerus of female, with traces of cutting, 2 frag. of left tibiotarsus of female Bird: 2 frag. of long bones of female		<i>adultus-early maturus</i> , M?
578	cremation burial in a pit	Wielbark culture	VIIa	Comb made from red deer antler (frag.)				?, ?
591	cremation burial in a pit	Przeworsk culture	I-IIa		Mammal: frag. of rib, 2 frag. of left humerus of female, with traces of cutting			<i>adultus-maturus</i> , M?
597	cremation burial in a pit	Wielbark culture	VII				frag. of animal bone	<i>irifans II</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
604	cremation burial in a pit	Przeworsk culture (?)	I-V (?)			Bird: 10 frag. of long bone, unburnt		<i>adultus-mathurus</i> , P?
605	cremation burial in a pit	Przeworsk culture	V		Pig: frag. of tibia, frag. of fibula			<i>infans I-II</i> , ?
606	cremation burial in a pit	Przeworsk culture	I-IIa				3 frag. of animal bones	<i>infans I-II</i> , ?
607	cremation burial in a pit	Przeworsk culture Wielbark culture	V VI-VII		Pig (?): frag. of distal phalanx Mammal: 2 frag. of rib			adult, ?
615	cremation burial in a pit	Przeworsk culture	IIb-III					<i>infans II-juvenis</i> , ?
620	cremation burial in a pit	Przeworsk culture	I-IIa		Mammal: 3 frag. of ribs, 4 frag. of bones	Bird: 5 frag. of long bones		?, ?
621	inhumation grave	Wielbark culture	VI		Mammal: tooth of carnivora (??), unburnt			?, ?
640	cremation burial in a pit	Wielbark culture	VII	Comb made from red deer antler (3 frag.)				adult, ?
641	cremation burial in a pit	Wielbark culture	VII	Comb made from red deer antler (1 frag.)				<i>adultus-mathurus</i> , ?
655	cremation burial in a pit	Przeworsk culture	I-IIa		Mammal: 2 frag. of long bones			<i>maturus</i> , ?
690A-B	cremation burial in a pit cremation burial in a pit	Wielbark culture (?)	VI-VII (?)	Comb (?) made from red deer antler (1 frag.)				late <i>infans I</i> – early <i>infans II</i> , ?
693	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (6 frag.)				<i>infans I/II</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
699	cremation burial in a pit	Wielbark culture	VI-VII	Comb (?) made from red deer antler (2 frag.)				<i>adultus</i> -early <i>maturus</i> , ?
703	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (1 frag.)				<i>infans I</i> , ?
704	cremation burial in a pit	Przeworsk culture	II-III		Ruminant: frag. of tooth			<i>infans I- iuvenis</i> (?), ?
707	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (1 frag.)				<i>infans I-II</i> , ?
708	cremation burial in a pit	Wielbark culture	VII	Comb made from red deer antler (2 frag.)				<i>iuvenis</i> , F?
711	cremation burial in a pit	Przeworsk culture	III			Bird: frag. of long bone		non-adult, ?
721A	cremation burial in a pit	Wielbark culture (?)	VI-VII (?)	Object (comb?) made from red deer antler (2 frag.)				adult, ?
721B	cremation burial in a pit	Wielbark culture	VIIa	Comb made from red deer antler (3 frag.)	Cattle: frag. of femur or humerus, unburnt			non-adult (?), ?
738	cremation burial in a pit	Przeworsk culture	V (?)		Mammal: frag. of long bone			<i>adultus</i> , M?
802	cremation burial in a pit	Przeworsk or Wielbark culture	I-VII				frag. of tooth (?)	non-adult, ?
832	cremation "burial" in a pit					Chicken: frag. of left scapula, frag. of right humerus	frag. of radius of mammal or large bird	<i>adultus</i> , F?; <i>infans I</i> , F?
839	cremation burial in a pit	Przeworsk culture	V	Comb made from red deer antler (frag.)				adult, ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
857	cremation burial in a pit	Przeworsk culture (?)	IV-V (?)			Chicken: frag. of right humerus, frag. of left femur Chicken (?): frag. of left humerus, frag. of pelvis of phalanx Bird: frag. of phalanx	10 frag. of bones,	late <i>infans I</i> , ?
881	cremation burial in a pit	Wielbark culture	VII	Comb made from red deer antler (9 frag.)				<i>maturus</i> , ?
884	inhumation grave	Wielbark culture	VIIa	Comb (?) made from antler (?), unburnt (dozen frag.)				non-adult, ?; <i>infans II</i> , ?
930	cremation burial in a pit	Przeworsk culture	IV-V		Sheep or goat: frag. of metatarsal bone			<i>infans II</i> , ?
950	cremation burial in a pit			Comb (?) made from red deer antler (frag.)				non-adult, ?
968	urn cremation burial	Przeworsk culture	V		Sheep or goat: 3 frag. of left metacarpal bone, frag. of middle phalanx	Chicken: frag. of right tarso-metatarsus of female Chicken (?): frag. of long bone		early <i>maturus</i> , M?; <i>infans I</i> , ? (domieszka wtórna?)
979	urn cremation burial	Przeworsk culture	Va-b (Va?)		Sheep or goat: 3 frag. of right metacarpal bone, frag. of right talus	Chicken (?): frag. of right tibiotarsus of female (?) Bird: frag. of long bone		<i>maturus</i> , ?

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
985	urn cremation burial	Przeworsk culture	I-IIa		<p>Small rodent (?): frag. of femur</p>	<p>Chicken: frag. of left coracoid of female, frag. of right coracoid of female, with traces of cutting (?); frag. of scapula of female, frag. of right humerus, with traces of cutting, frag. of left radius of female, frag. of right ulna of female, frag. of left ulna of female, frag. of carpometacarpus, frag. of pelvis of female, frag. of right femur of female, frag. of left femur, with traces of cutting, frag. of left tibiotarsus of female, frag. of right tibiotarsus of female, frag. of right tarsometatarsus of male, frag. of left (?) tarsometatarsus of male</p> <p>Chicken (?): frag. of sternum, frag. of pelvis, frag. of vertebral column</p> <p>Bird: frag. of phalanx</p>	<p>3 frag. of animal (?) bones</p>	<p><i>infans II- iuvenis</i>, F?</p>
1013	cremation burial in a pit	Wielbark culture	VI-VII		<p>Beaver: 6 frag. of left tibia of young individual</p> <p>Sheep or goat: frag. of metatarsal bone (?)</p>		<p>frag. of animal bones</p>	<p>non-adult, ?</p>
1019	urn cremation burial	Przeworsk culture	II			<p>Chicken: frag. of right coracoid of female, with traces of cutting</p>		<p><i>adultus- maturus</i>, M?</p>
1022	urn cremation burial	Przeworsk culture	II		<p>Sheep or goat: 2 frag. of pelvis, 2 frag. of proximal phalanx</p>			<p><i>maturus</i>, F?</p>
1024A	urn cremation burial	Przeworsk culture	II		<p>Sheep or goat: frag. of left femur</p>		<p>frag. of animal bone</p>	<p><i>infans II- iuvenis</i>, ?</p>

No of grave or feature	Type of grave or feature	Culture	Chronology	Item	Animal bones			Anthropology
					Mammal	Bird	undetermined	
1026A	urn cremation burial	Przeworsk culture	III		Sheep or goat: frag. of lumbar vertebra, femur pelvis, 7 frag. of femur, frag. of right femur Mammal: frag. of bone			<i>adultus-maturus, ?</i>
1026B	urn cremation burial	Przeworsk culture	II		Sheep or goat: 4 frag. of metatarsal bone			<i>infans I, ?</i>
1027A	cremation burial in a pit	Wielbark culture	VI-VII	Comb made from red deer antler (frag.)				<i>infans I- II, ?</i>
1027B	urn cremation burial	Wielbark culture	VI-VII	Comb made from red deer antler (2 frag.)				<i>infans I- II, ?</i>
SF/89				Comb made from red deer antler (frag.)				
SF/90				Comb made from red deer antler (frag.)				
SF/91				Decorated plate made from red deer antler (2 frag.)				

ANEKS 3

PAWEŁ GAN, *CHEMICAL COMPOSITION ANALYSES OF COPPER-ALLOY ARTEFACTS. STRUCTURAL AND TECHNOLOGICAL OBSERVATIONS*

Conducted in the Bio- and Archaeometry Laboratory of the Institute of Archaeology and Ethnology of the Polish Academy of Sciences, the analyses of the Kleszewo artefacts used non-destructive analytical methods. The elemental composition of the objects was determined with the help of a high-precision X-ray fluorescence spectrometer Artax (from Bruker), with a radiation source in the form of a rhodium lamp (μ Xrf) with a Si detector resolution (SSD) of 150eV for Mn α . A 100-second measurement time and voltages in the range of 12–50kV were applied. The measurements were taken on the surface of artefacts that had been locally cleaned of corrosion products and conservation layers. The transverse resolution of the points assessed ranged from 0.20 mm to 0.65 mm. Each area, due to the heterogeneous nature of the metal, was sampled several times in order to average the results. Dedicated Spectra software and a calibration curve of British

(BCS) and Polish (ITWL) standards developed at the Laboratory were used to evaluate the results. In addition, a Vega scanning electron microscope, with an excitation source in the form of a thermionic tungsten cathode, was used to examine some artefacts. This second analytical set-up was also used for the chemical composition analysis, which was possible thanks to the built-in attachment with an energy-dispersive detector (EDS - from Tescan). In this case, the abundance of elements was determined by analysing the intensity of the excited X-ray spectrum for a given element, taking into account the ZAF correction (an accelerating voltage of 20 keV was used, with a measurement time of 100 seconds). Moreover, macroscopic observations were conducted using an SF11/12 stereo microscope with a Motic Images Plus 2.0 digital image recorder.

