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Michałowice, Czarnocin commune, site 1. The urn from grave 80 (photo Jan Bulas)

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Instytut Archeologii Uniwersytetu Jagiellońskiego, ul. Gołębia 11, PL 31-007 Kraków  
mniauj@interia.pl  
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Excavations of multicultural site 1 at Michałowice, Czarnocin  
commune, Świętokrzyskie province, season 2011

**Abstract:** The excavations on a multicultural site 1 at Michałowice, Czarnocin commune, have been conducted since 2008. In 2011, they concentrated in the north-western part of the site, where a geomagnetic survey had been conducted by the team led by P. Wroniecki in the preceding season. The verification of this survey's results was the main goal of the excavations in 2011. The excavated area amounted to 800 m<sup>2</sup>, which yielded 31 archaeological features mainly connected with the Przeworsk culture cemetery. Among the discovered features were both cremation burials and groove-type features known from previous investigations. A few Lusatian culture burials were discovered, too. The results of the geomagnetic survey were in most part confirmed during the excavations.

**Keywords:** cemetery, Lusatian culture, Bronze Age, Przeworsk culture, Roman Period, groove-type features

The fieldwork in the 2011 season was the continuation of archaeological investigations which have been conducted on site 1 at Michałowice since 2008 (see Pikulski, Zagórska-Telega 2011; Zagórska-Telega, Bulas, Pikulski, Szczepanek 2011) (Fig. 1)<sup>3</sup>. So far, a total area of approximately 0.25 hectares has been excavated, yielding 81 archaeological features connected in most part with the Przeworsk culture cemetery. The site has also yielded Bronze Age graves attributable to the

Trzciniec and Lusatian cultures. A number of features of an undetermined chronology have also been revealed (Fig. 2).

In the 2011 season, the excavations concentrated in the north-western part of the site which was heavily damaged by agriculture and farm buildings, and where a geomagnetic survey had been conducted by the team led by P. Wroniecki in the preceding season. The verification of this survey's results was the main goal of the excavations (Wroniecki, in this volume). The area excavated in 2011 amounted to 800 m<sup>2</sup>, which yielded 31 archaeological features mainly connected with the Przeworsk culture cemetery. Among the discovered features were both cremation burials and groove-type features known from previous investigations.

<sup>1</sup> Institute of Archaeology, Jagiellonian University; Gołębia St. 11, 31-007 Kraków, Poland; contact author: zagorskaster@gmail.com.

<sup>2</sup> Institute of Zoology, Jagiellonian University; Kraków, Poland.

<sup>3</sup> Previously, small-scale test excavations were conducted at the site (compare Kaczanowski *et al.* 1984).



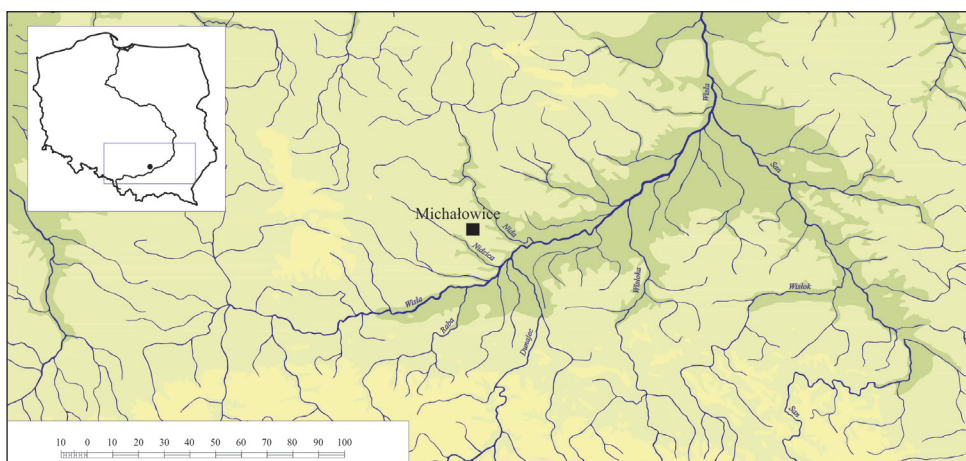


Fig. 1. Michalowice, Czarnocin commune, site 1. Location of the site

Of particular interest are three relatively well-preserved urn cremations (features 80, 83, 90), undoubtedly linked with the Przeworsk culture cemetery. Their inventories included elements that were characteristic of this culture and typical of female (features 80 and 83) and male (feature 92) burials.

The two female burials were discovered close to each other. The first one (feature 80) was placed in a large ceramic urn distinguished by smooth surfaces of black colour. The vessel, which was preserved intact, was decorated in its upper part with an incised and stamped meander motif, typical of the Przeworsk culture (Fig. 3:1). In terms of the form, it belongs to vessels of group I according to T. Liana, which mainly date to late phase B1, and sporadically also to phase B2 of the Early Roman Period (Liana 1970, 438–439; Godłowski 1981, 62). At the level of the feature's discovery and directly next to the urn, an iron buckle was found belonging to group D type 1 in R. Madyda-Legutko's classification (1986). Its frame was decorated with transverse notches (Fig. 4:3). Such artefacts occur in the Przeworsk culture throughout the entire Roman Period, but are most numerous in phase

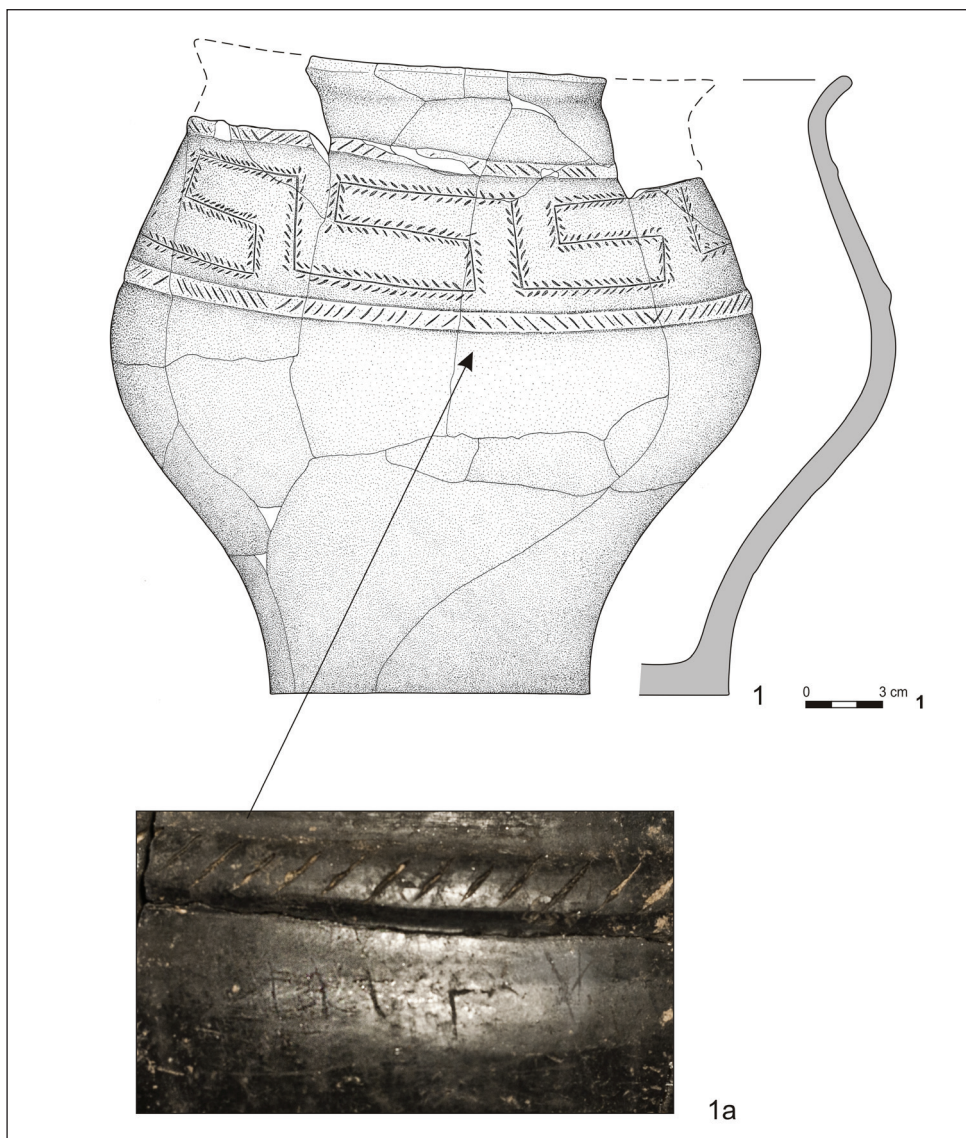
B2. The above-mentioned notches on the frame, being the place prepared for an inlay, are relatively rarely recorded on buckles. A similar specimen of a group D type 1 buckle, with preserved copper inlay, is known from grave 17 at Łętowice in Małopolska province, which is dated to phase B1 (Szpunar 1990, 247, 256–257, fig. 4:A1). From the same period comes grave 55/1934 from the cemetery at Głędzianówek in Łódzkie province, where a buckle of the discussed type was discovered, decorated with a silver inlay (Kaszewska 1977, 85, pl. 39:3). The chronologically most recent analogy is feature 33 from the cemetery at Radawa, Podkarpackie province, which is dated to phase B2 or the beginning of phase C1 (Kieferling 2001, 38). Close to the discussed buckle and the cluster of pottery shards was discovered an iron knife with a unilaterally separated shaft (Fig. 4:4). Most likely, the knife was also a part of the inventory of grave 80. The urn contained a large amount of bone probably belonging to a woman of *maturus* age. Within the urn was another vessel, placed upside down, whose base did not survive (Fig. 4:1). The vessel represented so-called kitchen-ware, with coarse surfaces, and



Fig. 2. Michałowice, Czarnocin commune, site 1. Plan of the cemetery

featured two knobs (with characteristic necks in the middle) at its widest part. Such pottery has analogies in the Puchov-Dacian milieu (Poleska, Tobiła 1987; 1988, 114; Woźniak 1990, 56, 76; Madyda-Legutko 1996, 65; 2004, 83–84; Kaczanowski 1996, 124; Gedl 2004, 651–657). It is assumed that vessels decorated with relief ornamentation in the form of knobs, and provided

