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## THE ZŁOTA CULTURE GRAVE FROM ŚWIĘCICA, SITE 30, SANDOMIERZ DISTRICT

### ABSTRACT

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The paper presents the results of research on a unique Złota culture niche grave discovered at site 30 in Święcica, Sandomierz district. The construction of the grave, as well as its inventory, bears multiple traces that could be linked to the tradition of the Globular Amphora culture. The structure, dated to the 1<sup>st</sup> half of the 3<sup>rd</sup> millennium BC, presents a rare example of funerary rituals using animal remains in the Złota culture, and sheds new light on the processes of origin of this community.

Keywords: Złota culture, Globular Amphora culture, niche grave, Late Neolithic, Lesser Poland  
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## 1. INTRODUCTION

In April 2012, the Archaeology Department of the District Museum in Sandomierz received an anonymous note, informing of a recent discovery of human bones. The alleged incident took place during construction works in the village of Święcica, Obrazów commune, in the Sandomierz district. A few days later, having notified the Provincial Office of Monument Preservation in Kielce, Sandomierz Delegation, scholars conducted a field inspection. While on the site, researchers identified, and, subsequently, secured a damaged

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archaeological feature. Rescue excavations of the discovery were carried out in July 2012. The team, led by Monika Bajka, MA, from the District Museum in Sandomierz, consisted of three members: Emilia Andrzejczuk and Agnieszka Grzywacz, students from the Institute of Archaeology, Maria Curie-Skłodowska University in Lublin, and Mr. Jakub Sęczyk from Biała Podlaska (Bajka 2012).

The newly identified site no. 30 in Świącica (AZP 273/89-72) is located on the western outskirts of the village, in a locality called "Parcele" (Fig. 1). It occupies a slope of a loess-covered hill, gently slanting down towards the valley of the Dębianka stream, tributary of the Gorzyczanka River (Fig. 1). The altitude of the site measures about 225 m above sea level.

## 2. ARCHAEOLOGICAL FEATURES

In the course of the archaeological works in Świącica, site 30, two connected archaeological features – 1 and 1a – were unearthed (see below). Prior to the rescue excavations, they had been damaged during house construction on the parcel (Fig. 2). The southern edge of both of the archaeological features was destroyed during the construction of a block wall (Fig. 2). In addition, the southern part of the top of pit no. 1 was ruined, and its eastern margin was cut to a depth of 70-80 cm (Fig. 2). As a result of the surface levelling of the site, the remaining humus layer was only 10-15 cm thick (Fig. 2; see also Fig. 3, 4: a). Since the area available for archaeological excavation was quite limited, the dig was conducted in the easily accessible eastern part of feature 1 (Fig. 2). Near the outline of the destroyed edge of this feature, an unexcavated baulk was left, as requested by the owner of the parcel (Fig. 3, 5-7). With the works moving forward, the trench was subsequently expanded westward, to cover the full range of feature 1a (Fig. 2).

### Feature 1

The ceiling of feature 1 was spotted directly below the humus layer (Fig. 4: a). Because of the fact that its upper part was significantly damaged (*see above*), only a rough outline of the top of the feature could be identified. The shape of the pit was probably close to oval or rectangular with rounded edges (Fig. 2). The dimensions of the preserved part are 245 cm (along the N-S axis) and 210 cm (W-E) (Fig. 2; see also Fig. 4: a). The infill of the pit was 68 cm deep, indicating that the floor must have laid about 100 cm below the approximate natural ground level (Fig. 4: a).

The profile of feature 1 was close to bowl-shaped, with an almost vertical northern wall and a flat bottom (Fig. 4: a). Its southern part was visibly more shallow than the northern one (Fig. 4: a). The infill of feature 1 was dark-brown with occasional lighter patches (Fig. 4: a; see also Fig. 5). Within the upper part of the pit, several small stones were uncovered.

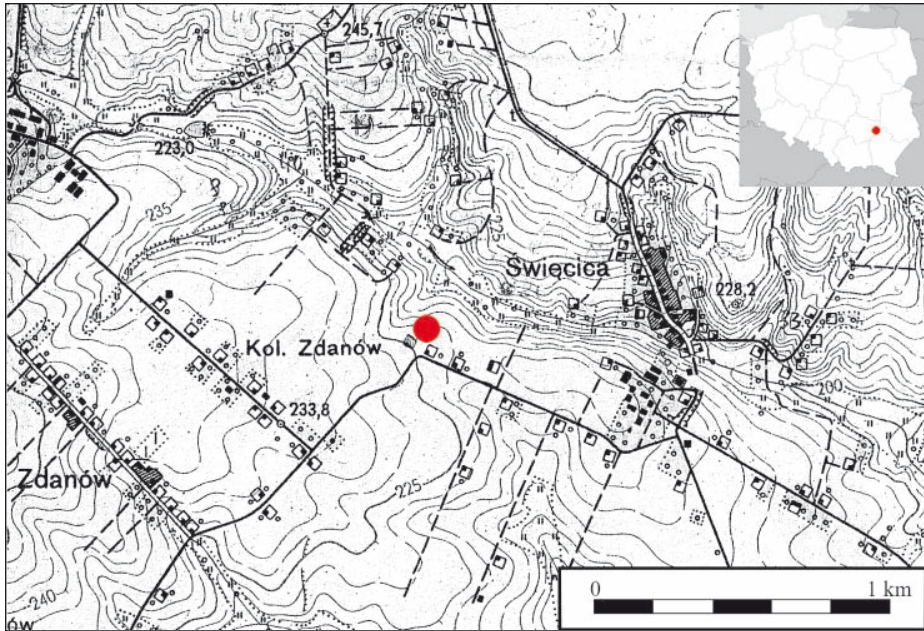


Fig. 1. Święcica, site 30, Sandomierz district. Location of the site. Modified by M. Bajka