The obtained results of the chemical composition analyses are summarised in Table 1, which also shows

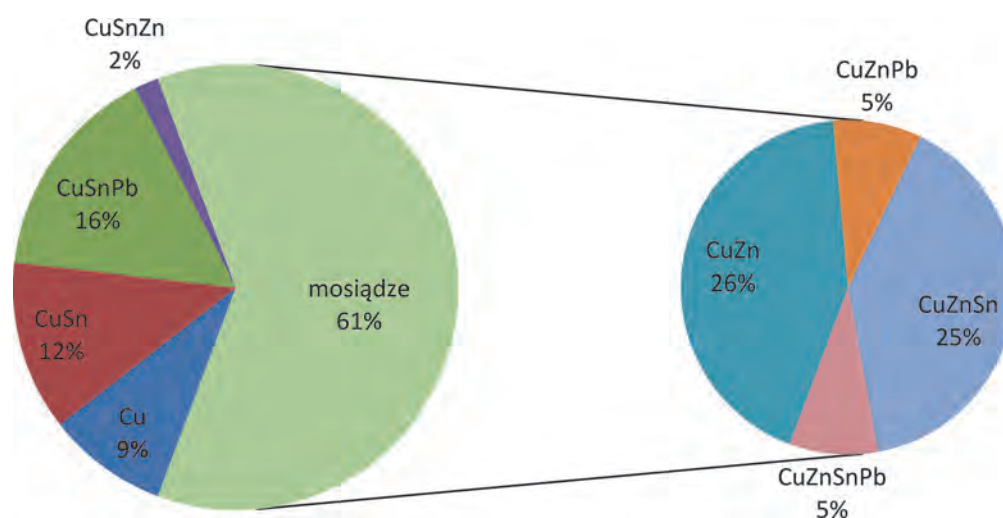


Fig. 1. Shares of identified alloys in the entire collection of the analysed artefacts from Kleszewo

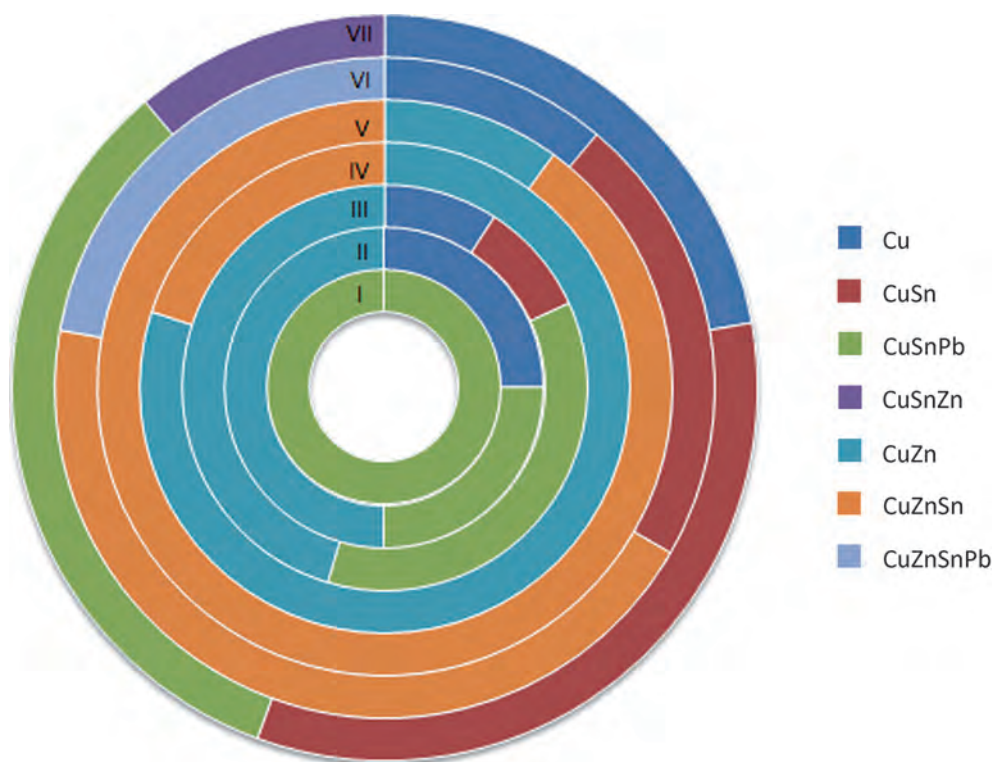


Fig. 2. Diversification of the alloys of the Kleszewo artefacts in relation to the phases of the cemetery's use

a division based on the content of the main alloying additives. The studied sample contained mainly bronzes and brasses with varying contents of Sn, Zn and Pb. Natural admixtures of other elements, indicating the use of polymetallic ores, were also identified in the metal composition of the examined objects. In total, 50 artefacts were analysed.

The structure of the identified alloys is shown in the diagram (Fig. 1). The group of brasses, which, as a whole, accounts for 61% of all analysed samples, consists of four subgroups of alloys of various compositions. Most common are pure brasses, based only on the addition of zinc (shares of alloying elements: Zn 8.38–17.80%; Sn 0.07–0.88%; Pb 0.02–0.31%), and brasses composed by adding tin (Zn 3.35–17.13%; Sn 0.98–6.50%; Pb 0.06–0.66%). Several analysed artefacts represent the other two groups of brasses, i.e., CuZnPb, with an increased admixture of lead (Zn 11.49–12.30%; Sn 0.01–0.02%; Pb 0.75–1.11%), and quadruple alloys of CuZnSnPb (Zn 5.90–11.03%; Sn 4.41–4.63%; Pb 0.82–2.70%). The remaining artefacts were determined to have been made from alloyed copper (five items, the percentage of Cu exceeded 96%), bronzes (seven items, with the Sn content ranging from 8.87% to 11.09%), lead bronzes (nine items, Sn content of 4.51–11.02%; Pb 1.04–9.48%) and tin-zinc bronze (one item, Sn content of 11%, supplemented by Zn content of 1.33%). A

schematic chronological division of the identified alloys is shown in the ring diagram (Fig. 2). Only the artefacts from well-dated graves have been included, and, for the clarity of the diagram, the periodisation has been restricted to the main phases of the cemetery's use only (see Chapter 3.1). Despite the small number of sources, the diversity of the detected alloys is worthy of note.

The recorded alloys differ in physical properties, primarily colour, as well as ductility, malleability and hardness.¹ It is, therefore, worth examining the alloy variations in relation to the functional and typological division of the artefacts. The largest group, accounting for half of the entire collection, consists of brooches. The diagram illustrating the alloys used in their manufacture is presented in Fig. 3. The most common are brasses, mainly the binary CuZn with a high zinc content amounting to 14.31% on average. Thirteen brooches were identified as made of this material; all should be associated with the Przeworsk culture (Table I, nos. 3–5, 12, 13, 27, 32, 38, 46–50). The second group of brasses, comprising five artefacts of the Przeworsk or Wielbark cultures (Table I, nos. 6, 8–10, 30, 31), are alloys of a ternary CuZnSn profile, with an average zinc content (9.89%), most likely created as a result of the

¹ Z. Goffer 2006, 169.

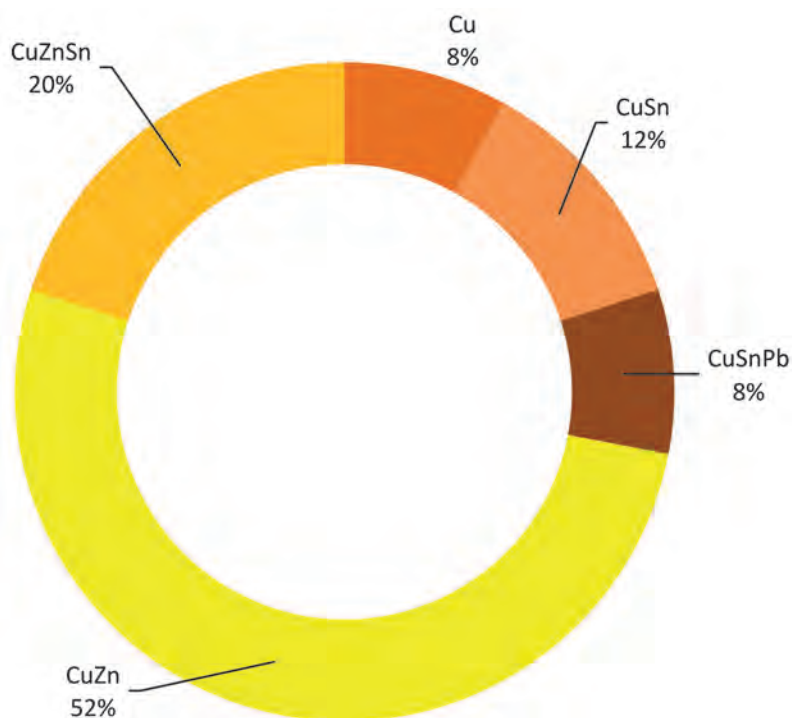


Fig. 3. Percentage distribution of the identified alloy profiles of the Kleszewo brooches

remelting of raw materials with high zinc content together with bronze scrap (average tin share: 3.49%). Other brooches were made of tin bronze (Table I, nos. 15, 20), tin-lead bronze (Table I, nos. 37, 40) and alloyed copper (Table I, nos. 14, 41); almost all of them were found in Wielbark culture graves.

In terms of manufacturing technology, the brooches in question were cast or made from blanks (bars, rods, sheet metal) which were then shaped by forging, drawing, grinding and smoothing the surface of the metal. The various preserved decorative elements, including punched concentric circles (Fig. 4:a.b), bands of pseudo-filigree (Fig. 4:c.d), and other finishing treatments (Fig. 4:e-i, l), were made with stamps, burins of varying thickness, punches and files. Some of the artefacts bear clear marks of damage caused by the heat of the funeral pyre, such as pitting and melting visible on the surface of the metal (brooches 83/1, 525B/1, ZL/6). In addition, recorded on the surface of the bow of a caterpillar brooch from grave 629, there was a layer of bronze alloy with tin and silver admixture of irregular shape, form and unknown nature (Fig. 4:j.k). Furthermore, the spring and bow of an Almgren-38–39 brooch from grave 132, with different zinc contents, were made following separate metallurgical processes, which may indicate either workshop specialisation, i.e., the selection of raw material with specific technical properties to make working/non-working parts of the brooch, or a potential repair of the object.

Among the few examined bracelets and rings (all from Przeworsk culture graves), there were artefacts made using the casting and forging techniques. Undoubtedly, the bracelets made from a rod of oval cross-section, found in graves 3 (3/1; Table I, no. 1) and 118 (118/2; Table I, no. 7), as well as the knobbed rings from graves 48 (48/2; Table I, no. 2) and 615 (615/2; Table I, no. 34), were cast. The decorated moulding on the bracelet from grave 3 is the remnant of a casting seam, indicating that this decoration was made in a two-part mould (Fig. 5:a). The rod bracelet from grave 132 (132/5; Table I, no. 11) has a thickened terminal of almost quadrangular cross-section and the body of oval cross-section; on one of its ends, there is a depression in the metal, probably caused by the solidification of the bronze (Fig. 5:b.c). The bracelet was decorated with a punched ornament. Another item – a snake-headed bracelet decorated with pseudo-beading (ZL/45; Table I, no. 54), found on the site's surface, was probably formed using a die.² Forging marks have been preserved on the underside of the artefact (Fig. 5:d.e).

In the case of the four examined buckles (exclusively of the Wielbark culture), the chemical compositions of the frame and pin were analysed separately. In two specimens (884/8, ZL/40), both parts were made basically from the same alloy, i.e., tin bronze in one case (Table I, no. 42), and brass in the other (Table I, nos. 52, 53). The pins of the other two buckles (355/2, 385/3)

² Cf. J. Strobin 2000.