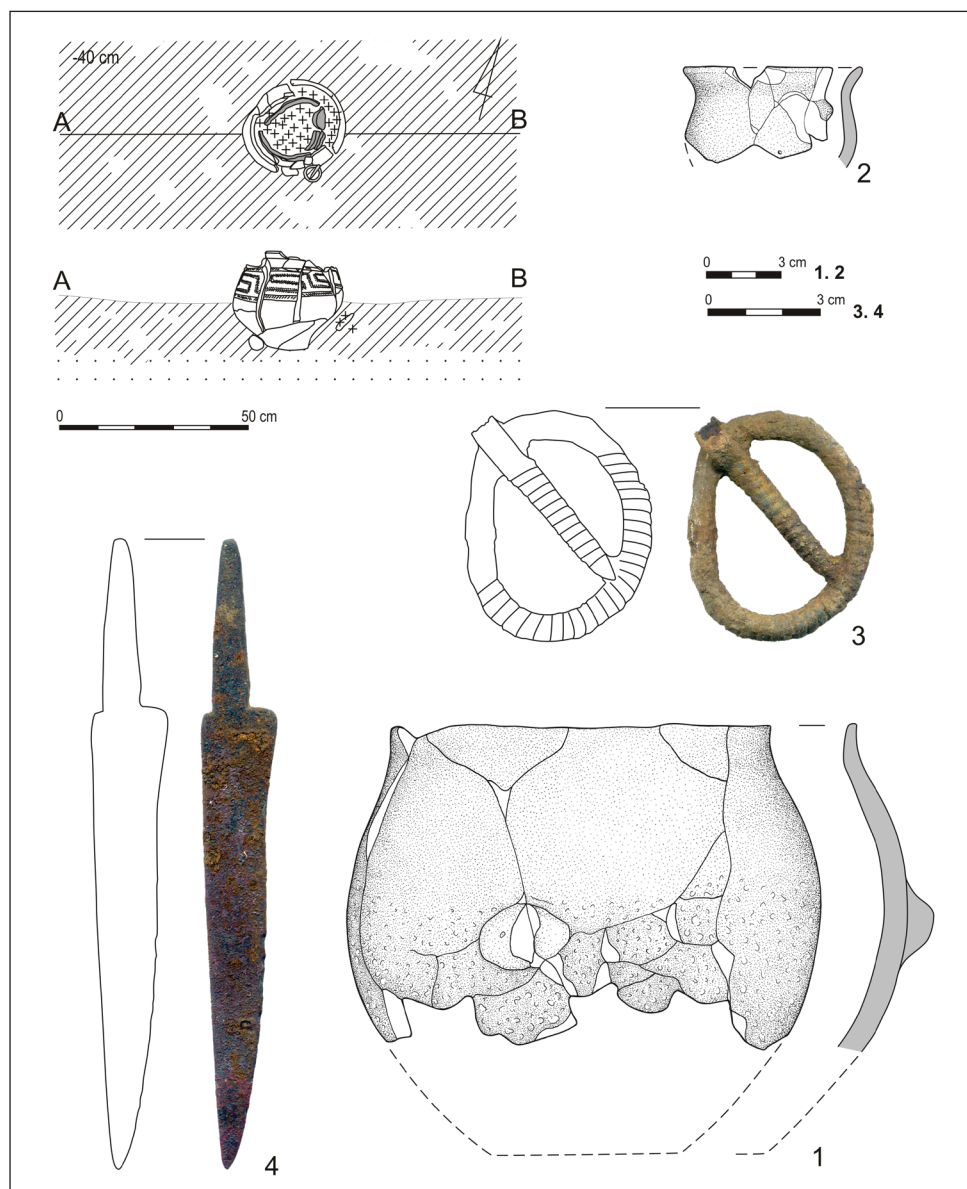
with prominent handles, are mainly typical of the Early Roman Period (Podgórska-Czopek 1999, 152), although they occur in the beginnings of the Younger Roman Period too (Dobrzańska 1990, 63). Analogically decorated vessels are sometimes recorded on Puchov culture sites in Kraków area (Poleska, Tobiła 1987; 1988, 114; Woźniak 1990, 54; Kaczanowski 1996, 124, fig. 7).



**Fig. 3.** Michałowice, Czarnocin commune, site 1. The urn from grave 80 (drawn by P. Cyganiewicz and J. Zagórska-Telega)

It should be noticed that in the upper part of the above-mentioned Early Roman Period urn from grave 80 there are lines incised which cross at different angles and which resemble runic symbols (Fig. 3:1a). However, the oldest runic inscriptions from

the Przeworsk culture area are dated no earlier than the beginning of the Younger Roman Period, and occur on the blades of pole weapons. These early specimens include spearheads from Rozwadów in Podkarpackie province (Kaczanowski 1988, 68–69)



**Fig. 4.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 80; (1–2) – clay; (3–4) – iron (drawn by P. Cyganiewicz and J. Zagórska-Telega)

and from Kowal in Ukraine (Page 1998, 28) although, sporadically, runic inscriptions in the Przeworsk culture milieu also occur on clay vessels. A hand-made vessel from grave 2 in the Dziedzice cemetery

in Opolskie province has also been dated to phase C1a (Kaczanowski 1988, 69; Rodzińska-Nowak 1992, 209; 2005, 82). To the same phase should perhaps be dated the base of a wheel-made vessel, bearing

what may be a runic inscription, found in the ancient mine at Rudki, Świętokrzyskie province (Czernek 2006, 95–96, fig. 3). The symbols revealed on a vessel from the Przeworsk culture grave discovered at Krystynopol in Ukraine should perhaps also be interpreted as runic inscriptions or their imitations (Kokowski 2000, 204, fig. 5). On the other hand, the signs preserved on a vessel from Niezdrowice in Opolskie province seem to be only a random combination of strokes (Godłowski 1977, 158). For the moment, it is difficult to unambiguously determine if the symbols on the discussed urn from grave 80 at Michałowice are in fact a runic inscription, which would then be one of the oldest finds of this kind, or if they are merely an accidental arrangement of incised lines, as in the case of the vessel from Niezdrowice.

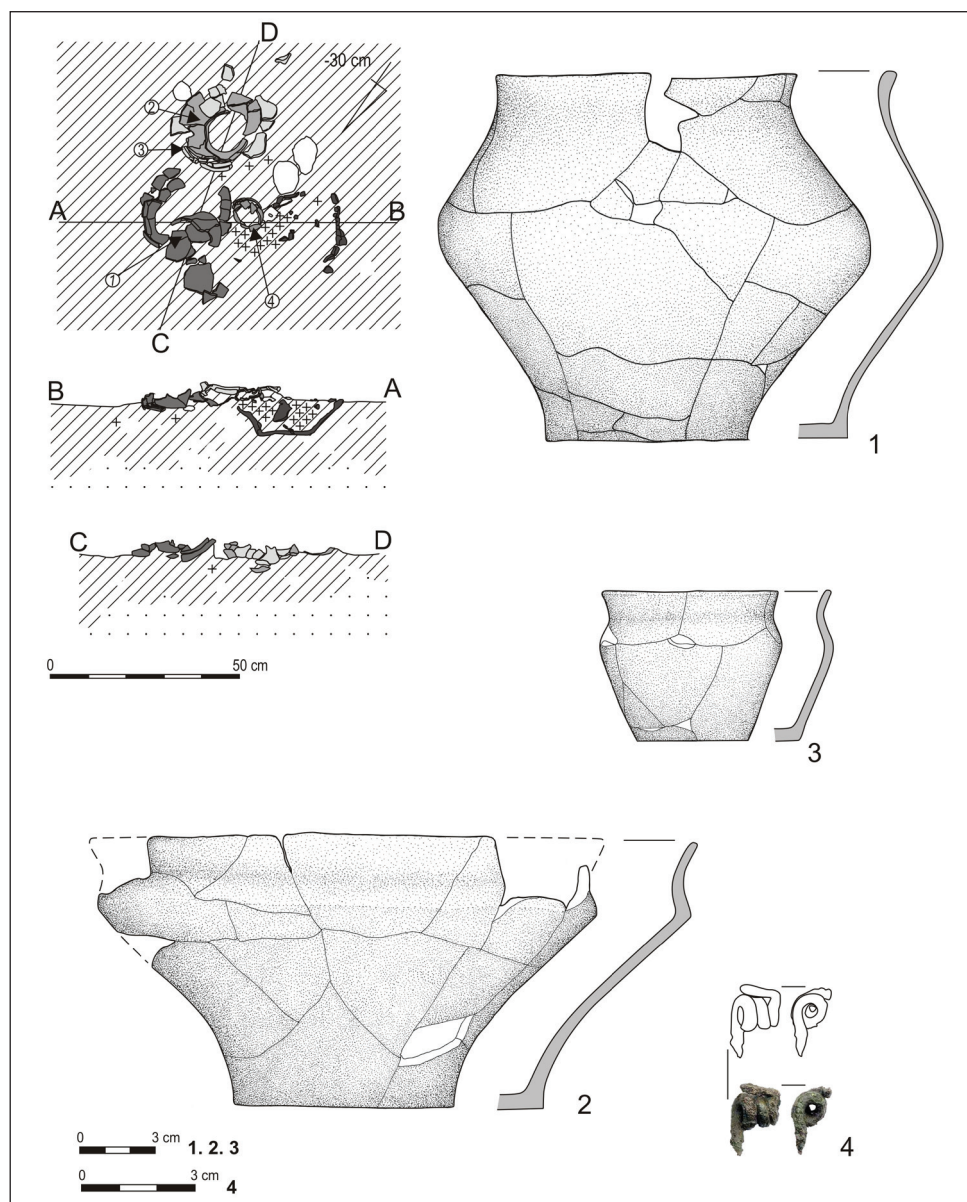
The grave goods were much richer in the second of the female burials (feature 83). There was a distinct concentration of pottery shards recorded at the level of its discovery and which comprised fragments of several vessels, including two vases placed so that one was inside the other (vessels 2 and 3) (Fig. 5:2, 6:1) and a small cup (vessel 4) (Fig. 5:3). Slightly deeper was an urn, badly damaged and with partially decayed walls. Most likely, the vessel was very poorly fired, or perhaps even only dried. Such a state of preservation may support the hypotheses put forward by some scholars who suggest that the urns might sometimes have been produced only for funeral purposes, so that their quality made them unfit for everyday use (Czarnecka 1990, 90; 2004, 101; Stasiak-Cyran 2004, 179). The damaged urn contained a large amount of charred human bone, probably belonging to a woman of adultus age, as well as the iron elements of a small box: a lock fitting, with a spring, and an iron key (Fig. 7:1–3). Moreover, the grave also yielded a bronze fibula of A.67 type (Fig. 6:3), fragments of

another fibula (Fig. 5:4), a clay spindle-whorl and an iron knife (Fig. 6:2).