Fig. 2. Święcica, site 30, Sandomierz district. Archaeological features on the excavation level of -20 (depth about 50 cm). Photo by M. Bajka

**Table 1.** Świącica, site 30, Sandomierz district. Specification of the animal remains from the features 1 and 1a (prepared by Daniel Makowiecki and Mirosława Zabilska-Kunek)

Feature	Excavation level/depth	Species	Elements	Number	Description
1	-50/80 cm	Cattle ( <i>Bos taurus</i> )	Tarsus bone	1	Left from the same individual, <i>Adultus/Maturus</i>
		Brown bear ( <i>Ursus arctos</i> )	Metatarsal bones I-V	5	
			Tarsus bones	3	
1a	-70/100 cm	Pig ( <i>Sus scrofa</i> )	Mandible	1	Right, preserved nearly complete plus few bone fragments, a male aged 17-18 months (molar tooth M2 erupted, molar tooth M3 in maturation stage)
			Mandible	1	Left, preserved nearly complete, a male aged 17-18 months (molar tooth M2 erupted, molar tooth M3 in maturation stage); traces of strong surface weathering on the buccal side
			Lower canine	1	A male, tooth most likely from one of the mandibles
			Lower teeth	2	Permanent teeth: lower incisor tooth I <sub>1</sub> erupted; lower incisor tooth I <sub>2</sub> during an eruption; tooth from one of the mandibles
			Pelvic bone	1	Left, a bump non-connate

**Table 2.** Świącica, site 30, Sandomierz district. Measures of the metatarsus bones (*ossa metatarsalia*) of a brown bear (*Ursus arctos*) (prepared by Daniel D. Makowiecki)

Measure	Bone				
	I	II	III	IV	V
Greatest length (GL)	69,8	81,6	88,0	94,3	96,1
Breadth of proximal end (Bp)	23,0	16,2	18,7	17,1	25,3
Smallest breadth in medial part of diaphysis (SD)	10,5	12,4	12,4	14,2	12,9
Breadth of distal end (Bd)	19,4	21,0	20,8	21,2	22,8

The floor of the feature was covered by an orange layer of burnt loess soil, 2-3 cm thick (Fig. 8).

In horizontal projection on excavation level -50 (at a depth of about 80 cm, estimated from the approximate natural ground level), feature 1 was oval in shape, with axes measuring about 178 cm (N-S) and 166 cm (W-E) (Fig. 5). Near the northern edge of the pit, a few bigger stones were found deposited closely together (Fig. 5, 9). In the western part of the

**Table 3.** Święcica, site 30, Sandomierz district. Distribution of finds of shells a snail *Cepaea vindobonensis* in the infills of the features 1 and 1a (prepared by Zdzisław Bogucki)

Feature	Excavation level/depth	Number
1	30-68/60-100 cm	18
1a	60-80/90-110 cm	50
	80-115/110-145 cm	120

**Table 4.** Święcica, site 30, Sandomierz district. Radiocarbon dates of the feature 1a

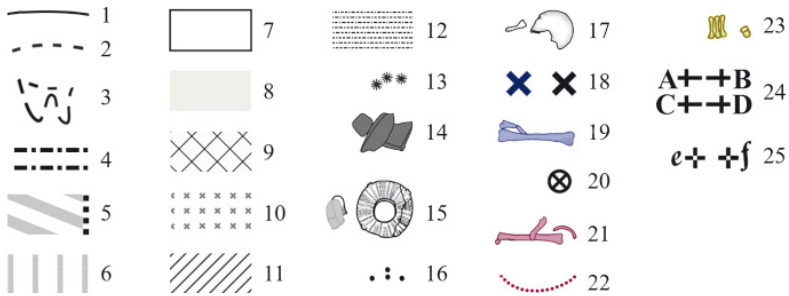
No.	Sample	Measurement	Date	Probability 68.2%	Probability 95.4%	Notes
1	Left talus bone, individual no. 1	Poz-101614	4160±35 BP	2872 BC - 2848 BC (10.6%) 2813 BC - 2679 BC (57.6%)	2880 BC - 2829 BC (19.4%) 2823 BC - 2628 BC (76.0%)	2.4% N, 10.2% C, 6% coll
2	Right pig mandible	Poz-101615	4120±35	2858 BC - 2810 BC (20.9%) 2751 BC - 2722 BC (11.8%) 2700 BC - 2620 BC (35.6%)	2871 BC - 2801 BC (25.3%) 2780 BC - 2577 BC (70.1%)	1.6% N, 7.7% C, 1.5% coll

feature there was black-brown sediment with charcoal. Within this layer, bones of the left rear foot of a brown bear (*Ursus arctos*) were discovered, lying clearly in anatomical order (Fig. 9; see Tables 1, 2). On the same excavation level, a single fragment of a bovine (*Bos taurus*) tarsus bone was unearthed (Table 1).