Fig. 4. Traces of technological treatments visible on the selected brooches from Kleszewo:

a, b – punched ornament on the foot of an Almgren-60 brooch from grave 132; c, d – pseudo-filigree on an Almgren-38–39 brooch from grave 132; e, f – engraving on the foot of a caterpillar brooch from grave 629; g–i – engraving on the foot of an Almgren-186 brooch from grave 708; j, k – melted remains of an overlay on the bow of a caterpillar brooch from grave 629; l – burin marks visible on the bow of a heavily profiled brooch from grave 969. Photo by P. Gan (a–d), M. Woźniak (e–l)

were made of alloyed copper, while their frames were made of brass and tin-lead bronze respectively (Table I, nos. 16, 17 and 21, 22).

In the case of the analysed strap-ends, two of them, discovered in Przeworsk culture graves (413/2, 968/2) and representing the variant with profiled terminals, were cast from zinc-tin brass (Table I, nos. 26, 44, 45).

A quadruple alloy of CuZnSnPb was used to make a fitting of type O 15 from Wielbark culture grave 359 (359/1; Table I, nos. 18, 19). The ring of a fitting from grave 402 was made from a bronze with a CuSnPb profile (402/3; Table I, no. 25).

Of the other finds analysed, it is worth mentioning the fragment of a vessel made of tin bronze (524/7; Ta-

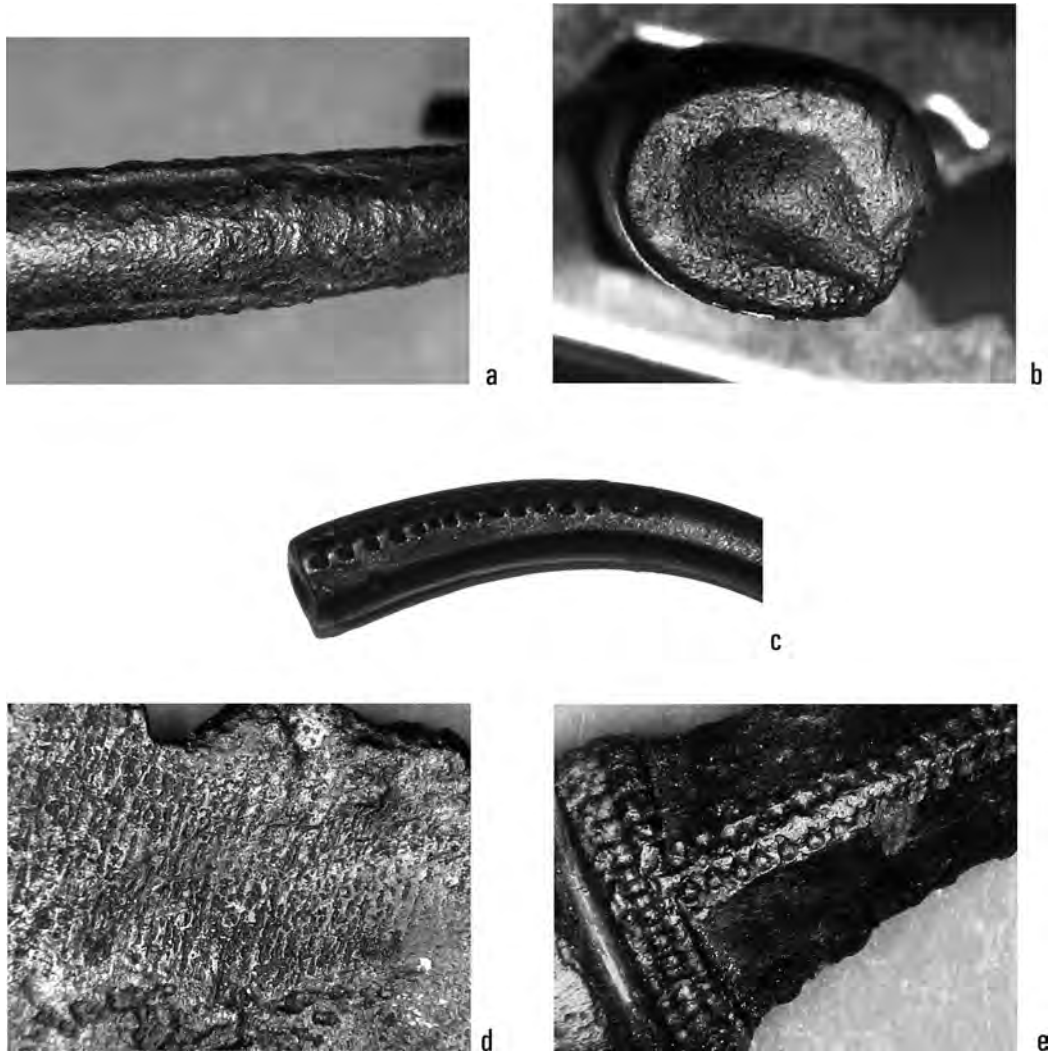


Fig. 5. Marks of technological treatments visible on the selected bracelets from Kleszewo: a – rod bracelet from grave 3 (casting seam); b, c – rod bracelet from grave 132 (metal sink, punching); d, e – snake-headed bracelet, stray find ZL/45 (forging marks and pseudo-beading). Photo by P. Gan

ble I, no. 29). A rare find is a small knife made of tin bronze, with an admixture of zinc of approx. 1.5% (884/10; Table I, no. 43), introduced into the alloy by reusing brass scrap. This procedure had a favourable effect on the physical properties of the alloy, as - compared to pure bronze - it increased the hardness, strength and malleability of the crafted item. At the same time, the low zinc content is indicative of the repeated re-melting of the brass raw material, which took place in local manufacturing workshops in the *Barbaricum* area.

In the case of nine graves (118, 132, 355, 385, 386, 521B, 524, 884 and 1047), two or more artefacts comprising their individual contents were examined. In most cases, a similarity in the alloys used to make each piece of equipment was observed. This was the case

with a brooch of Almgren type 78 or 79 and *Kamieńczyk*-type bracelet from grave 118 (Table I, nos. 6, 7), brooches of Almgren types 38–39 and 60 and a rod bracelet from grave 132 (Table I, nos. 8–11), small appliquéés from grave 386 (Table I, nos. 23, 24), both brooches of type *Jezerine III* from grave 1047 (Table I, nos. 47, 48), and an Almgren-68 brooch and rod bracelet from grave 521B (Table I, nos. 27, 28).

In conclusion, it should be emphasised that the analysed artefacts from the Kleszewo cemetery form a study assemblage that yields interesting observations on the materials used. This site in question is yet another cemetery associated with the Przeworsk and/or Wielbark cultures, for which a series of chemical analyses has

been conducted.³ As such, the ever-growing database, enriched with new publications, can provide the foundation for further micro-regional studies.

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³ Cf. M. Natuniewicz-Sekuła 2017, 196; E. Bokinić 2020; P. Gan 2021.

Tab. 1. Zestawienie wyników analiz składu chemicznego wybranych zabytków ze stopów miedzi z cementaryzyska w Kleszewie

Lp	nazwa	nr zabytku	Nr analizy CL	Mn	Fe	Ni	Cu	Zn	As	Ag	Sn	Sb	Pb	stop
1	bransoleta sztabkowa	3/1	21018	0,13	0,14	0,03	90,44	0,06	0,25	0,05	5,82	0,15	2,94	CuSnPb
2	piersień brodawkowy	48/2	21019	0,11	0,04	0,03	87,36	0,05	0,19	0,09	11,02	0,05	1,06	CuSnPb
3	zapinka typu Almgren 46	83/1	21020	0,01	0,09	0,12	88,72	10,88	0,01	0,03	0,07	0,05	0,02	CuZn
4	zapinka typu Almgren 2aI, ew. N-a	91/1	21021	0,01	0,08	0,11	83,31	15,78	0,01	0,03	0,63	0,01	0,04	CuZn
5	zapinka typu Almgren 67a	113/1	21022	0,01	0,21	0,11	82,63	16,52	0,02	0,05	0,31	0,04	0,11	CuZn
6	zapinka typu Almgren 78 lub 79	118/1	21023	0,01	0,14	0,11	81,40	17,13	0,02	0,03	0,98	0,10	0,08	CuZnSn
7	bransoleta typu <i>Kamietczyk</i>	118/2	21024	0,01	0,35	0,13	86,62	8,89	0,02	0,04	3,73	0,10	0,12	CuZnSn
8	zapinka typu Almgren 60	132/1	21025	0,01	0,20	0,12	88,61	4,07	0,03	0,03	6,50	0,26	0,16	CuZnSn
9	zapinka typu Almgren 38–39 (kablak)	132/2	21026	0,00	0,24	0,12	86,78	10,96	0,02	0,03	1,69	0,08	0,08	CuZnSn
10	zapinka typu Almgren 38–39 (sprężyna)	132/2	21026	0,00	0,14	0,12	89,57	5,46	0,02	0,03	4,50	0,10	0,06	CuZnSn
11	bransoleta sztabkowa	132/5	21027	0,00	0,30	0,12	85,75	10,49	0,02	0,03	3,13	0,08	0,08	CuZnSn
12	zapinka typu Almgren 236c	199/1	21028	0,00	0,58	0,12	85,58	13,13	0,02	0,04	0,32	0,08	0,13	CuZn
13	zapinka typu Almgren 67a	231B/1	21029	0,01	0,19	0,12	81,38	17,80	0,02	0,04	0,25	0,03	0,17	CuZn
14	zapinka typu Almgren 2aII	232/1	21030	0,01	0,02	0,13	96,20	2,29	0,01	0,04	1,19	0,05	0,06	Cu
15	zapinka typu Almgren 162	355/1	21035	0,14	0,07	0,03	88,38	0,13	0,01	0,06	11,09	0,04	0,06	CuSn
16	sprzączka typu D 30 (kolec)	355/2	21032	0,14	0,04	0,03	98,03	0,07	0,05	0,23	1,28	0,04	0,09	Cu
17	sprzączka typu D 30 (rama)	355/2	21032	0,01	0,07	0,14	91,88	6,45	0,04	0,12	1,10	0,08	0,12	CuZnSn
18	okucie końca pasa typu O 15 (nit)	359/1	21033	0,02	0,19	0,12	83,80	9,28	0,09	0,03	4,60	0,09	1,80	CuZnSnPb
19	okucie końca pasa typu O 15 (korpus)	359/1	21033	0,00	0,23	0,11	86,06	5,90	0,10	0,09	4,63	0,19	2,70	CuZnSnPb
20	zapinka typu Almgren 172	385/2	21054	0,14	0,05	0,03	89,61	0,07	0,05	0,05	9,34	0,07	0,59	CuSn