Feature 92 deserves particular attention. This is the richest burial discovered in the discussed site since 2008. It should be emphasised that the feature was found within the area enclosed by the arms of the largest groove-type feature discovered so far (feature 90, see further in the text). Already in humus soil, fragments of bronze plates and numerous large fragments of melted bronze were discovered above feature 92. They were accompanied by the fragments of an iron blade (Fig. 9:1), an iron handle-attachment (Fig. 9:2) and fragments of an iron bail from a situla (Fig. 9:3). At the depth of approximately 30 cm a concentration of iron and bronze artefacts and pottery shards was discovered which covered a very badly damaged urn. Of particular interest among the iron artefacts from feature 92 is a ritually bent sword, discovered next to the urn, which belongs to Buch-Podlodów type variant 3 in M. Biborski's classification (Biborski, Ilkjær 2006a, 182–185, fig. 126) (Fig. 8:1, 1a). Such swords are dated to phases B2 and C1a. The closest analogy for the specimen from Michałowice is a sword discovered in grave 70a at Łajski, Mazowieckie province, which dates to phase B2 of the Roman Period (Biborski, Ilkjær 2006b, 367). Close to the sword there were fragments of a grip (Fig. 9:4) with separated rivet plates and a fragment of a poorly preserved boss. The boss was placed in the grave pointing downwards, and within it was discovered a crystallised substance of white colour, identified as glass<sup>4</sup>. The urn contained a small amount of charred human bone belonging to an adult of undetermined sex, and yet more bronze plates, preserved in large fragments. Originally, all these plates, together with melted bronze fragments found

<sup>4</sup> We would like to express our thanks to dr Michał Wasilewski who performed the necessary analyses.

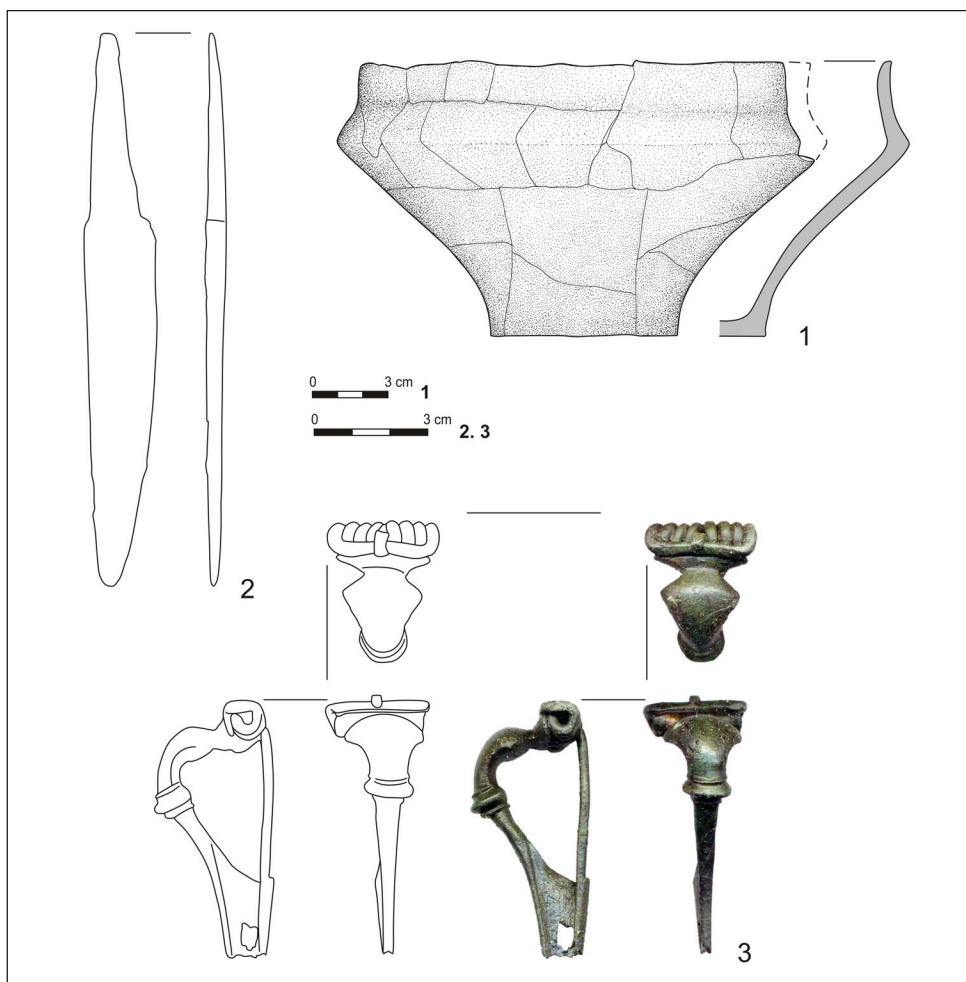




**Fig. 5.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 83; (1–3) – clay; (4) – bronze (drawn by P. Cyganiewicz and J. Zagórska-Telega)

in the humus layer, the iron bail and attachment, were probably elements of a vessel of the Östland type (E.37–43) according to H. J. Eggers (1951). The poor state of vessel

preservation renders the precise reconstruction of its form impossible. The shape, and the material used to produce the attachment (iron) suggests that the vessel most likely



**Fig. 6.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 83; (1) – clay; (2) – iron; (3) – bronze (drawn by P. Cyganiewicz and J. Zagórska-Telega)

represented type E.39 or E.40 dated to phase B2 of the Roman Period (Wołagiewicz 1970; Wielowiejski 1985, 179–180). The closest analogy to the discovered fragment of the vessel comes from a richly furnished cremation burial from Sandomierz-Krakówka in Świętokrzyskie province (Wilkoński 1938, 111–112, Pl. 42). The unusually lavish inventory allows this burial to be dated to phase B2a of the Roman Period (Wielowiejski 1985, 262). Prince grave no 1 from

Łęg Piekarski, Wielkopolskie province (Wielowiejski 1985, 263) is dated to the same period. To phase B2 in general can be dated cremation burial 1512 from the cemetery at Kietrz, Opolskie province, which also yielded fragments of a vessel representing E.39–40 type (Gedl 1988, 147–151, 189, fig. 26:h–i)<sup>5</sup>. Fragments of a bronze

<sup>5</sup> It is worth mentioning here that the above-mentioned grave 1512 from the Kietrz cemetery was also discovered