The infill of feature 1 yielded no artefacts. In the lower part of the pit, starting from level -30 and beneath (at a depth of 60-100 cm from the approximate natural ground level), about 18 complete, but fragmented, snail shells (*Cepaea vindobonensis*) were discovered (Table 3).

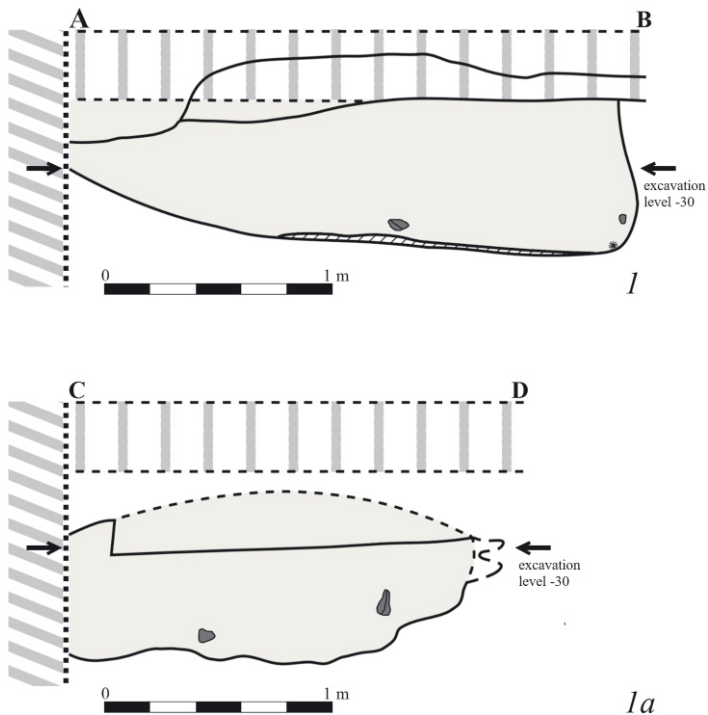
### Feature 1a

The uppermost part of feature 1a was initially visible as somewhat discoloured sediment on the western extension of feature 1 (see Fig. 2). The full range of the pit was only unearthed on excavation level -30 (Fig. 4: b). The profile of feature 1a was oval, with a clearly visible bow-shaped outline of the top (Fig. 4: b). The pit was dug into a natural loess layer (Fig. 4: b). The infill of the feature was up to 70-72 cm deep, meaning that its bottom lay probably about 110-115 cm from the natural ground level. The feature was filled with a quite homogeneous dark-brown layer (Fig. 4: b). In its upper part, however, there was some mixed, yellow-brown sediment, which could be interpreted as the remains of an ani-



**Fig. 3.** Świącica, site 30, Sandomierz district. Key to figures 4-7: 1 – registered outlines of layers and features; 2 – hypothetical outlines of layers and features; 3 – bioturbation; 4 – outlines of the baulk; 5 – destroyed area; 6 – humus; 7 – yellow layer (loess); 8 – dark-brown layer; 9 – patchy brown-yellow layer; 10 – black-brown layer with charcoals; 11 – orange layer (charred loess); 12 – whitish layer (calcareous deposit); 13 – charcoals; 14 – stones; 15 – ceramic vessels; 16 – amber beads; 17 – bones; 18 – reconstructed original location of the skull of individual no. 1; 19 – bones of individual no. 1; 20 – location of the sacrum of individual no. 1 (under the stones); 21 – bones of individual no. 2; 22 – concentration of the bones of individual no. 2 (under the stones); 23 – animal bones; 24 – location of the western profiles of features 1 (A-B) and 1a (C-D); 25 – location of the reconstructed transversal profiles of features 1 and 1a (e-f).

Drawn by M. Bajka, E. Sieradzka



**Fig. 4.** Świącica, site 30, Sandomierz district. Eastern profiles of features 1 (a) and 1a (b).

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mal burrow (Fig. 5). Near the eastern edge of the pit, in the area adjacent to feature 1, several pebbles were found (Fig. 5).

Features 1 and 1a only divided into two separate pits at level -50 (Fig. 5). At this depth, feature 1a was nearly oval in shape, with the longer (W-E) axis measuring 230 cm, and the preserved part of the N-S axis measuring 180 cm (Fig. 5).