Lp	nazwa	nr zabytku	Nr analizy CL	Mn	Fe	Ni	Cu	Zn	As	Ag	Sn	Sb	Pb	stop
21	sprzączka typu H 35 (kolec)	385/3	21034	0,02	0,07	0,03	97,47	0,08	0,08	0,35	0,91	0,07	0,92	Cu
22	sprzączka typu H 35 (rama)	385/3	21034	0,03	0,07	0,03	91,21	0,06	0,21	0,26	4,51	0,11	3,53	CuSnPb
23	piersiści z perforowanymi z występami	386/2	21036	0,01	0,26	0,12	90,05	6,06	0,07	0,03	2,61	0,13	0,66	CuZnSn
24	blaszka z otworami	386/5	21037	0,01	0,33	0,12	90,43	6,43	0,06	0,19	1,74	0,19	0,51	CuZnSn
25	okucie pasa (piersiści)	402/3	21038	0,10	0,02	0,03	84,78	0,04	0,65	0,06	4,77	0,08	9,48	CuSnPb
26	okucie końca pasa wariantu I.1.6	413/2	21039	0,01	0,24	0,12	84,23	12,97	0,02	0,03	2,14	0,13	0,13	CuZnSn
27	zapinka typu Almgren 68	521B/1	21040	0,01	0,35	0,13	85,27	13,84	0,02	0,04	0,21	0,05	0,10	CuZn
28	bransoleta sztabkowa	521B/2	21041	0,01	0,43	0,13	86,58	12,11	0,01	0,04	0,61	0,05	0,04	CuZn
29	naczynie	524/7	21042	0,00	0,16	0,02	89,85	0,04	0,03	0,05	9,65	0,12	0,08	CuSn
30	zapinka typu Almgren 162	524/1	21043	0,02	0,19	0,12	85,44	7,50	0,04	0,05	6,17	0,10	0,38	CuZnSn
31	zapinka typu Almgren 52	525B/1	21044	0,01	0,18	0,11	84,11	14,21	0,03	0,03	1,07	0,10	0,15	CuZnSn
32	zapinka typu Almgren 18b	533/1	21045	0,01	0,10	0,12	82,01	17,43	0,01	0,04	0,24	0,00	0,05	CuZn
33	lusterko	615/1	21046	0,04	0,04	0,02	87,31	0,04	0,13	0,04	10,06	0,03	2,28	CuSnPb
34	piersiści brodawkowaty	615/2	21047	0,03	0,01	0,02	87,28	0,04	0,51	0,64	8,14	1,17	2,15	CuSnPb
35	ozdoba <i>Şimleu Silvaniei</i>	614/615/2	21048	0,02	0,10	0,03	93,97	0,04	0,13	0,06	4,55	0,07	1,04	CuSnPb
36	ozdoba <i>Şimleu Silvaniei</i>	627/1	21049	0,16	0,05	0,02	87,99	0,04	0,09	0,23	10,76	0,09	0,58	CuSn
37	zapinka gąsienicowata	629/1	21050	0,05	0,05	0,02	91,96	0,06	0,09	0,61	5,97	0,06	1,12	CuSnPb
38	zapinka typu Almgren 2aII	657/1	21051	0,01	0,06	0,11	82,47	16,71	0,02	0,03	0,48	0,02	0,09	CuZn
39	ozdoba? okucie?	692/1	21052	0,09	0,03	0,03	98,97	0,05	0,21	0,04	0,46	0,03	0,10	Cu
40	zapinka typu Almgren 186	708/1	21053	0,13	0,05	0,03	90,53	0,05	0,14	0,06	6,93	0,08	2,01	CuSnPb
41	zapinka typu Almgren 158	884/6	21031	0,05	0,31	0,03	96,30	0,06	0,06	0,05	2,76	0,08	0,31	Cu

Lp	nazwa	nr zabytku	Nr analizy CL	Mn	Fe	Ni	Cu	Zn	As	Ag	Sn	Sb	Pb	stop
42	sprzączka typu H 12 (rama)	884/8	21055	0,05	0,06	0,03	89,72	0,07	0,06	0,05	9,33	0,05	0,58	CuSn
43	sprzączka typu H 12 (kolec)	884/8	21055	0,07	0,06	0,03	90,22	0,07	0,06	0,05	8,87	0,06	0,52	CuSn
44	nożyk	884/10	21056	0,02	0,10	0,13	86,49	1,33	0,07	0,04	11,35	0,16	0,33	CuSnZn
45	okucie końca pasa wariantu I.1.6 (nit)	968/2	21057	0,01	0,80	0,13	92,61	3,35	0,03	0,04	2,88	0,08	0,06	CuZnSn
46	okucie końca pasa wariantu I.1.6 (korpus)	968/2	21057	0,02	0,30	0,13	86,08	10,72	0,02	0,03	2,46	0,16	0,08	CuZnSn
47	zapinka silnie profilowana odm. mazowieckiej	969/1	21058	0,00	0,19	0,13	90,02	8,38	0,02	0,03	0,85	0,12	0,27	CuZn
48	zapinka typu Jezerine III	1047/1	21059	0,01	0,24	0,13	84,99	13,74	0,01	0,04	0,46	0,09	0,30	CuZn
49	zapinka typu Jezerine III	1047/2	21060	0,00	0,25	0,13	85,78	12,89	0,02	0,04	0,54	0,04	0,31	CuZn
50	zapinka typu Almgren 67a	ZL/6	21061	0,01	0,15	0,13	85,59	13,81	0,03	0,04	0,16	0,05	0,03	CuZn
51	zapinka typu Almgren 68	ZL/9	21062	0,01	0,21	0,12	83,98	15,17	0,02	0,03	0,31	0,05	0,11	CuZn
52	zapinka z pełną pochewką	ZL/23	21063	0,02	0,12	0,02	88,94	0,08	0,03	0,07	10,17	0,06	0,48	CuSn
53	sprzączka typu H 27 (kolec)	ZL/40	21064	0,01	0,78	0,14	86,69	11,49	0,05	0,03	0,02	0,05	0,75	CuZnPb
54	sprzączka typu H 27 (rama)	ZL/40	21064	0,01	0,29	0,13	86,65	11,67	0,07	0,02	0,01	0,04	1,11	CuZnPb
55	bransoleta żmijowata	ZL/45	21065	0,00	0,40	0,13	85,55	12,71	0,04	0,03	0,88	0,10	0,16	CuZn
56	wisiorek cylindryczny	ZL/51	21066	0,01	0,88	0,14	85,66	12,30	0,05	0,02	0,02	0,03	0,89	CuZnPb
57	wisiorek toporkowaty	ZL/52	21067	0,00	0,22	0,11	83,15	11,03	0,05	0,05	4,41	0,15	0,82	CuZnSnPb

ANEKS 4

SYLWIA WAJDA, *TECHNOLOGICAL CHARACTERISTICS OF SELECTED GLASS BEADS FROM THE KLESZEWO CEMETERY*

The assemblage of glass artefacts from the cemetery at Kleszewo consists of 510 whole beads and about 235 bead fragments, one fully preserved glass vessel, three glass balls (?) and several lumps of molten glass, perhaps from vessels. The analysis was carried out on ten glass beads selected from five graves: two attributed to the Przeworsk culture (Table 1:1.2) and three to the Wielbark culture (Table 1:3–10).

From the few glass items discovered in Przeworsk culture graves, two beads, recovered from graves 48 and 832, were selected for the elemental composition analysis. The first bead is a fragmentarily preserved ring-shaped specimen (*Ringperle*) of group 23 in T.E. Haevernick's classification (Table 1:1; Fig. 1:48/7).¹ The body of the bead is made of colourless glass and decorated with threads of opaque yellow glass. The second bead belongs to M.A. Zepezauer's type II.1.² It is made of poorly translucent blue glass and decorated with spiral threads of opaque white glass (Table 1:2; Fig. 1:832/11). In the bodies of both specimens, there are visible gas bubbles and streaks parallel to the axis of the perforation; both items were made by winding molten glass or glass blank around a heated metal rod.

The same technique was used to make two of the beads discovered in Wielbark culture graves. The first specimen, from grave 158, is ring-shaped and heavily polished, with flattened surfaces next to the hole (Table 1:3; Fig. 1:158/38). Threads of opaque yellow and white glass, forming intersecting wavy lines, and dots in the spaces between the threads were melted flat into the body. The second bead, from grave 386 (Table 1:9; Fig. 1:386/14), was made of opaque light green glass. On its entire surface, there are yellowish glassy streaks parallel to the axis of the perforation, and on one of

the surfaces adjacent to the hole – small depressions caused by detaching the bead from the rod on which the glass was wound.

The remaining beads were made using the drawing technique. They come from three graves of the Wielbark culture – 385, 386 and 597. Their bodies were made from a glass tube, which was pulled and then cut into smaller pieces. Decorations made in this way bear marks left by the drawing of glass in the form of longitudinal streaks, gas bubbles, which run parallel to the axis of the hole.³ Two beads of opaque white (Table 1:4; Fig. 1:385/6) and light green glass (Table 1:6; Fig. 1:385/8) have straight edges near the hole, which indicates that these decorations were sliced off while hot. The remaining two specimens, made of opaque yellow glass (Table 1:7; Fig. 1:385/14) and poorly translucent dark green glass (Table 1:8; Fig. 1:386/12), are slightly rounded and were perhaps additionally melted in a hot vessel.

One of the drawn beads has a biconical shape, probably obtained by rolling it on a flat surface, as evidenced by the arcuate streaks of black glass visible on the red body (Table 1:5; Fig. 1:385/38).

Another variation of the technique discussed above was used in the case of one specimen from grave 597, which is made up of two layers (Table 1:10; Fig. 1:597/5). The body is made of opaque white glass, while the outer layer is red. The core of the bead was undoubtedly made from a drawn and cut tube, and the outer layer was applied by rolling the bead in semi-liquid glass or by smearing it with powdered glass and melting.⁴ The surface of this specimen was thoroughly polished.

¹ T.E. Haevernick 1960, 69–70.

² M.A. Zepezauer 1993, 73, map 19.

³ M. Spaer 1993, 12–13, fig. 2–4.

⁴ E.E. Asturp, A.G. Andersen 1988, 224–225.