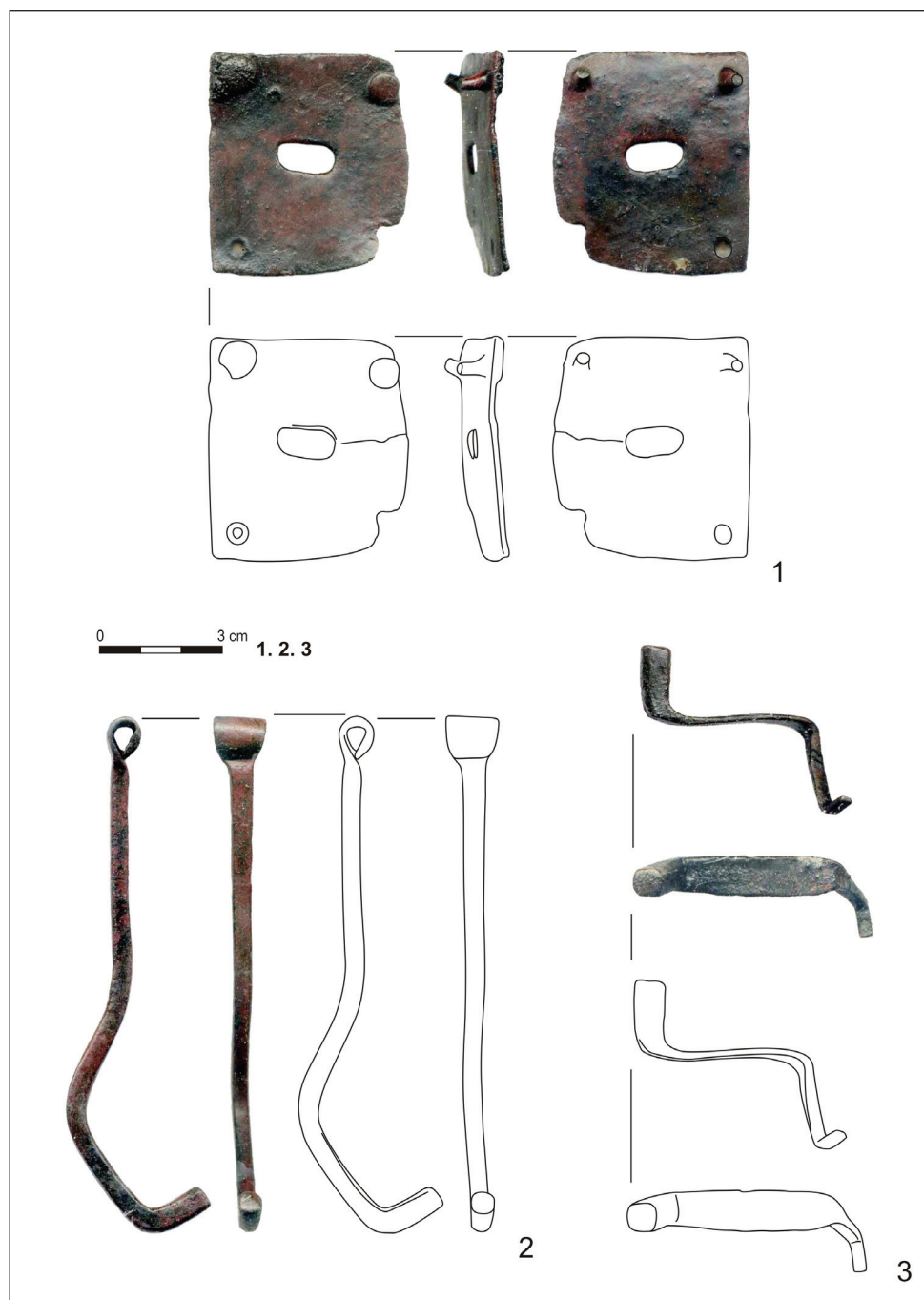
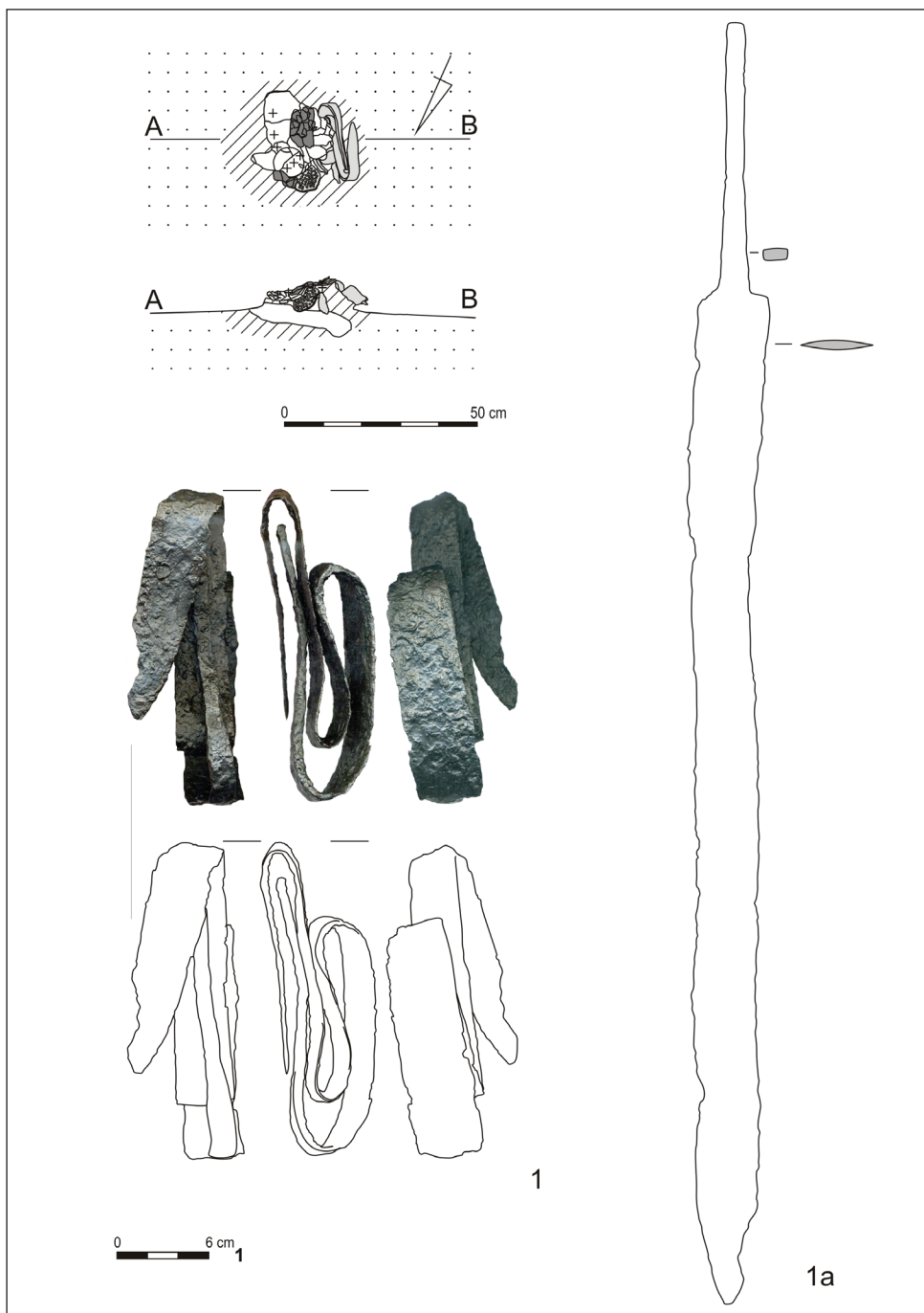


Fig. 7. Michałowice, Czarnocin commune, site 1. Grave goods from feature 83; (1–3) – iron (drawn by P. Cyganiewicz and J. Zagórska-Telega)





**Fig. 8.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 92; (1) – iron (drawn by P. Cyganiewicz and J. Zagórska-Telega)



Fig. 9. Michałowice, Czarnocin commune, site 1. Grave goods from feature 92; (1–5) – iron (drawn by P. Cyganiewicz and J. Zagórska-Telega)

vessel of E.40–43 type are also known from grave 327 discovered in the cemetery at Wymysłowo, dated to the beginning of the Younger Roman Period (Jasnosz 1952, 215–217, fig. 335:9; Wielowiejski 1985, 264).

As mentioned above, grave 92 is distinguished by its location in the area enclosed by the arms of groove-type feature 90 (Fig. 10). The latter feature was very large – the length of its arms amounted to: 1250 (arm

within the area enclosed by the arms of a groove-type feature (feature 1588) (Gedl 1988, 193, fig. 25).

W), 1230 cm (arm N), 1240 cm (arm E) and 1210 cm (arm S), the width ranged between 50–110 cm (arm W), 70–100 cm (arm N), 70–90 cm (arm E) and 70–90 cm (arm S), and the depth of the arms locally reached even 70 cm. As revealed by numerous cross-sections, the feature was triangular in profile, narrowing downwards, and its fill was quite homogenous, sometimes blurred in the bottom part. It is worth emphasising that this is the largest feature of its kind known so far. The only feature of comparable dimensions was discovered in the

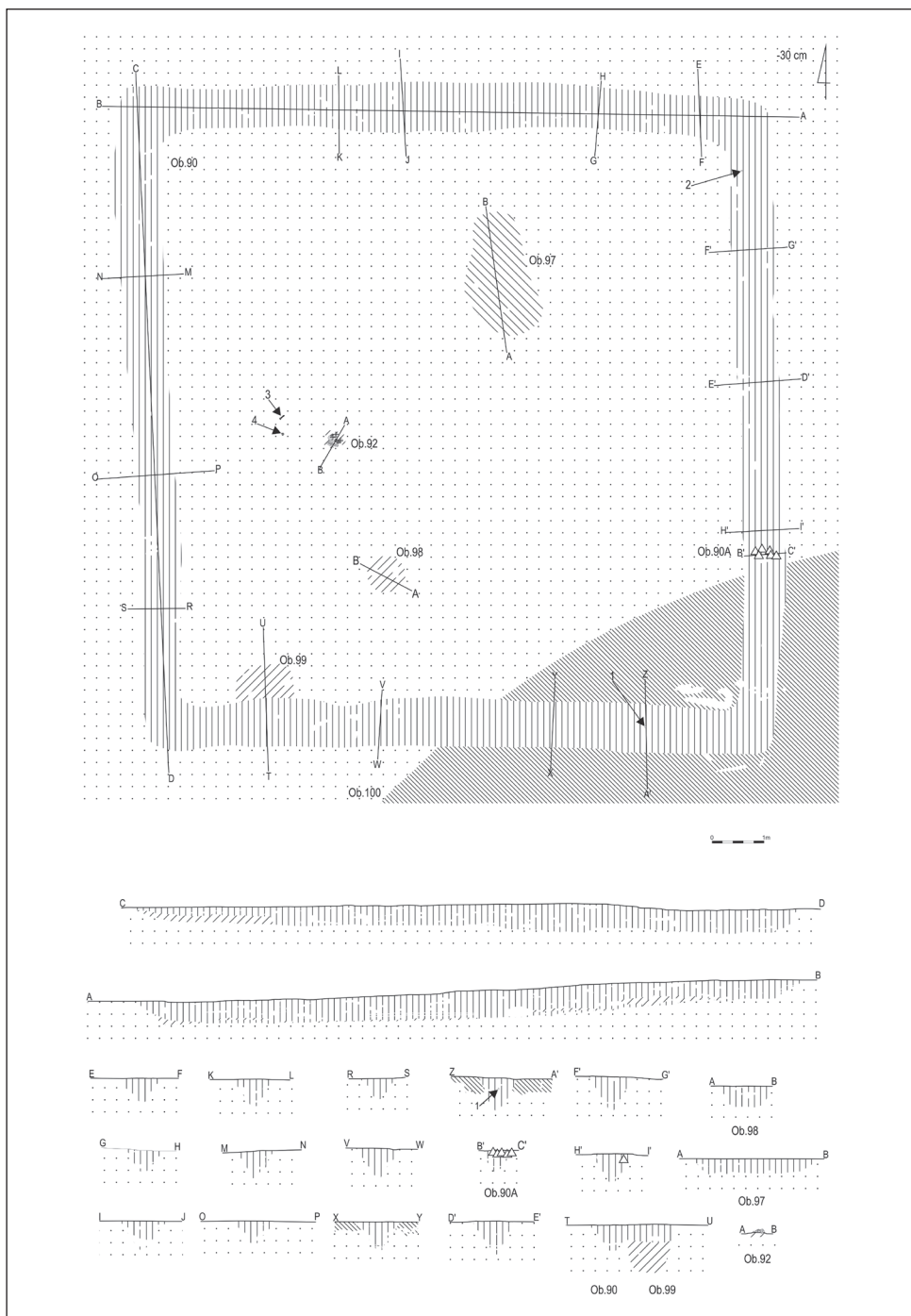
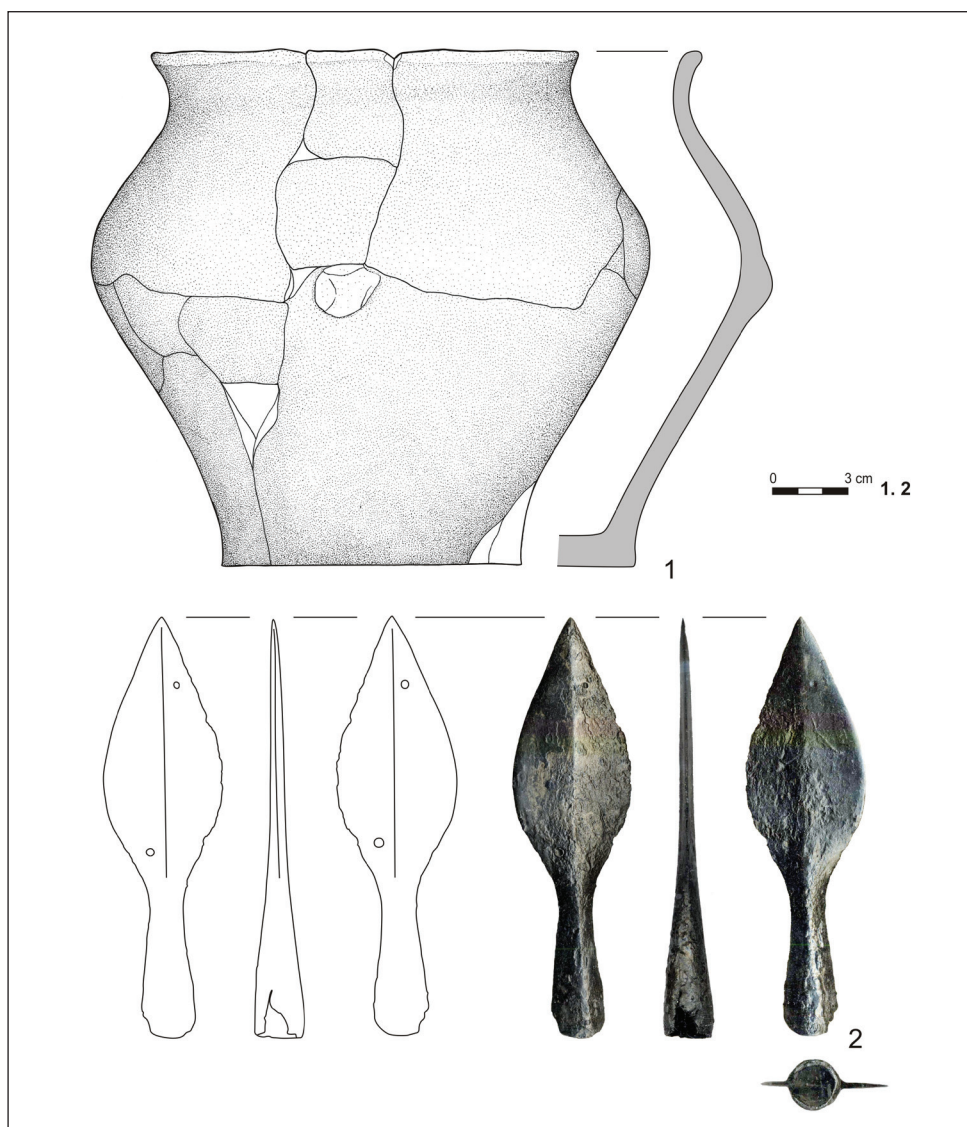