At the centre of the bottom of the feature, at level -70 (a depth of about 100 cm from the approximate natural ground level), there lay over a dozen stones of various sizes (Fig. 6; 10). In the western and central part of the pit, human bones were uncovered, belonging to two individuals: one of the age of *Maturus* (45-50 years), most likely a male; the other,

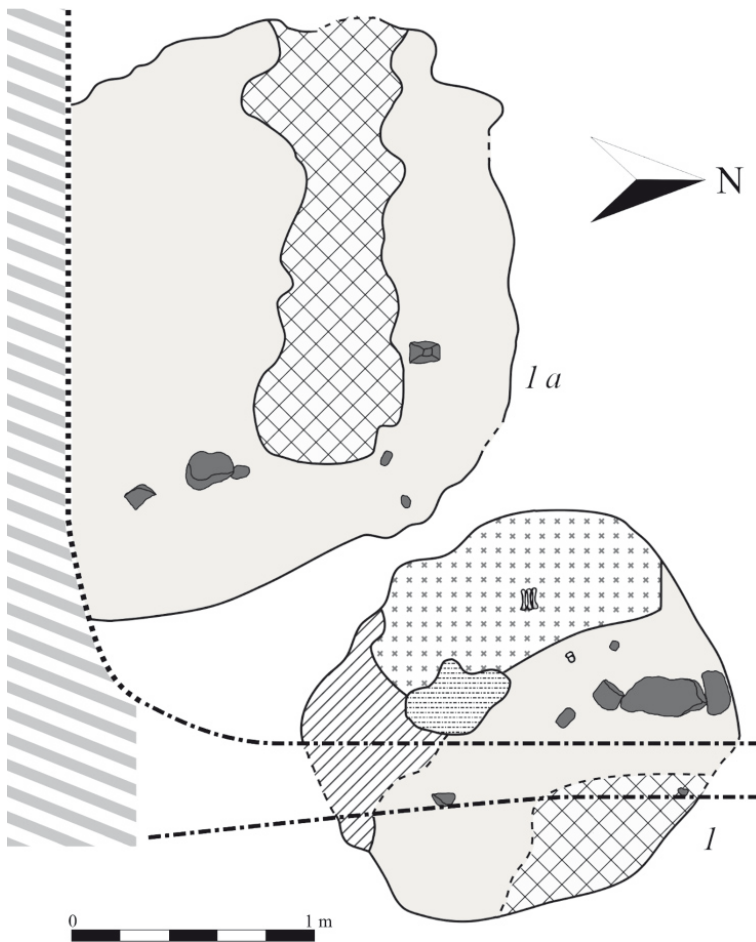


Fig. 5. Święcica, site 30, Sandomierz district. Horizontal plane of the features on the excavation level of -50 (depth about 80 cm). Drawn by M. Bajka, E. Sieradzka

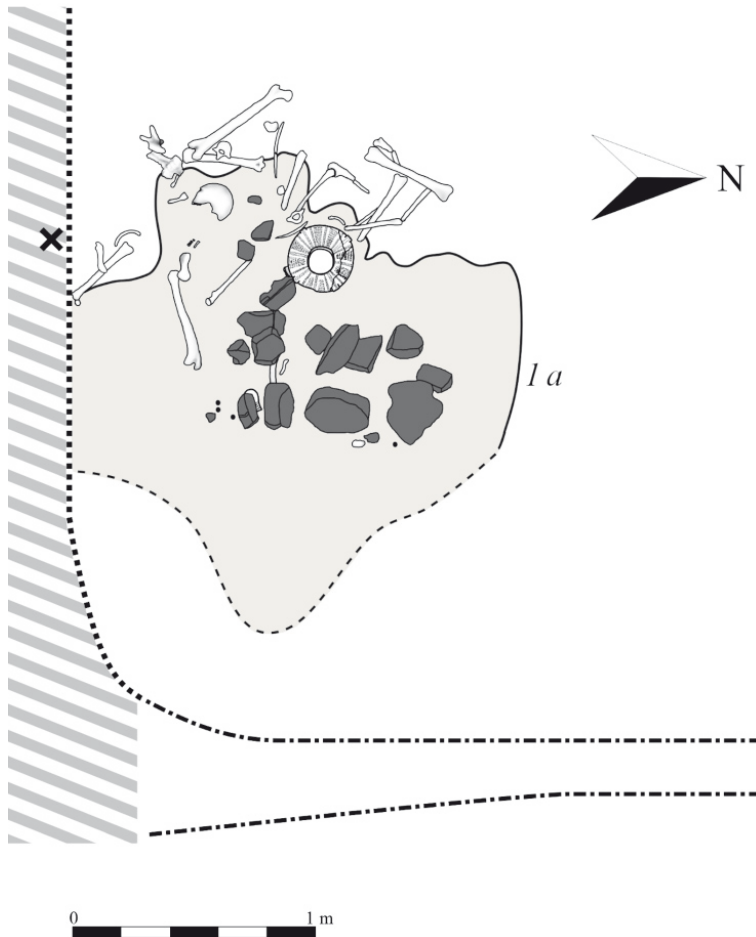
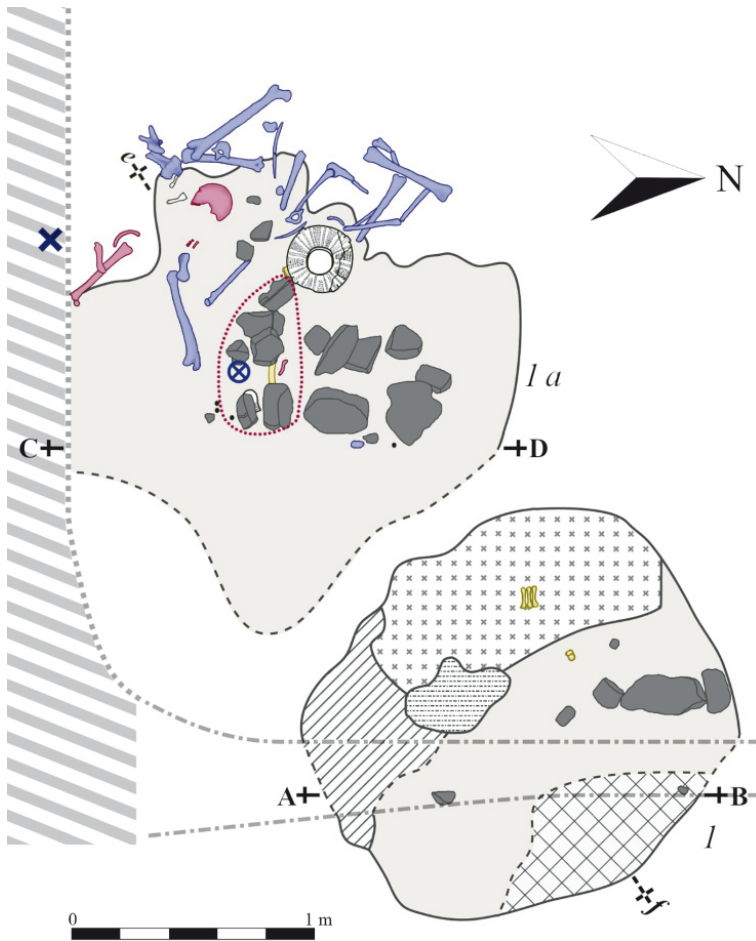