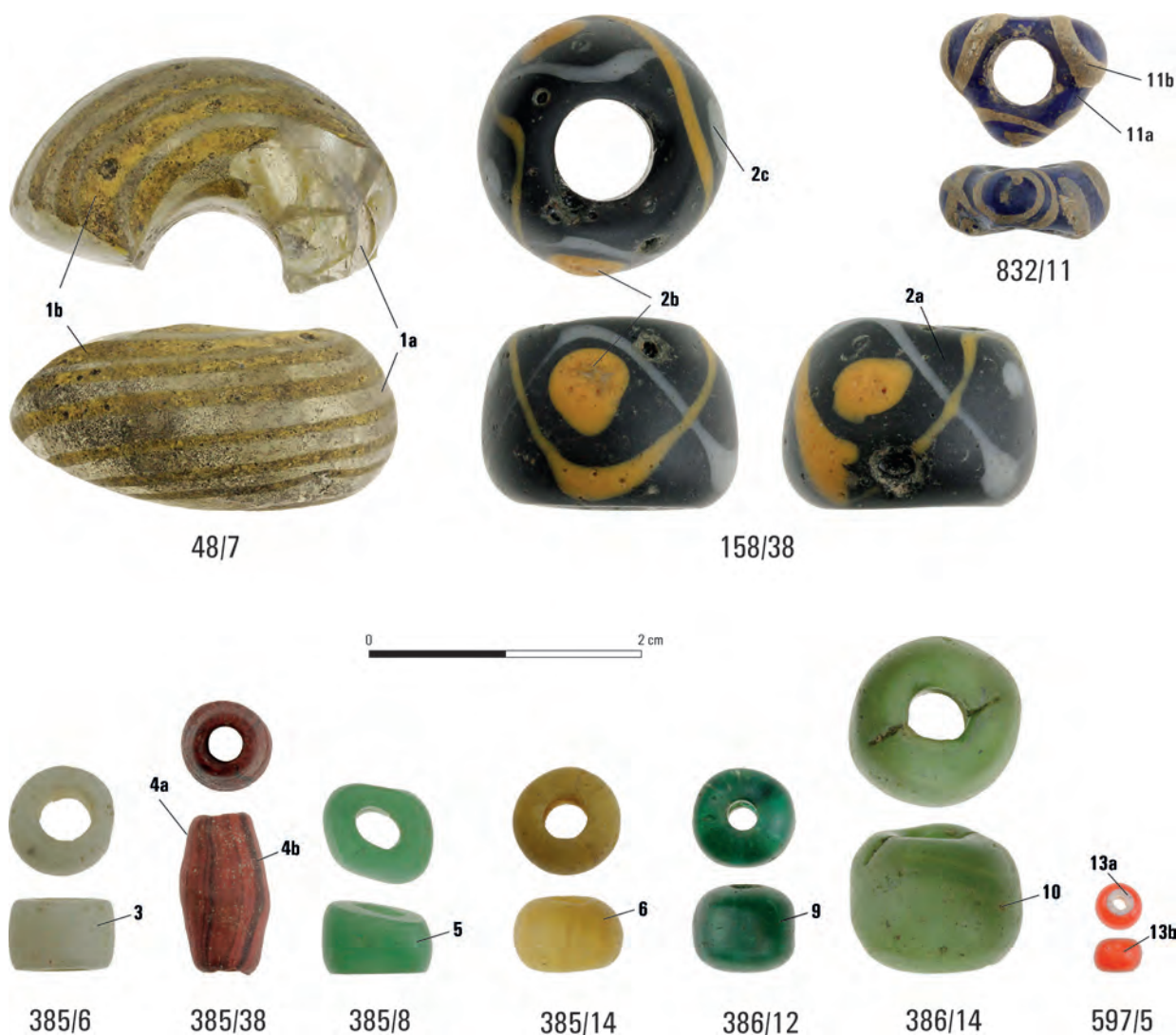


Fig. 1. Glass beads from Kleszewo analysed in terms of their elemental composition. The numbers in the Figure correspond to the numbers of artefacts and samples

METHODS

The elemental composition of the glasses was tested using the non-destructive LA ICP MS (Laser Ablation Inductively Coupled Plasma Mass Spectrometry) method. Due to the very high sensitivity of measurements and low detection limits for most elements of the periodic table, it is used to determine both major and trace elements.⁵ The analysis was carried out on ten beads, and the glass from the bodies and ornaments was tested separately. The description and numbering of the samples are presented in Table 2. The tests were performed by dr hab. Barbara Wagner, prof. UW, in the In-

⁵ The *modus operandi* of this method has already been described many times in literature on the subject (cf. S. Wajda *et alii* 2023).

terdisciplinary Laboratory for Archaeometric Research (InterLaBar) at the Biological and Chemical Research Centre of the University of Warsaw. The tests were performed using an ICP-MS NeXION 300D spectrometer from Perkin Elmer, coupled with an LS-213 laser ablation system from CETAC. The LS-213 laser ablation system consists of an Nd:YAG solid-state laser capable of obtaining a radiation beam with a wavelength of 213 nm. The maximum energy of the generated laser beam is 5 mJ, with the possibility of adjusting the laser operating frequency from 1 to 20 Hz. The system allows the energy of the laser beam to be focused on the surface of the analysed sample in an area with a diameter of 10 to 300 μm .

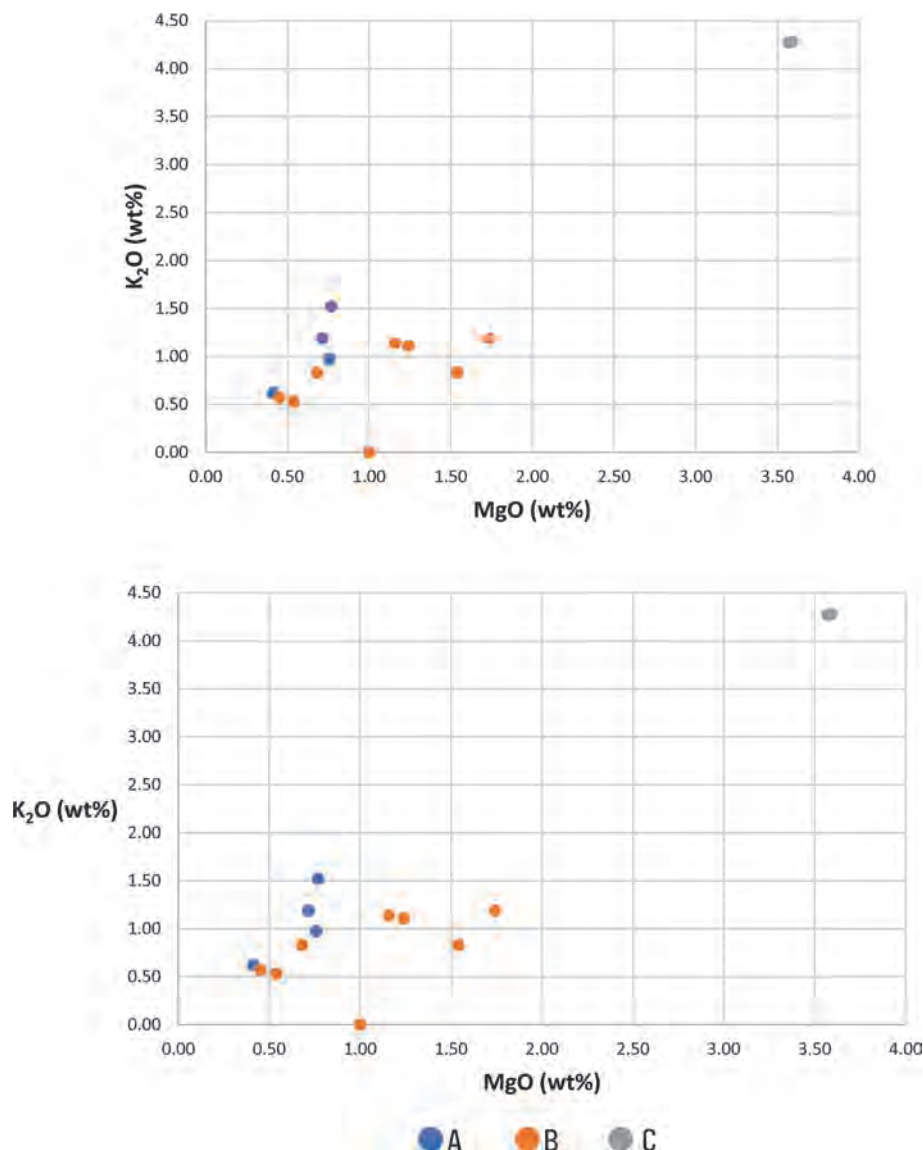


Fig. 2. Correlation of MgO and K₂O contents in glass beads from Kleszewo.
 A – natron glasses (Przeworsk culture);
 B – natron glasses (Wielbark culture);
 C – plant ash glasses (Wielbark culture)

RESULTS OF THE ELEMENTAL COMPOSITION ANALYSIS OF THE GLASSES

All glasses from the cemetery at Kleszewo that were subjected to chemical composition analyses belong to the group of soda glasses, which were most popular from the 8th century BCE until the 9th century CE.⁶ They were melted using sand, soda, calcium and various colouring inclusions (including discolouring or opacifying agents). Based on the origin of the soda added to the glass batch, they can be divided into mineral soda glasses (natron) and plant ash glasses. Glasses melted using mineral soda have low K₂O and MgO content

(both below about 1.5%), while plant ash glasses usually contain over 1.5% of these components⁷ (Fig. 2).

The sources of mineral soda used from the 4th millennium BCE to make various types of vitreous products (glass, faience, glassy materials) were evaporation deposits containing sodium carbonate and sodium bicarbonate, i.e., the so-called natron. The most famous source of natron exploited in ancient times was Lake Wadi Natrun in northern Egypt, west of Cairo.⁸ For many centuries, natron glasses were characterised by high uniformity of composition due to the use of similar glassmaking formulae and raw materials obtained from the same sources.⁹ Based on numerous elemental

⁶ I. Friesone 2006.

⁷ E.V Sarye, R.W. Smith 1961, table 1; J. Henderson 2000, 58.

⁸ A.J. Shortland *et alii* 2006, 521.

⁹ D. Rosenow, T. Rehren 2014, 170.