Fig. 10. Michałowice, Czarnocin commune, site 1. Feature 90 (drawn by J. Pikulski and J. Zagórska-Telega)

cemetery at Gościeradów. Its only preserved arm was 1200 cm long (Niewęglowski 1981, 85). The fill of feature 90 contained a small number of scattered bone and pottery fragments. Only in the eastern arm were fragments of a coarse vessel decorated in its widest part with three knobs with characteristic necks in the middle discovered (Fig. 11: 1). As in the case of the vessel from grave 80 discussed above, the vessel from grave 90 finds analogies in the Puvchov-Dacian milieu (Poleska, Toboła 1987; 1988, 114; Woźniak 1990, 56, 76; Madyda-Legutko 1996, 65; 2004, 83–84; Kaczanowski 1996, 124; Gedl 2004, 651–657). In the arms of the feature were also found fragments of tiny iron plates and fittings, which probably were originally parts of a sword scabbard. Moreover, from the southern arm of feature 90 comes a fragment of a well-preserved iron boss (Fig. 9: 5), resembling bosses of type 7b or 7a according to M. Jahn (1916). Bosses of these types date mainly to phase B2a (J7b) and the developed phase B2 (J7a) of the Early Roman Period (Godłowski 1992, 72). Perhaps the discussed fragment and the fragments discovered in grave 92 come from one and the same specimen.

An analogical situation, namely the localisation of a burial in the centre of a groove-type feature, applies perhaps also to groove-type feature 85 and grave 91 discovered within it (Fig. 12). Like all groove-type features discovered at Michałowice, feature 85 was oriented along cardinal directions. It was considerably smaller than feature 90 discussed above, its arm length being 570 cm (arm W), 550 cm (arm N), 530 cm (arm E), and 545 cm (arm S). The width of the arms at the level of the feature discovery amounted to 20–40 cm (arm W), 50–70 cm (arm N), 60–70 cm (arm E) and 70–80 cm (arm S). Feature 85 yielded a very modest inventory – in its fill were discovered only single charred human bones and pottery fragments. The cross-sections

showed that the fill was nearly homogenous, and the feature was hollow-shaped, almost triangular in profile, with the depth of individual arms ranging from 10 to 25 cm. During the exploration of the area enclosed by the arms of the groove, pottery shards and charred human bones were found in the humus layer. Beneath this layer no shards were discovered, nor were there any dark traces observed in the soil suggesting that the remains of a burial might have been situated in that place. However, an iron spearhead of type IX variant 1 in P. Kaczanowski's classification was discovered fixed vertically into the undisturbed soil (Fig. 11:2). In the Przeworsk culture, such spearheads are dated to phase B2a (Kaczanowski 1995, 20). It should be noted that such a position of the spearhead may suggest an apotropaic function, as a protection against the deceased. Sharp objects driven into the ground within a burial pit are quite common in Przeworsk culture cemeteries (Liana 1968, 381–382; Czarnecka 1990, 67–68). It was also proposed that such objects were discovered mostly in female burials (Kietlińska 1963, 32). It is worth noticing that both sides of the discussed spearhead bear the same inlaid decoration in the form of small circles – to the right of the rib in the upper part of the blade and to the left in its lower part. Decorating the blades of pole weapons with an inlay is recorded in the Przeworsk culture throughout the entire Roman Period. The closest analogy to the decoration of the Michałowice specimen is a spearhead found in grave 15a in the cemetery at Nowe Miasto, Mazowieckie province (Liana 1975, 384, Plate 7:1). It is dated to phase B1 of the Roman Period. The same chronology applies to artefacts decorated with single circles. Chronologically younger specimens are distinguished by more complex ornamentation and an increased number of decorative motifs (Kaczanowski 1988, 68).



**Fig. 11.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 90 (1) and 91 (2); (1) – clay; (2) – iron (drawn by P. Cyganiewicz and J. Zagórska-Telega)

In the area enclosed by the arms of groove-type feature no 27, two small pits (features 88 and 89) were discovered, too (Fig. 13). However, they were not graves and, although a few charred human bones were found in feature 88, they could have

got there accidentally. Both pits were of an irregular, oval shape, and their fills were not homogenous. Apart from the mentioned bones, the pits produced single uncharacteristic fragments of Roman Period pottery. The chronology and function of these pits

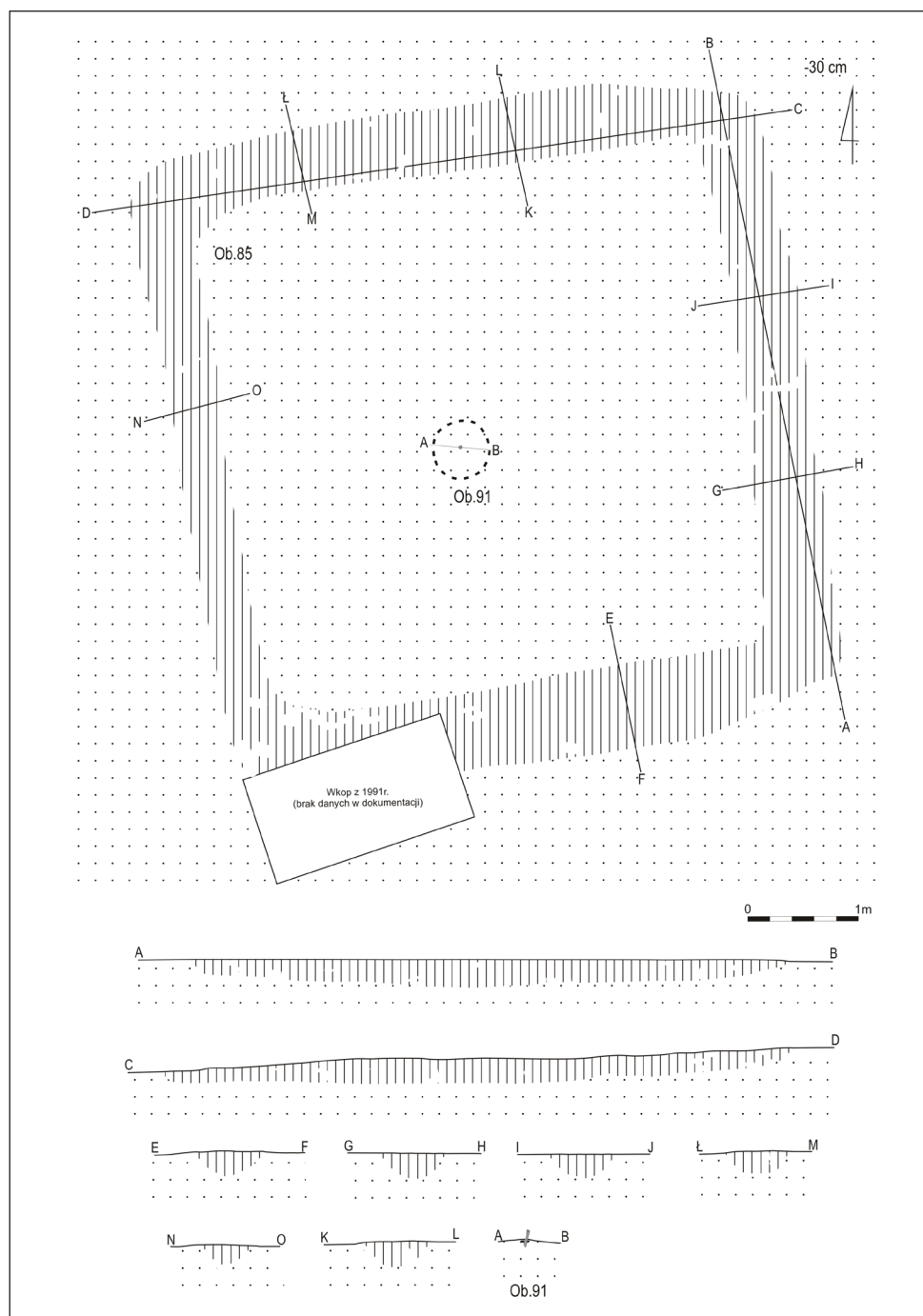


Fig. 12. Michałowice, Czarnocin commune, site 1. Feature 85 (drawn by J. Pikulski and J. Zagórska-Telega)