Fig. 6. Świącica, site 30, Sandomierz district. Horizontal plane of feature 1a on the excavation level of -70 (depth about 100 cm).  
 Drawn by M. Bajka, E. Sieradzka

a child of the age of *Infans I* (4-6 years) (Kozak-Zychman and Trzaska 2012). The human remains lay in a quite chaotic manner, not maintaining correct anatomical order (Fig. 6). Nearly all of the postcranial bones of the adult individual were distributed along the western edge of the feature (Fig. 7). His skull, located originally in the southern corner of the pit, had been removed by construction workers before the excavation (Fig. 7). The sacrum of the male was found in the middle of the grave, under one of the stones. In the western part of the feature, between the rubble and the bones of this individual, a large amphora was placed (1).





**Fig. 7.** Świącica, site 30, Sandomierz district. Location of the profiles and distribution of human and animal bones within the features (please note: feature 1 is shown on level -50, while feature 1a is on level -70).  
 Drawn by M. Bajka, E. Sieradzka

The skull, mandible, and a few long bones of the child were uncovered in the southwestern corner of feature 1a, next to the remains of the adult individual (Fig. 7). The majority of the bones of the child were, however, located in the central part of the grave, gathered closely together, under the stones (Fig. 7). Near the remains of this individual, a petite beaker was found (2), accompanied by 3 amber beads. Another amber adornment was unearthed next to the stone concentration, about 60 cm to the north of the previous ones (Fig. 7) (3-6). Additionally, the mandible and a left pelvic bone of a pig (*Sus scrofa*) were discovered beneath the rubble (Table 1). Additional fragments of



Fig. 8. Świącica, site 30, Sandomierz district. Orange layer of charred loess soil on the bottom of feature 1a.  
Photo by M. Bajka



Fig. 9. Świącica, site 30, Sandomierz district. Archaeological features on the excavation level of -50 (depth about 80 cm). Photo by M. Bajka

porcine mandible, most likely belonging to the same individual, were lying close to the amphora (Fig. 7).

Similarly to pit no. 1, a large amount of snail shells (*Cepaea vindobonensis*) were identified in the lower parts of the infill of feature 1a (Table 3). Excavation levels 60-80 yielded about 50 such specimens, while within the sediment from levels 80-115, more than 120 shells were found (Table 3).

### Grave inventory

1. A four-handled amphora, with a rounded belly and a short, cylindrical neck, slightly narrowing towards the rim (Fig. 11: 6; 12). The maximum diameter of the belly is located midway up the vessel. The edge of the rim is slightly rounded. The handles are flat, about 3,0 cm in width, distributed almost symmetrically in the upper part of the belly. The base is nearly round, only slightly flattened. On the neck there are 3 bands of very fine cord impressions, and another 3 rows of large, arch-shape stamps, arranged such that their convex parts are directed upwards. The same pattern is placed at the base of the neck. The upper part of the belly is covered by a stamp ornament, consisting of vertical bands of rows of various imprints. The main band is composed of a total of 8 rows of rectangular stamps, whilst under every 4 rows there are 2 lines of small arches, with their convex parts directed upwards. Between every main band, 2 vertical lines of small arches are placed, analogous to those described above. A very similar pattern is recorded on the handles of the vessel, the only difference being a slightly greater distance between the rows.