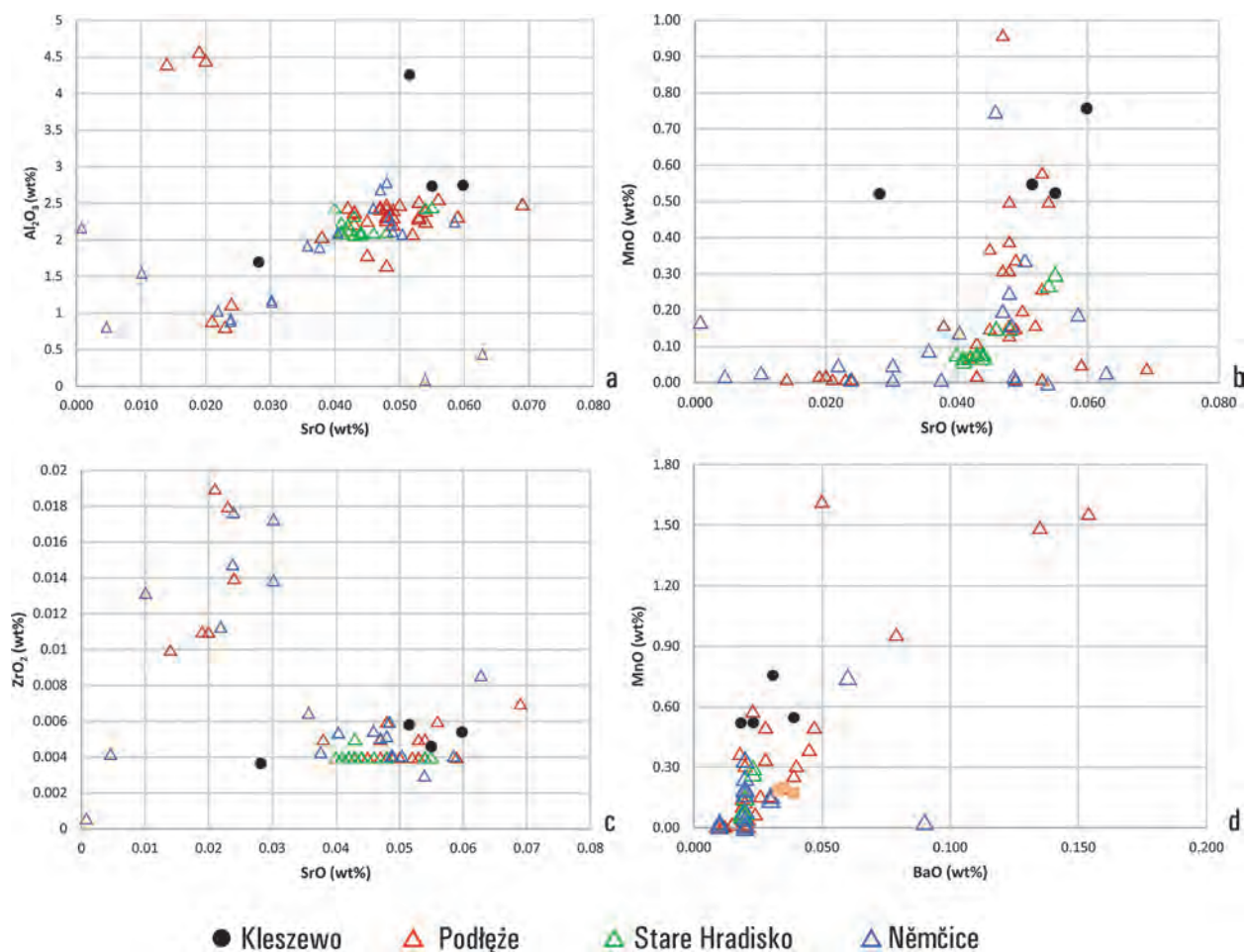


Fig. 3. Comparison of chemical compositions of glass beads from Przeworsk culture graves at Kleszewo and glasses of the La Tène culture. Data compiled from: T. Purowski, B. Wagner 2015 (Podłęże); J. Rolland, N. Venclowa 2021 (Němčice, Staré Hradisko)

composition analyses, it is possible to distinguish several groups of natron glasses made in ancient times.¹⁰ Another source of soda was the ash of salt-tolerant plants, the so-called halophytes. Glasses of this type were produced mainly in Mesopotamian centres and in Central Asia, from the Early Bronze Age to the Early Middle Ages.¹¹ Even though glass based on plant ash has been the subject of numerous studies,¹² knowledge about the glass industry of the Middle East is still in-

complete, and the types of glasses and places of their production are yet to be specified.¹³

From the assemblage analysed, one bead from grave 597 (samples 13a and 13b) was excluded from further deliberations. Its elemental composition revealed a very high concentration of arsenic compounds (As₂O₅: sample 13b – 5.08%; sample 13a – 7.68%). Arsenic oxide first appeared as a glass additive in central Europe in the second half of the 17th century. Although it had previously been known (from the 10th century) as an inclusion that clarifies and discolours glass, such a high content of this compound indicates a modern origin of the artefact in question. Arsenic is found in Italian opal glasses and some red glasses of the *girasole* type from the end of the 17th century and the 18th century.¹⁴ The bead was found in the top level of the feature, and

¹⁰ Cf. D. Foy *et alii* 2003; I. Freestone 2005; A. Silvestri *et alii* 2008.

¹¹ P. Mirti *et alii* 2008; N. Schibille 2021, 126. In the 9th century, plant ash glasses “pushed” mineral glasses out of use. The main reasons for this change were likely the growing prices of natron obtained in Egypt and the restrictions on its extraction introduced by the Muslim dynasty of Tulunids.

¹² P. Mirti *et alii* 2008; N. Schibille 2021, 125–135.

¹³ M. Phelps 2018.

¹⁴ J.J. Kunicki-Golfinger 2020, 61–62.

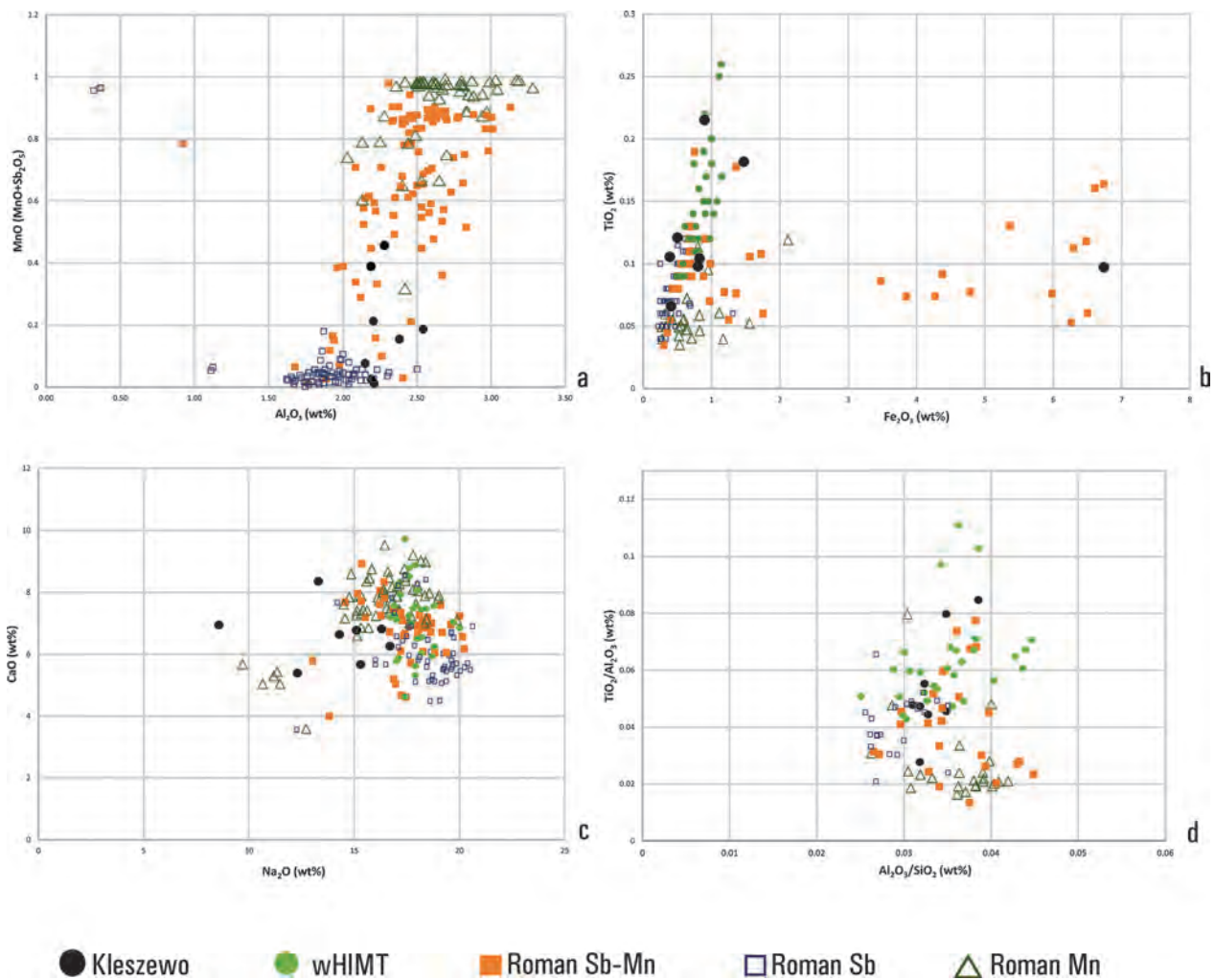


Fig. 4. Comparison of chemical compositions of glass beads from Wielbark culture graves at Kleszewo and other soda glasses made using mineral soda. A – Kleszewo; B – wHIMT; C – Roman Sb-Mn; D – Roman Sb; E – Roman Mn. Data compiled from: D. Rose-now, T. Rehren 2016; C.M. Jackson, S. Paynter 2016; N. Schibille *et alii* 2021; M. Krzyżanowska *et alii* 2023

its unusual elemental composition and form, for which no close analogy could be indicated, suggest that it is a modern object that accidentally found itself in a feature from the Roman period.

Przeworsk culture

Both Przeworsk culture beads (Table 1:1.2) were made of material described in the literature as low-magnesium glass, or LMG.¹⁵ It is characterised by low K_2O and MgO content¹⁶ (Table 2:1.2, Fig. 2:48/7.832/11). Three of the tested samples (1a, 2a, 2b) contain a large amount of SiO_2 , which could have been introduced into a glass batch either in the form of sand or crushed quartz.¹⁷

In the case of the glasses from Kleszewo, sand was undoubtedly used, as evidenced by the high contents of Fe_2O_3 (0.57–1.55%) and Al_2O_3 (1.7–4.26%) (Fig. 3:a), i.e., natural impurities of this constituent. As T. Purowski and B. Wagner¹⁸ point out, high contents of iron and aluminium oxides are typical of most Celtic glasses from central Europe. The low content of zirconium oxide and the increased contents of strontium oxide (Fig. 3:c) and manganese oxide (Fig. 3:b.d) indicate that the sand added to the glass batch came from the eastern part of the Mediterranean Sea region, from the coast of the Levant, probably from the Belus River.¹⁹ The La Tène culture glasses under discussion correspond to the

¹⁵ T. Purowski, B. Wagner 2014, 133, with earlier literature.

¹⁶ . Henderson 2000, 58; B. Gratuze, Y. Billaud 2003, 13.

¹⁷ J. Henderson 2000, 26–27.

¹⁸ T. Purowski, B. Wagner 2015, 134.

¹⁹ J. Rolland 2021, 48. The raw material was likely polluted with aragonite from the shells found in beach sand.

group of Syro-Palestinian glasses, referred to as group 3 by D. Foy and co-authors.²⁰ Glasses of this group are characterised by a low content of zirconium oxide and high content of strontium oxide, like most of the glass artefacts of the La Tène culture from phases LT C2–D, i.e., dating from the beginning of the 2nd century BCE to the end of the 1st century BCE.²¹ In this respect, the glasses from Kleszewo are most similar to the raw glass found at Staré Hradisko and Němčice in Moravia (see Fig. 3). The research conducted in recent years has shown that there were glass workshops at both these sites, where glass was melted and decorations, including beads, were manufactured.²²

Opaque glasses of yellow and white colour were opacified and coloured with antimony, tin and lead compounds. In the case of white glass, it was probably calcium antimonite,²³ and in the case of yellow glass – lead antimonate,²⁴ as Sb_2O_3 , SnO_2 and PbO are present in increased concentrations (see Table 2). Blue glass was coloured with copper (0.52%) and cobalt (0.19%) compounds. A small amount of the latter inclusion is enough to give the glass an intense colour. Similar contents of these colourants are found in other glasses from central Europe, found at La Tène culture sites, e.g., at Racibórz and Podłęże.²⁵

The molten glass used to make the two beads in question undoubtedly comes from the Mediterranean region, as do many other glasses of this period from Poland, which have had their elemental composition analysed.²⁶ Molten glass (raw material) was an object of trade, thus, it reached glassmaking workshops in many parts of Europe.²⁷ The closest workshops where glass was further processed were located in Moravia. At Němčice, such workshops operated from phase LT B2 to phase LT C2, and at Staré Hradisko – from phase LT C2 to phase LT D.²⁸ A comparative analysis showed that, in terms of technology, all four examined samples of Przeworsk culture glass beads are very similar to the material melted at both the aforementioned sites.