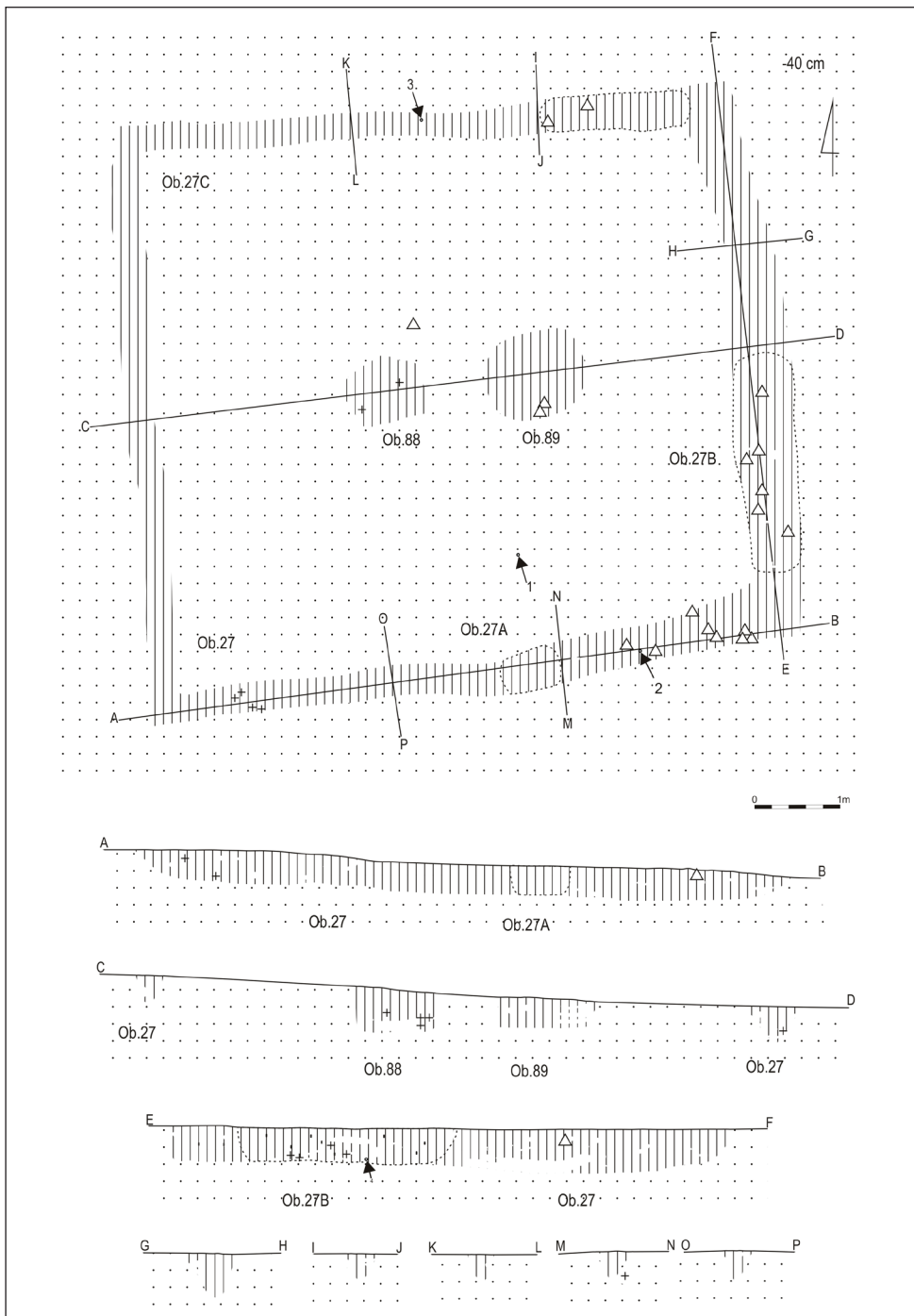


Fig. 13. Michałowice, Czarnocin commune, site 1. Feature 27 (drawn by J. Pikulski and J. Zagórska-Telega)



remains unclear. It can be only hypothetically guessed that they were connected with some closer unknown burial rites. It is worth recalling here that similar features were discovered within groove-type features in the cemetery at Kryspinów in Małopolska, where they were interpreted as ritual pits (Godłowski 1977; 1981). The groove-type feature 27 was oriented along cardinal directions, and the length of its arms was 700 cm (arm W), 725 cm (arm N), 605 cm (arm E) and 760 cm (arm S). The arm width varied from 30 to 70 cm. In the fill was found a small amount of charred human bone and a few pottery fragments. In three of the arms, bones were discovered in larger numbers and formed small clusters. In the case of the cluster designated as 27a, which was found in the southern arm, it can be assumed that the bones of an adult were deposited in a vessel made of organic material. It should be mentioned here that in season 2008, when the southern arm of feature 27 was uncovered for the first time, a well-preserved fibula of A.67 type was discovered in the ceiling part of the arm's fill (Pikulski, Zagórska-Telega 2011). Another cluster, designated as 27 b, was discovered in the eastern arm of the feature. Rather than forming a compact concentration, the bones were scattered over a larger area here. Within cluster 27b were also found single fragments of pottery and charcoal. In the eastern arm, close to its bottom, a single unburned femur bone of a horse was also discovered. The third cluster (27c) contained the bones, preserved in large fragments, of an individual of *adultus-maturus* age, of undetermined sex. With these bones should probably be linked a fragment of a spring and a small part of a bow of a bronze fibula similar to type A.67, which were discovered in the ceiling part of the arm's fill before cluster 27c was identified.

In season 2011, four other groove-type features were discovered (50, 79, 86, 95), and two of them (features 50 and 86) were fully explored (see the plan of the cemetery).

In the course of the excavations, close to the farm buildings, a small number of tiny limestone rocks were revealed within a large rectangular structure (310×130 cm) designated as feature 78 (Fig. 14). The feature was generally oriented along the cardinal directions, with a slight, several degree shift towards a NW-SE axis. Initially, the feature was identified as a modern era structure, reflecting temporary household activity in this part of the site. However, during the exploration of its fill prehistoric artefacts such as Przeworsk culture pottery, two bronze fibulae of A.68 type (Fig. 14:1,2), as well as human bones, including an unburned tooth and a cranial fragment, probably belonging to a woman of *maturus* age were discovered. Interestingly, the same feature yielded single pieces of charcoal and a few charred human bones belonging to another individual. In the upper layers of the fill were found a few tiny pottery shards, while large fragments of vessels were only recorded beneath the level of 60 cm. During the exploration, larger and larger blocks of limestone were discovered, either alone or in clusters. Large rocks were found in the deeper part of the fill, starting from the level of 50–60 cm down to the feature's bottom, where the largest blocks were revealed. Pottery fragments discovered in the fill probably come from two or three vessels of black colour. Their chronology agrees with that of the discovered A.68 fibulae, which are dated to phase B1b of the Early Roman Period.

The character and function of feature 78 remains open to interpretation. Perhaps it was a substitute or symbolic burial. It is worth referring in this context to a very interesting paper by R. Jamka, concerning the accidental discovery of a similar feature in the vicinity of Stradów in 1903. According