In the ceramic paste of the vessel, an admixture of medium-sized, coarse-ground white and red stone was identified. The surfaces of the amphora are grey-brown, even, and smooth. The outer surface is slightly chipped. The vessel is almost completely preserved, lacking only a few pieces of the rim and the belly. Dimensions: height 21,4 cm, including the height of the neck (3,0 cm); maximum diameter 27,2 cm; rim diameter 12,4 cm; base diameter about 10,0 cm; mean wall thickness 0,6 cm.

2. Petite beaker, only partly preserved, with an oval belly and a short neck, broadening towards the rim, and slightly curved inwards (Fig. 11: 5; 13). The edge of the rim and the base of the vessel are slightly rounded. On the neck of the vessel there are 8 parallel cord impressions. On the base of the neck, a horizontal line of oval stamp impressions is located. The upper part of the belly is covered by a pattern consisting of vertical bands of rows of oval imprints, with 3 in each band. Between the bands there are unornamented spaces.

A very small amount of the admixture of medium-sized stone was identified in the ceramic paste of the vessel. The surfaces of the beaker are grey-brown and even. The vessel lacks a significant part of the base, belly, and neck area. Dimensions: height 8,3 cm, including the height of the neck (2,7 cm); maximum diameter 6,5 cm; rim diameter 5,7 cm; base diameter about 2,0 cm; mean wall thickness 0,6 cm.



Fig. 10. Świącica, site 30, Sandomierz district. Feature 1a on the excavation level of -70 (depth about 100 cm).  
Photo by M. Bajka

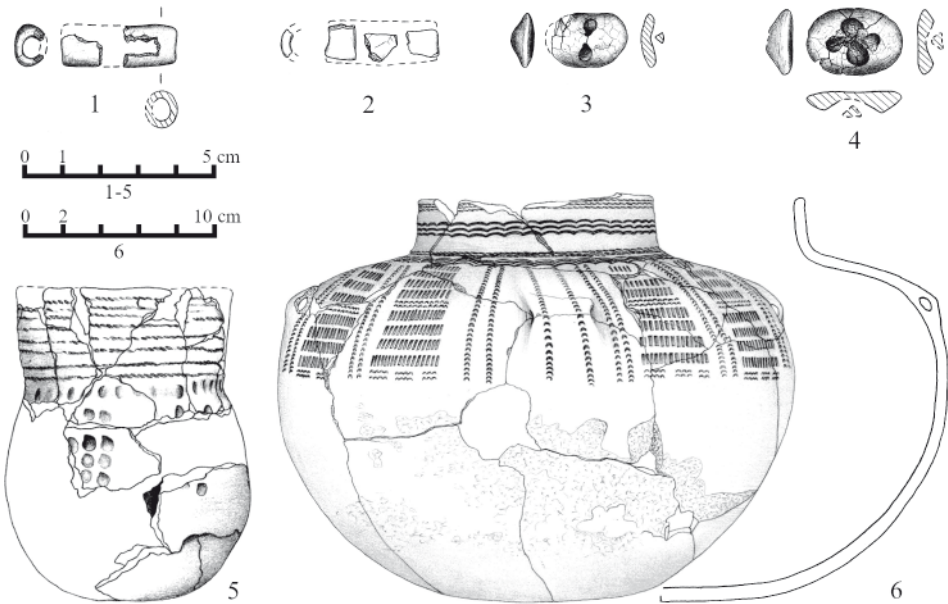


Fig. 11. Świącica, site 30, Sandomierz district. Grave inventory (1-4 – amber; 5, 6 – pottery).  
Drawn by M. Bajka





Fig. 12. Świącica, site 30, Sandomierz district. Amphora from the ZC grave. Photo by M. Bajka



Fig. 13. Świącica, site 30, Sandomierz district. Beaker from the ZC grave.  
Photo by M. Bajka

3, 4. Two significantly damaged tubular amber beads, with cylindrical transverse cross sections and round vertical cross sections (Fig. 11: 1, 2). The adornments belong to type 1 AIa, according to the classification of such artefacts by Ryszard F. Mazurowski (1983, 23). Dimensions: maximum diameter 1,0-1,2 cm; diameter of the perforation 0,6 cm; reconstructed length about 3,0 cm.

5. A button-shaped amber bead with V-shaped perforation, preserved almost intact, with a slightly chipped edge (Fig. 11: 3). The specimen is oval in the horizontal plane and lenticular in profile, with its upper part slightly more convex (type 1 BIIa after Mazurowski 1983, 23). Dimensions: 2,2 x 1,5 cm; thickness 0,6 cm; diameter of the perforation 0,3-0,4 cm.

6. A button-shaped amber bead with two crossed, V-shaped perforations, preserved almost intact, with a slightly chipped area near the holes (Fig. 11: 4). The specimen is oval in the horizontal plane and convex in profile. The bead is an adapted type 1 BIIb after Mazurowski (1983, 23). Dimensions: 2,5 x 1,8 cm; thickness 0,7 cm; diameter of the perforation 0.4-0.5 cm.