Wielbark culture

The glasses from Wielbark culture graves were made using soda of mineral (six beads) or plant ash origin (one bead).

Glasses melted using mineral soda

The mineral glass group includes the specimens from graves 158, 385 and 386 (Table 1:3.4.6–9), 6 samples in total. The main glass-making constituents are present in the following concentrations: SiO_2 – 61.7–74.8%, Na_2O – 8.57–16.7%, K_2O – 0.53–1.19%, CaO – 5.39–8.36%, Al_2O_3 – 2.15–2.54% (Table 2:2.4.6–9). The opaque yellow glasses (samples 2b, 6) were – as in the case of Late Iron Age glasses – opacified with lead antimonate ($\text{Pb}_2\text{Sb}_2\text{O}_7$), which was a very common opacifier from the Early Iron Age onwards. They contain elevated amounts of Sb_2O_5 (1.26%, 4.84%) and PbO (4.6%, 11%). The white glasses (samples 2c, 3) have higher concentrations of Sb_2O_5 (2.19%–3.27%) and, compared to the other glasses, a low MnO content (0.03%–0.06%). Similarly, the opaque green glasses (samples 5, 10) have elevated amounts of Sb_2O_5 and were probably opacified with calcium antimonate (CaSb_2O_6). The green glasses (samples 5, 9, 10), irrespective of their degree of translucency, were coloured with copper (CuO – 1.70–2.94%) and iron (Fe_2O_3 – 0.82–1.47%) compounds, while the black glass (sample 2a) contains a very high amount of Fe_2O_3 (6.74%).

Considering the base composition of the glass, most of the materials of the Kleszewo beads can be classified as the so-called Roman Sb-Mn glasses. These are mixed glasses, which come from recycling glasses with a high concentration of aluminium oxide (Roman Mn) with those with a low concentration of aluminium (Roman Sb);²⁹ in terms of the use of decolouring inclusions (Sb_2O_5 and MnO), they fall in-between these two groups (Fig. 4:a). The glasses from Kleszewo, due to the increased amounts of titanium and iron oxides, also show some similarity to the so-called wHIMT (weak High Iron Manganese, Titanium) glasses (Fig. 4:b). However, they contain less magnesium oxide compared to the materials typical of this group.³⁰ Considering the share of manganese in the total concentration of decolouring agents, two glass samples (nos. 3, 5) similar to Roman Sb glasses (cf. Fig. 4:a.b) can be distinguished. However, in terms of the ratio of Na_2O to CaO , as well as the concentration of sand constituents (Al_2O_3 , TiO_2 , SiO_2), they do not differ significantly from Roman Sb-Mn glasses (cf. Fig. 4:c.d). Roman Sb-Mn glasses were also used to make most of the glass game counters from the Roman period discovered in Poland, which have been studied

²⁰ D. Foy *et alii* 2000.

²¹ M. Karwowski 2006, fig. 13; J. Rolland, N. Venclova 2021, 124, fig. 6.

²² N. Venclová 2016, 62; I. Čizmář, J. Čizmářová 2023.

²³ J. Henderson 2000, 35.

²⁴ J. Henderson 2000, 27.

²⁵ Cf. L. Kamyszek *et alii* 2018, 186, with earlier literature.

²⁶ L. Kamyszek *et alii* 2018, 187; T. Purowski, B. Wagner 2015.

²⁷ J. Rolland 2021.

²⁸ N. Venclová 2016, 62, 94.

²⁹ C. M. Jackson, S. Paytner 2015; A. Silvesrti 2008.

³⁰ Cf. D. Rosenov, T. Rehren 2014.

by M. Krzyżanowska and co-authors.³¹ Undoubtedly, mixed-composition (recycled) glasses were very popular both during the times of the Roman Empire and in the Migration period.³² They were made mainly in centres located in Egypt and on the southern coasts of the Levant, where glass-making raw materials (mainly sands rich in limestone and natron) were available.³³ From those areas, pieces of raw glass were transported to workshops that would further process this material (so-called secondary workshops), often by sea, as evidenced by the finds of glass from shipwrecks.³⁴ Most finds of raw glass were either naturally coloured (slightly greenish or yellowish) or colourless. Therefore, there must have been workshops where glass was coloured with various pigments. S. Cagno's study of black glass has revealed that it was melted in numerous workshops within the borders of the Roman Empire in western (present-day Portugal, Switzerland, France, Belgium) and central Europe (present-day Germany).³⁵

Glasses melted using plant ash soda

This category consists of one bead from grave 385 (Table 1:5). It is made of opaque brownish-red glass, on which there are visible glassy black streaks parallel to the axis of the perforation. Both these glasses of different colours have been analysed. The main glass-making constituents are present in the following quantities: SiO₂ – 61–61.6%, Na₂O – 8.89–8.99%, K₂O – 4.27–4.28%, CaO – 12.35–12.4%, Al₂O₃ – 1.88–1.91% (Table 2:5). Due to the concentration of alkali (potassium oxide and magnesium oxide) exceeding 1.5%, it should be assumed that the glasses were melted using soda obtained from the ashes of salt-tolerant plants (Fig. 2c). They belong to the category of high magnesium glasses (HMG). Both were coloured with copper oxide (CuO – 2.24–2.55%) and iron oxide (Fe₂O₃ – 1.44–1.58%), with higher concentrations of these inclusions found in the black glass.

Plant ash glass was produced primarily in the Middle East, and the best-known type of such material, made between the 3rd and 7th centuries, was the Sassanid glass.³⁶ However, the very low content of Na₂O and the high content of CaO, as well as the small amount of Rb (less than 9 ppm), exclude the Kleszewo artefact from the group of glasses produced between the Tigris and Euphrates rivers. The latter contained higher amounts

of soda oxide (from 14% to 19%) and low concentrations of calcium oxide (from 5% to 9%), which suggests that the glass from Kleszewo was melted using quite different glass-making constituents.

Another region where glass was melted in the Roman period with the use of plant ash was northern Egypt. The material of the Kleszewo bead, in terms of high CaO and very low Na₂O contents, is similar to the glass from Bubastis and Wadi el Natrun,³⁷ but it contains a low concentration of Al₂O₃ (less than 2%). It would, therefore, appear that it cannot be linked to glass workshops from that area either. On the basis of the analysis of glass from only one bead, it is, unfortunately, difficult to establish its provenance, especially since, as mentioned above, plant ash glasses from the Roman period have not been thoroughly studied. As T. Stawiarska has already pointed out, glasses made using plant ash are the least researched category of glass from the Roman Empire, and more archaeometric analyses are required to establish their origin.³⁸

CONCLUSIONS

Most of the Kleszewo glasses examined in terms of elemental composition were made using mineral soda. The two beads from the late pre-Roman period represent a type of glass widespread in central Europe between phases LT C2 and LT D, classified as LMG (Low Magnesium Glass). The manufacture of objects from such materials took place at Celtic glassmaking centres. In the case of the beads from Kleszewo, the glassmaking formula, according to which the examined glasses were melted, undoubtedly confirms that these decorations originated in the above-mentioned cultural circle. On the basis of glass analyses of only two beads, it is difficult to establish with certainty the location of the glassmaking workshop where they may have been manufactured, but the results of the analysis indicate that these glasses are very similar in technological terms to the materials processed in the Moravia, at Němčice and Staré Hradisko.

The beads from the later phases of the cemetery's use are made mainly of mixed glass, formed by recycling two types of glass widespread in the Roman period, i.e., the so-called Roman Sb and Roman Mn glasses. They may have been melted in northern Egypt. However, it is not possible to indicate where the beads brought to the area of present-day Kleszewo were made. In the Roman period, glass production was highly specialised, and there were separate glassmaking workshops

³¹ M. Krzyżanowska *et alii* 2023.

³² K. Tomkova *et alii* 2023.

³³ A. J. Schortland 2004.

³⁴ P. Cagno 2011, 224, with earlier literature.

³⁵ P. Cagno *et alii* 2014; P. Cagno 2011, 224.

³⁶ P. Mirti *et alii* 2008; P. Mirti *et alii* 2009.

³⁷ D. Rosenov, T. Rehren 2014, table 3, fig. 7.

³⁸ T. Stawiarska 2017, 273.

for melting raw glass and for manufacturing ornaments and vessels.

The presented results are a small contribution to the research on the provenance of glass artefacts from the late pre-Roman period and the Roman period from the Polish lands. Undoubtedly, more analyses are still required to fully examine technological changes, including the origin of glass raw materials, and identify formulae and workshops in which glass was melted.

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Tabela 1 (część 1). Katalog paciorków szklanych z Kleszewa przebadanych pod względem składu pierwiastkowego. Oprac. S. Wajda

Lp.	Nr za- bytku	Forma korpusu	Wzór orna- mentu	Wymiary	Ślady zabiegów technicznych	Technika wykonania		Barwa i przezroczystość szkła		Wady masy szklanej	Nr próbki	Określenie typologiczne paciorka	Dato- wanie	Nr ryc.
						korpus	ornament	korpus	ornament					
KULTURA PRZEWORSKA														
1	48/7	pierście- niowaty	wielokrotne linie spiralne dookoła kor- pusu	śr. 2,79 cm; wys. 1,31 cm	-	nawijanie	wtopiony w korpus	bezbarnwe, przejrzyste	żółte, opa- kowane	pęcherze gazowe i ciągi szkła układające się równoległe do osi kanalika	1a, 1b	grupa 23 wg T.E. Haever- nick	III	1a
2	832/11	trójkątny	wielokrotne linie spiralne dookoła kor- pusu	śr. 1,25- 1,27cm; wys. 0,39-0,48 cm	-	nawijanie	wtopiony w korpus	niebieskie, słabo przejrzyste	białe, opa- kowane	pęcherze gazowe i ciągi szkła układające się równoległe do osi kanalika	11a, 11b	typ II,1 wg M.A Zepe- zauer	I-IIa	1:b
KULTURA WIELBARSKA														
3	158/38	pierście- niowaty	dookoła kor- pusu dwie linie faliste (płaskie) krzyżujące się przy powierzch- niach przyka- nalikowych, w miejscach między krzy- żującymi się liniami - kropki (płaskie)	śr. 1,79- 1,83 cm; wys. 1,31- 0,34 cm	powierzchnia paciorka jest zagałdzona	nawijanie	wtopiony w korpus	czarne, nieprze- zroczyste	żółte, opa- kowane i białe, opakowe	-	2a, 2b, 2c	TM 266d	VI	1:c
4	385/6	pierście- niowaty	-	śr. 0,68 cm; wys. 0,52 cm	ciągi szkła układa- jące się równoległe do osi kanalika, obie krawędzie przy kanalikach zostały zaokrą- glone	wyciąganie, obtapianie kręwdzi przy kanalikach	-	białe, opakowe	-	otwarte pęcherze gazowe na po- wierzchniach przyka- nalikowych	3	TM 6	VII	1:d
5	385/38	dwustoz- kowaty	-	śr. 0,68 cm; wys. 1,19 cm	ciągi szkła układa- jące się równoległe do osi kanalika	wyciąganie, kształtowanie (rolowanie) na płaskiej po- wierzchni	-	czernonobrazo- we, nieprzezro- czyste	-	smugi szkliste (o czarnej barwie) ukła- dające się równoległe do osi kanalika	4a, 4b	TM 318	VII	1:e
6	385/8	pierście- niowaty	-	śr. 0,81 cm; wys. 0,48-51 cm	-	wyciąganie (?)	-	jasnozielone, opakowe	-	-	5	TM 8/36	VII	1:f