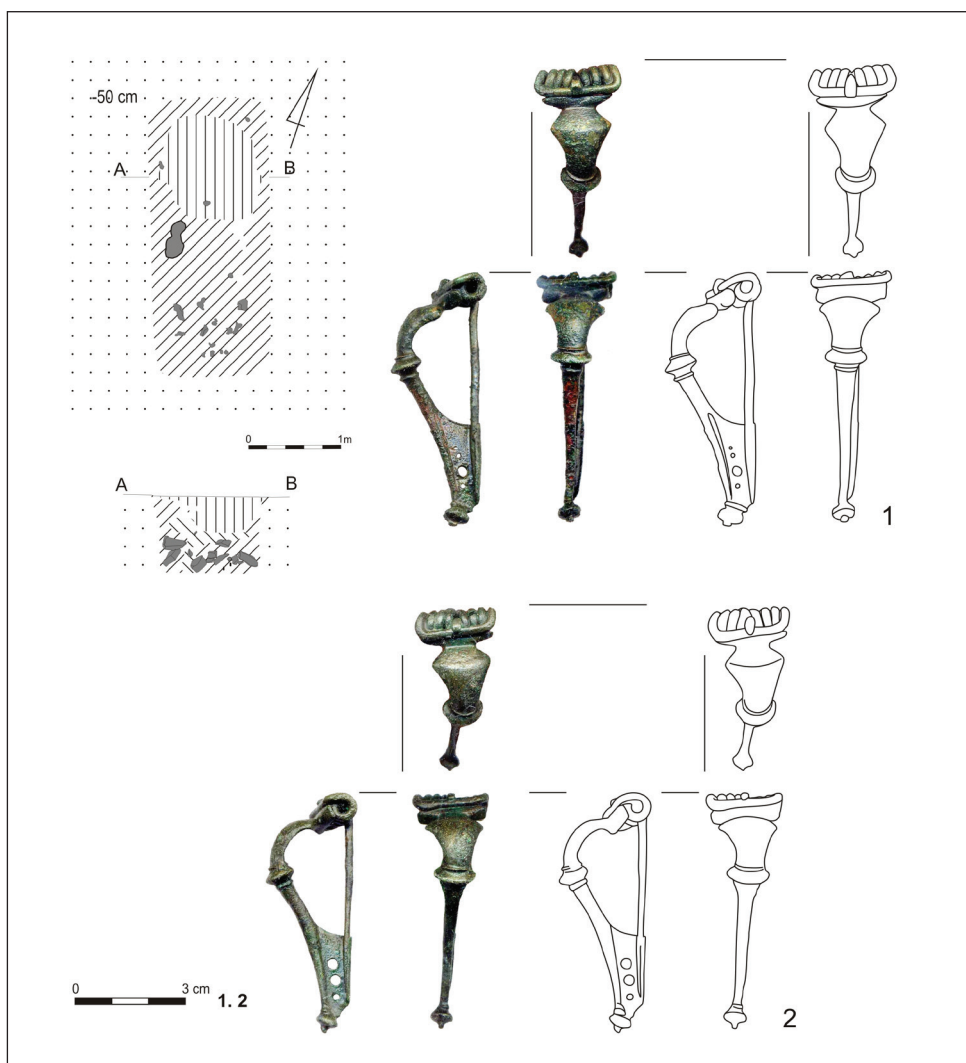


Fig. 14. Michałowice, Czarnocin commune, site 1. Grave goods from feature 78; (1–2) – bronze (drawn by P. Cyganiewicz and J. Zagórska-Telega)

to his account, ‘a grave set with stones, 2.0×0.80 m large’ was discovered there. The feature was to yield a bronze A.68 fibula and two vessels, including one vase of a black colour decorated around its upper part with a cordon (Jamka 1963). Based on the feature’s size, the author identified it as an inhumation burial, although the literature he referred to in his paper concerned

only cremation burials. However, it cannot be excluded that this lack of information about the skeleton resulted from the fact that unburned bones did not survive, were not found, or were found in a small number, as it was the case with feature 78 from Michałowice. The similarity between the inventories of the two features is striking, which entails a similar chronology. It

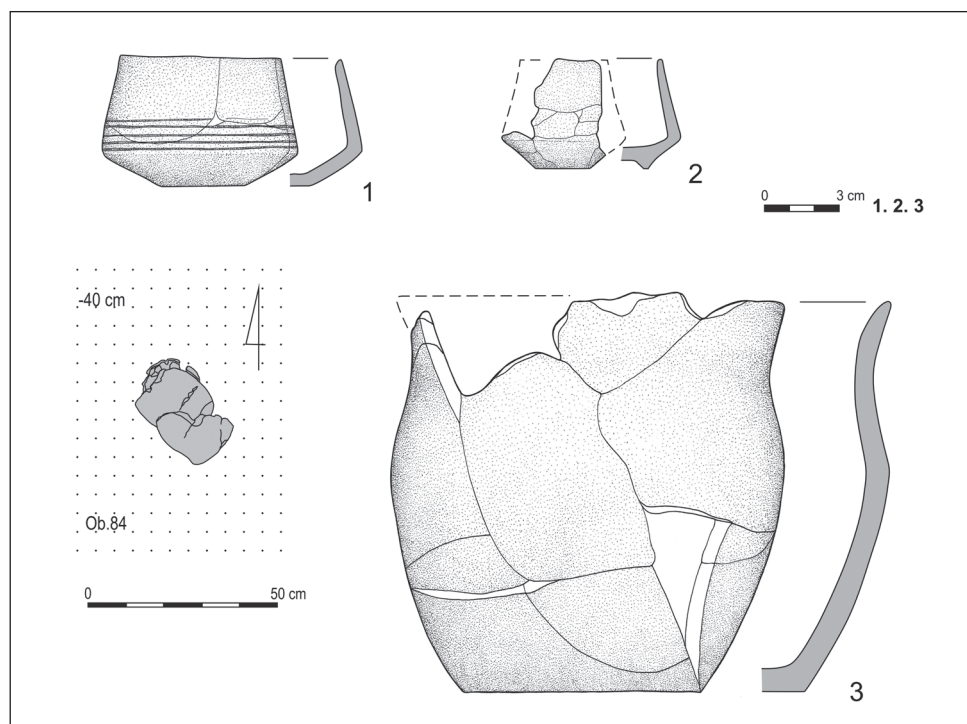
should be emphasised here that the distance between the cemetery at Michałowice and the modern Stradów village is no more than 2 km.

Among the features of an undetermined character one should also mention two structures unearthed within unit LXXIV/11 (features 93 and 94). At the level of their discovery, the features were more or less rectangular, and their size was 120×60 cm, 95 cm deep (feature 93) and 120×65 cm, 85 cm deep (feature 94). Their longer sides were oriented along a W-E axis, with a slight shift to the north. Both features were rectangular in profile, and their fills were clearly stratified. During the exploration only a few artefacts were discovered and then only in feature 93, which gives no basis for determining the chronology of the features. The only hint comes from

spatial analysis. Analogically to feature 78 described above, both features in question were found in the area where no groove-type features were discovered. Thus, it can be assumed that they are connected with some yet unknown zone of the site and with some undefined rituals in the cemetery.

In the 2011 season, a group of Lusatian culture burials was also found on site 1 at Michałowice, which included features 82, 84, 87, and 96.

In feature 82, two small, badly damaged clay vessels were discovered (Fig. 15:1,2), together with a small amount of charred human bones. Both vessels have biconical forms and are decorated with triangles and horizontal incised lines, ornamentation typical of the Lusatian culture assemblages from Bronze Age Period IV (Gedl 1985).



**Fig. 15.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 82 (1–2) and 84 (3); (1–3) – clay (drawn by P. Cyganiewicz and J. Zagórska-Telega)

The small size of the vessels might suggest that this was the grave of a child.

Feature 84 is one of the most puzzling structures discovered at Michałowice thus far. During the exploration of this part of the site, a damaged S-shaped pot with a coarse surface was discovered directly beneath the humus soil (Fig. 15: 3). A few tiny charred human bone fragments were found around the vessel, but were so badly preserved that not even a minimal sample could be taken. The cultural attribution of the vessel and its chronology is also uncertain. Perhaps it belongs to the transitional forms (Bronze Age Period III/IV) from the very beginnings of the formation of a specific unit known as Górnośląsko-Małopolska group of the Lusatian culture (Gedl 1985; Górski 2007).

Feature 96 is one of the better preserved features dated to the Bronze Age. Apart from the small fragments of pottery discovered in the upper layers, the feature produced the remains of three ceramic vessels. Two of them survived well enough to permit the reconstruction of their form. The first vessel was a carinated bowl (Fig. 16:1), while the second one was a small biconical vase/amphora decorated with triangles and horizontal incised lines, with a black outer surface bearing traces of polishing (Fig. 16:2). Apart from these two vessels, the feature also yielded fragments of a poorly preserved vessel of an orange colour, whose form could not be reconstructed. Analogically to feature 84 mentioned above, feature 96 should be dated to Bronze Age Period IV.

It seems that the Bronze Age features discovered at Michałowice represent one of the oldest traces of Lusatian culture in the Western Małopolska Loess Upland. It should be recalled that in Bronze Age Period IV, Lusatian culture occupation was concentrated mainly in the Vistula valley (Rydzewski 1986, 150–151). From that period,

only single traces of settlement are known to have been situated deeper into the loess upland. The only Lusatian culture cemetery dating back to Bronze Age Period IV is from the ‘Stradów-Michałowice’ microregion, in the village of Stradów (Rogozińska-Goszczyńska 1964, 84–88). Further excavations at Michałowice can contribute to our understanding of cultural transformations in the Western Małopolska Loess Upland, particularly in terms of shedding more light on the issues connected to the disappearance of the Trzciniec culture and the introduction of the Lusatian culture materials in this region.

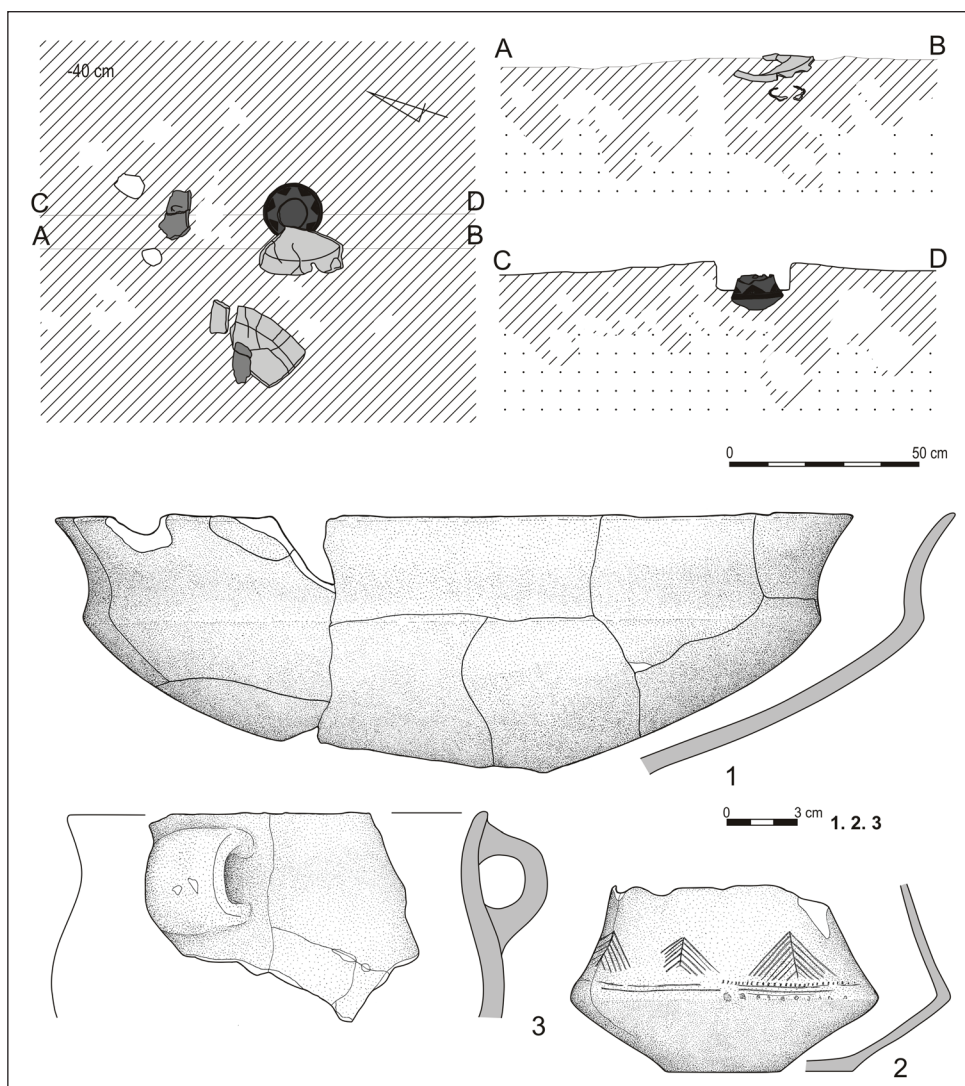
At present, the archaeological site at Michałowice ranks among the best investigated cemeteries in Western Małopolska. The discovery of an abundance of materials attributable to cultural units representing the Bronze and Iron Ages enriches our knowledge of these periods considerably. Of particular interest is the numerous occurrence of groove-type features (with the highest number of such structures discovered on a single Przeworsk culture site). It should also be mentioned that the geomagnetic survey has revealed that there are more such features on this site.