### 3. ANALYSIS AND INTERPRETATION

#### Grave construction

The structure uncovered in Świącica consisted of two pits – the grave itself (feature 1a), and the adjoined feature no. 1. Sadly, during the excavation of the structure, it was not possible to take a transverse cross section of both features (see above), making a description of the exact relations between both parts of the grave rather problematic. Researchers managed, however, to document vertical profiles (N-S) of both pits (Fig. 4). Most importantly, while unearthing the maximum range of feature 1a, the distance between its top and several fixed points on excavation level -30 was being recorded. Consequently, by superimposing horizontal planes of the features, drawn every 10 or 20 cm, and supplementing them with the remaining documentation, we managed to reconstruct an approximate transverse profile (e-f) of the grave (Fig. 14: a; Fig. 5-7).

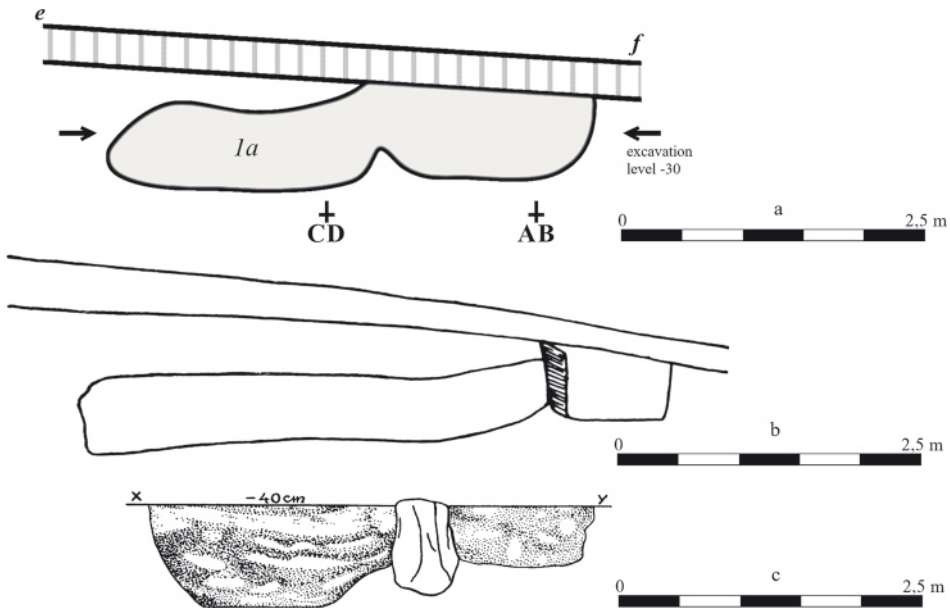
In the drawing (Fig. 14: a), the niche form of the analyzed grave is clearly visible. This type of grave construction was apparent even in the field, when archaeologists observed that there was a natural loess stratum between the humus layer and the top of feature 1a (Fig 4: b). The oval vertical profile of this pit matches grave niches (Fig 4: b). Meanwhile, as previously mentioned, feature 1 was identified directly below the humus (Fig 4: a). The latter pit could therefore be interpreted as an entrance to the niche (Fig. 14: a).

Moreover, a careful analysis of the documentation of the structures shows that the location where the grave was dug was most likely slanting (see Fig. 2). Measuring from the middle part of the western profile of feature 1, excavation level -30 was located 30 cm beneath the bottom of the humus layer, and about 40-55 cm from the preserved ground



level (fig 4: a, see also Fig. 14: a). Meanwhile, on the same excavation level, the north-western corner of feature 1a lay at a depth of 70 cm, 55 cm below the humus. Hence, we could suspect that originally the area above the grave was ascending in the direction from feature 1 to 1a. If we assume that the sloping was gradual, the angle of inclination of the hill must have measured about 9 degrees (Fig. 14: a).

The orientation of the grave structure from Świącica along the NE-SW axis corresponds to the direction of slanting of the area where the features were dug (Fig. 1, 5-7). Both pits were situated almost horizontally to each other (Fig. 14: a). However, because of the ascending of the slope, feature 1a was situated somewhat deeper than feature 1, located a little down the hill (Fig. 14: a). Such a manner of adopting a slope when building a niche grave has an excellent analogy in the form of grave 75 from the Złota culture (ZC) cemetery at the site Złota-“Nad Wawrem” (Fig. 14: b) (Krzak 1970, 89, fig. 73). In addition, graves no. 243 and 254 from the same site were dug in a slanting area (Krzak 1970, 138, fig. 123: a; 145, fig. 142). Sadly, due to the significant lack of documentation, we are not able to reconstruct their exact type of construction. However, it has been suggested that grave 254 could also have been a niche (Krzak 1976, 163).