Tabela 1 (część 2). Katalog paciorków szklanych z Kleszewa przebadanych pod względem składu pierwiastkowego. Oprac. S. Wajda

Lp.	Nr za- bytku	Forma korpusu	Wzór orna- mentu	Wymiary	Ślady zabiegów technicznych	Technika wykonania		Barwa i przezroczystość szkła		Wady masy szklanej	Nr próbki	Określenie typologiczne paciorka	Dato- wanie	Nr ryc.
						korpus	ornament	korpus	ornament					
7	385/14	pierście- niowaty	-	śr. 0,79 cm; wys. 0,48-0,51 cm	ciągi szkła układają- jące się równoległe do osi kanalika, ciągi szkła układają- jące się równoległe do osi kanalika, obie krawędzie przy kanalikach zostały zaokrą- glone	wyciąganie	-	żółte, opakowe	-	-	6	TM 37	VII	1:g
8	386/12	kulisty	-	śr. 0,70 cm; wys. 0,68 cm	wyciąganie, obtapianie kręwdzi przy kanalikach	-	-	ciemnozielone, słabo przejrzyste	-	-	9	TM 4a	VI (?)	1:h
9	386/14	pierście- niowaty	-	śr. 1,22 cm; wys. 0,99-1,11 cm	przy jednej z powierzchni przy- kanalikowych dwa włókania (ślady po oderwaniu pręta?)	nawijanie	-	jasnozielone, opakowe	-	smugi szkliste (o żół- tej barwie) układające się spiralnie do osi kanalika	10	TM 8	VI (?)	1:i
10	597/5	pierście- niowaty	-	śr. 0,29 cm; wys. 0,19 cm	-	warstwa we- wnętrzna – wy- ciąganie; war- stwa zewnętrzna – obtaczanie w półpłynnej masie szklanej lub smarowanie sproszkowanym szkłem i obtapianie	-	białe, opakowe (trzon – warstwa wewnętrzna), czerwone, opa- kowane (warstwa zewnętrzna)	-	w białym szkłe – otwarte pęcherze gazowe na po- wierzchniach przyka- nalikowych	13a, 13b	-	VII	1:j

Tabela 2 (część 1). Wyniki analiz składu pierwiastkowego (LA ICP MS) szkielet z Kleszewa. Oprac. B. Wagner

Nr zabytku	Nr próbki	w%																			
		SiO2	Na2O	K2O	CaO	MgO	Al2O3	Fe2O3	CuO	PbO	Sb2O5	MnO	SnO2	ZnO	BaO	TiO2	CoO	P2O5	S	SrO	ZrO2
48/7	1a	70,10	12,40	0,97	8,50	0,76	2,75	0,47	0,03	2,42	0,17	0,76	0,024	0,140	0,031	0,095	0,0003	<	0,060	0,005	0,0006
	1b	37,20	6,65	0,62	3,53	0,41	1,70	0,57	0,07	42,50	0,06	0,52	5,890	0,028	0,018	0,070	0,0012	<	0,028	0,004	0,0004
832/11	11a	69,50	14,40	1,19	8,79	0,72	2,74	0,87	0,40	0,15	0,08	0,52	0,004	0,010	0,023	0,099	0,1850	<	0,16	0,055	0,005
	11b	75,10	6,03	1,52	8,49	0,77	4,26	1,55	0,33	0,25	0,32	0,55	0,007	0,036	0,039	0,202	0,1290	0,353	<	0,052	0,006
158/38	2a	66,80	15,10	0,53	6,78	0,54	2,19	6,74	0,02	0,04	0,53	0,34	0,005	0,006	0,023	0,097	0,0029	<	0,046	0,006	0,005
	2b	61,70	12,30	0,57	5,39	0,45	2,15	0,80	0,01	11,00	4,84	0,40	0,001	0,011	0,024	0,098	0,0002	<	0,176	0,046	0,004
385/6	2c	74,80	8,57	0,83	6,95	1,54	2,38	0,41	0,01	0,02	3,27	0,60	<	<	0,027	0,066	0,0004	<	0,204	0,053	0,005
	3	71,30	14,30	0,58	6,64	1,00	2,21	0,39	0,00	0,10	2,29	0,03	0,004	0,004	0,012	0,106	0,0003	<	0,244	0,071	0,005
385/38	4a	61,00	8,99	4,28	12,35	3,59	1,91	1,58	2,55	0,55	0,05	0,48	0,206	0,065	0,033	0,177	0,0007	1,9	<	0,113	0,006
	4b	61,60	8,89	4,27	12,40	3,57	1,88	1,44	2,24	0,54	0,05	0,48	0,201	0,045	0,034	0,180	0,0006	1,95	<	0,114	0,007
385/8	5	69,20	15,30	1,14	5,67	1,16	2,21	0,82	1,70	0,87	0,85	0,23	0,085	0,016	0,030	0,104	0,0006	<	0,246	0,067	0,007
	6	67,70	13,30	0,83	8,36	0,68	2,19	0,50	0,03	4,60	1,26	0,03	0,048	0,013	0,013	0,121	0,0001	<	0,137	0,083	0,007
386/12	9	65,40	16,30	1,19	6,82	1,74	2,28	1,47	2,94	0,21	0,42	0,35	0,097	0,106	0,022	0,182	0,0006	<	0,073	0,011	0,004
	10	65,90	16,70	1,11	6,26	1,24	2,54	0,90	2,13	1,51	0,51	0,12	0,095	0,004	0,019	0,215	0,0005	<	0,323	0,064	0,012
597/5	13a	42,60	3,01	5,54	2,66	0,34	0,31	0,13	0,02	37,50	0,03	0,01	0,0004	<	0,002	0,017	<	<	0,021	0,001	7,68
	13b	64,10	4,01	10,20	3,82	0,53	0,46	0,19	0,01	9,87	1,27	0,01	0,0002	0,003	0,003	0,023	<	<	0,033	0,001	5,08

Tabela 2 (część 2). Wyniki analiz składu pierwiastkowego (LA ICP MS) szkieł z Kleszewa. Oprac. B. Wagner

Nr zabytku	Nr próbki	Li	B	Ni	Mo	Sc	V	Cr	Rb	Y	Nb	Ag	In	La	Ce	Pr	Nd	Eu	Gd	Tb	Dy	Ho	Er	Lu	Hf	Au	Th	U		
		ppm																												
48/7	1a	3,72	43,48	743,36	3,20	1	13	14	18,59	5	0,7	0,61	<	5	10	0,8	3	<	<	<	<	<	<	<	<	<	0,4	<	0,3	0,3
	1b	1,86	41,61	161,09	1,60	1	12	6	12,03	4	1	<	1	4	8	1	3	<	<	<	<	<	<	<	<	<	<	<	1	0,4
832/11	11a	3,25	375,77	137,51	3,20	2	9	22	6,56	5	0,7	1,74	4	5	10	1	<	<	<	<	<	<	<	<	<	0,4	<	0,2	0,2	
	11b	8,83	55,28	<	6,40	2	17	42	21,87	9	1	1,74	<	7	15	1	3	<	<	<	1	0,3	0,4	<	<	<	0,4	0,8	0,8	
158/38	2a	2,32	50,62	190,16	0,80	1	11	13	7,66	5	1	2,61	<	5	9	1	2	<	0,6	<	0,7	0,1	<	<	0,6	15	0,4	0,3	0,3	
	2b	1,86	58,69	53,43	1,60	2	15	15	6,56	2	1	2,61	<	4	8	1	<	0,2	0,2	<	<	<	0,1	<	<	<	<	0,2	0,2	0,2
	2c	4,18	47,20	543,76	1,60	2	9	27	8,75	1	0,5	11,32	<	3	8	1	<	0,2	0,7	0,1	0,8	<	<	0,1	<	<	0,2	0,3	0,3	
385/6	3	2,79	44,72	122,58	<	2	6	24	4,37	3	<	2,61	8	4	10	<	2	<	<	<	1	0,3	0,3	<	<	<	<	0,1	0,2	
385/38	4a	1,86	49,38	240,45	<	3	14	14	8,75	2	1	4,35	<	4	8	0,5	2	<	0,6	<	<	0,1	<	<	0,4	<	0,4	0,2	0,2	
	4b	2,79	341,61	44,79	<	2	11	17	9,84	2	1	8,71	3	3	9	0,4	0,8	<	<	0,1	<	0,1	<	<	<	<	0,2	<	<	
385/8	5	8,83	43,17	223,95	<	4	8	22	4,37	3	1	3,48	<	3	8	<	2	0,2	<	0,2	<	0,1	<	<	0,5	<	0,4	0,2	0,2	
385/14	6	1,86	41,61	<	<	1	11	<	9,84	3	<	1,74	<	6	11	1	3	0,2	<	<	<	0,1	0,3	0,1	<	<	0,6	<	<	
386/12	9	2,32	50,93	<	<	2	14	7	4,37	4	2	3,48	<	4	10	1	2	<	<	0,1	0,5	<	<	<	0,5	<	0,6	0,3	0,3	
386/14	10	4,18	347,82	216,09	2,40	2	12	19	3,28	4	2	5,23	7	5	12	1	2	0,2	<	0,1	<	<	0,3	<	1	<	0,2	0,2	0,2	
597/5	13a	6,04	36,65	<	<	<	2	<	30,62	<	<	9,58		0,5	1,1	0,1	<	<	<	<	<	<	<	<	<	<	3	0,1	<	
	13b	11,15	40,37	330,03	2,40	1	3	<	50,31	0,5	<	13,93		0,5	2	<	<	<	<	<	<	<	<	<	0,2	375	0,2	0,2	<	



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