### Anthropological analysis

Human bones were discovered in 20 archaeological features of which 3 (No 82, 87 and 96) may presumably be related to the Lusatian culture; the remaining ones are the cremations of the Przeworsk culture.

The classical research method was applied in the anthropological analysis (Buikstra, Ubelaker 1994) with the inclusion of the recommendations concerning burned bones (Fairgrieve 2008). Table 1 contains a summary of the basic anthropological descriptions of the analysed material.

The analysed features, which are probably related to the Lusatian culture, were



**Fig. 16.** Michałowice, Czarnocin commune, site 1. Grave goods from feature 96; (1–3) – clay (drawn by P. Cyganiewicz and J. Zagórska-Telega)

to a large extent destroyed and contained a small amount (5–8.2 g) of small, burned fragments of mainly long bone shafts. The material was not of a diagnostic character and did not allow the age or sex of the buried to be determined.

The Przeworsk culture features were varied in terms of the way in which the remains

of the deceased had been deposited. Cinerary urn graves, urnless graves and groove-type burials were identified; burned bones were also found inside pits whose function was difficult to determine. The pits (no 88, 89, 93, 97 and 98) contained only a small amount (1–3 g) of burned bone, which may have found themselves in the fill by accident.

**Table 1.** Michałowice, age and sex of the individuals identified in the archaeological features

Feature no.	bone weight [g]	number of individuals	age	sex
<b>Lużyce culture features</b>				
82?	6	1	?	?
87	5	1	?	?
96	8.2	1	?	?
<b>groove-type features of the Przeworsk culture</b>				
27	488.1	1	<i>adultus-maturus</i>	?
50	13.9	1	adult	?
79	47	1	<i>maturus</i>	?
85	1	1	?	?
86	39.3	1	adult	?
90	8.6	1	adult	?
<b>Przeworsk culture features</b>				
78	unburned bones	1	adult	F??
80	540	1	<i>maturus</i>	F
81	101	1	<i>adultus</i>	?
83	606	1	<i>adultus-maturus</i>	F
88	3	1	?	?
89	1	1	?	?
91	6	1	?	?
92	21	1	adult	?
93	1	1	?	?
97	1	1	adult	?
98	2	1	?	?

Thus it seems that the funeral character of those features is dubious.

Feature 78, apart from a stone construction in the grave pit, is set apart by the presence of an unburned fragment of the left temporal bone with a delicate mastoid process and an unburned, severely worn permanent tooth – a left maxillary M1. The same feature contains small fragments of burned bones (0.2 g), which may have found themselves in the fill by accident.

The excavations in 2011 also revealed cinerary urn graves, of which two – no. 80 and 83 – contained a considerable number of bones, allowing the age and sex of

the buried to be established. Both cinerary urns contained female remains. Although the weight of the bones found in the urns is much less than the maximum burned bone weight assessed experimentally for single burials, which amounts to 1616 g (1227 g – 2216 g) for female burials (McKinley 1994), it approaches the weight of burned bones from female burials at the Przeworsk culture graveyard in Opatów. Inside the cinerary urn in grave 80, cranial bones prevailed in the upper part of the vessel.

The largest group of sepulchral features of the Przeworsk culture was composed of groove-type features. As in previous research seasons, they were considerably damaged and, except for feature 27, contained a small amount of burned bones. In feature 27, two larger bone clusters were isolated – 27A (79 g) and 27C (370 g); burned bones (39.1 g in total) were also present in the fill of the features without forming any clusters. Anthropological analysis led to the conclusion that the feature contained the remains of one *adultus-maturus* individual; at the same time it is the so-called minimum number of buried individuals. No diagnostic components were found in the extant bone material which would enable the isolation of remains belonging to more than one individual from the clusters.

The fact that the site was severely damaged had an impact on the condition of the bone material, and, consequently, on anthropological assessment. The insufficient number of individuals of precisely determined age and sex prevents any paleo-demographic analysis from being carried out.

**Badania wykopaliskowe na wielokulturowym stanowisku 1 w Michałowicach,  
gm. Czarnocin, woj. świętokrzyskie w sezonie 2011**

Prace wykopaliskowe przeprowadzone w roku 2011 były kontynuacją badań archeologicznych prowadzonych na stanowisku 1 w Michałowicach od 2008 roku (por. Pikulski, Zagórska-Telega 2011; Zagórska-Telega, Bulas, Pikulski, Szczepanek 2011). Tegoroczne badania koncentrowały się w północno-wschodniej części stanowiska i miały na celu potwierdzenie wyników badań geomagnetycznych przeprowadzonych w roku ubiegłym przez zespół mgr. P. Wronieckiego (por. P. Wroniecki w niniejszym tomie).

W sezonie 2011 przebadano powierzchnię 8 arów odkrywając 31 obiektów archeologicznych, przede wszystkim pochówków ciałopalnych oraz obiektów rowkowych kultury przeworskiej. Wśród nich na szczególną uwagę zasługują trzy stosunkowo dobrze zachowane groby popielnicowe (ob. 80, 83, 92), wyposażone w typowe dla tej jednostki kulturowej elementy, charakterystyczne dla pochówków kobiet (ob. 80 i 83, Ryc. 3–7) i mężczyzn (ob. 92, Ryc. 8–9). Odkryto także sześć obiektów rowkowych, z których największy (o długości ramienia przekraczającej 1200 cm), otaczał wspomniany grób 92. Zwraca również uwagę obiekt 78 wypełniony kamiennym gruzem, o wymiarach 310×130 cm, zawierający fragment nieprzeżalonej czaszki ludzkiej (Ryc. 14), o trudnej do ustalenia funkcji. Wszystkie wspomniane obiekty kultury przeworskiej datować należy na wczesny okres rzymski. Odkryto także kilka zniszczonych grobów kultury łużyckiej (82, 84, 87, 96, Ryc. 15–16) datowanych na IV okres epoki brązu.

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The text must be written in the Times New Roman font at a size of 12 pts with 1.5 line spacing. All margins should be set to 2.5 cm, and all pages should be numbered. It is highly recommended that the contributors avoid undue use of text formatting options, such as word dividing, bolded or underlined words, numbering or bullets, empty lines, different font types, etc. Using such options should be reduced to the necessary minimum.

Suggestions concerning distinguishing certain parts of the text should be given on the margins of the printed copy. It is important that footnotes contain only the necessary additional information. The authors are kindly asked not to automatically generate the footnotes using a text editor, but to attach them as normal text at the end of the paper, marking them in the text with consecutive numbers (introduced from the keyboard, in superscript).

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3. Abstract (up to 300 words, always in English).
4. Keywords (no more than 7).
5. Text (if the text is divided into chapters – which is recommended – their titles must be separated by an additional empty line below and above – the same applies to sub-chapters; chapters and sub-chapters should be given proper hierarchical numbering, introduced manually – please do not use an automatic numbering option in a text editor).
6. Footnotes.
7. Summary in Polish (up to 1200 words; in case of non-Polish author/s this summary will be generated by the Editor).
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9. Figures, and a complete list of figures with figure captions (in an electronic version, as a separate file).
10. Tables.

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- Papers or chapters in monographs, conference papers, series, etc.:

Kalicki T., Kozłowski J. K., Nowak M., Vizdal M., 2005 *A settlement of the Early Eastern Linear Pottery Culture at Moravany (Eastern Slovakia): palaeogeographical and archaeological perspective*, (in:) E. Gál, I. Juhász, P. Sümegei (eds.), Environmental Archaeology in North-Eastern Hungary, Varia Archaeologica Hungarica, 19, Budapest: Archaeological Institute of the Hungarian Academy of Sciences, pp. 179–198.

- Monographs:

Lityńska-Zajac M., Wasylkowa K., 2005 *Przewodnik do badań archeobotanicznych*, Vademecum Geobotanicum, Poznań: Sorus.

- Typescripts:

Goslar T., 2005 *Raport z wykonania datowań 14C w Poznańskim Laboratorium Radiowęglowym*, Archive of the Institute of Archaeology, Wrocław University (typescript).

- Web sites:

Furholt M., 2003 *Absolutchronologie und die Entstehung der Schnurkeramik*, [http://www.jungsteinsite.uni-kiel.de/pdf/2003\\_furholt.pdf](http://www.jungsteinsite.uni-kiel.de/pdf/2003_furholt.pdf), 20.01.2011. [Access date]

**The contributions should be addressed to:**

Dr hab. Marek Nowak, Institute of Archaeology, Jagiellonian University, Gołębia Street 11, 31-007 Kraków, Poland; e-mail: [mniauj@interia.pl](mailto:mniauj@interia.pl)

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