**Fig. 14.** Reconstructed transverse profile of the ZC grave from Świącica (a), compared to cross sections of selected niche graves of the ZC (b) and the CWC (c). Key: b – grave no. 75 from Złota-“Nad Wawrem”; after Krzak 1970, 89, fig. 73; c – grave no. 23 from Samborzec; after Kamińska and Kulczycka-Leciejewiczowa 1970, 236, fig. 9. Drawn by M. Bajka, E. Sieradzka

Compared to other Late Neolithic graves from the Sandomierz Upland, the orientation of the structure from Świącica seems quite atypical. It has been observed that ZC graves were most often built along a NW-SE axis, with entrances situated to the south or south-east (Krzak 1976, 161-164; Witkowska 2013, 92). The same rules were recorded with regard to Corded Ware culture (CWC) niche graves from Lesser Poland (Włodarczak 2006, 57). On the other hand, Globular Amphora culture (GAC) graves were usually oriented along a W-E or NW-SE axis (see, e. g. Krzak 1972; 1977; Ścibior and Ścibior 1990; Pasterkiewicz 2017).

The sole ZC grave for which the orientation and location of an entrance is identical to that in Świącica is grave no. 1 from Książnice Wielkie, site 2, Busko-Zdrój district (Wilk 2013, 312-314). NE-SW oriented ZC graves were also investigated at Samborzec, site 1 (grave 2; Marciniak 1960, 73-77), Złota-“Nad Wawrem” (grave nos. 5, 10, and 37; Krzak 1970), and Złota-“Grodzisko I” (feature 141; Krzak 1961). Among those features, the position of an entrance shaft was recorded only in grave 2 from Samborzec, and it was situated southwest of the niche (Marciniak 1960, 74, fig. 2).

Comparing the structure from Świącica to the classification of niche grave constructions by Piotr Włodarczak (2006, 55), the form of the analyzed grave most resembles the so-called type C. Such features are characterized by a lack of very specific corridors between niches and entrance pits. Rather, their niches were situated simply on extensions of entrances (Fig. 14: c).

Typical CWC niche graves from Lesser Poland are structures of considerable size, usually about 200 cm deep, with entrances and niches situated diagonally to each other (e.g. Włodarczak 2006, 53-57). Only as an exception were there graves recorded with an almost horizontal layout of features, such as grave no. 23 from Samborzec (Kamieńska and Kulczycka-Leciejewiczowa 1970) (Fig. 14: c). It is the variant of CWC niche graves that seems to be mirrored by the structure from Świącica (Fig. 14: a), as well as the previously mentioned ZC grave no. 75 from the site of Złota-“Nad Wawrem” (Fig. 14: b).

Compared to other type C niche graves, some construction details of the analyzed feature from Świącica seem to be quite unusual. First of all, there is no clear evidence of a permanent partition of features 1 and 1a (c.f. Fig. 14: b, c). Numerous small stones recovered in the adjoining part of the pits did not form a durable structure separating both features (Fig. 4-6). However, we should bear in mind that such construction built from rubble could easily have been ruined, for example by rainwater running down the hill and entering the grave. Neither was a stone partition recorded in the case of ZC grave no. 10 from Wilczyce, Sandomierz district (Florek and Zakościelna 2005). This grave resembles the structure from Świącica with regard to the horizontal layout of the niche and the entrance. On the other hand, between the two features of the Wilczyce grave, a short corridor was unearthed (niche grave type A; see Florek and Zakościelna 2005, 46, fig. 3: B).

What is also striking about the structure from Świącica is the existence of clearly atypical proportions between the niche and the entrance pit. Despite the fact that the top

outlines of features 1 and 1a were significantly disturbed, we could suspect that they were originally somewhat close in size (Fig. 4-6; 14: a). In contrast, ZC niche grave entrance pits were always distinctively smaller than the niches themselves, with diameters typically measuring about 100-130 cm (Witkowska 2013, 95; Wilk 2013).

### Feature 1

The unusually large size of the entrance pit of the niche from Świącica could be explained by the fact that it was designed not only to simply provide access to the grave, but also as a space where specific rituals could be performed. We could presume that such practices may have been taking place based on traces of fire and animal remains identified on the bottom of the pit (Fig. 5). While in ZC graves partly burnt human bones have already been detected several times (Wilk *et al.* 2011), there was so far no direct evidence of using fire inside the niches. In the ZC cemetery in Książnice, in addition to 4 graves, two ZC furnace features were discovered (Wilk *et al.* 2011). It has been suggested that charring of human remains could have been performed in these specific pits. Subsequently, burnt bones must have been transferred back to the niches (Wilk *et al.* 2011, 42).

Since human remains from Świącica bear no macroscopically identifiable traces of fire (see above), we cannot confirm that feature 1 was used in a similar fashion to the furnaces from Książnice. On the other hand, hearths located inside graves or within cemeteries are a very common trait of the Globular Amphora culture (GAC). Traces of fire near entrances to GAC stone cist graves were discovered in the case of Nakonowo, Włocławek district (Sobczyk 2000, 9-10), as well as in Złotowo, Szubin district (Tetzlaff 1963, fig. 1). In grave no. VIII from site 78 in Sandomierz, just outside a rectangular stone structure enclosing human burials, a heap of charcoals, an amphora, two pig or boar mandibles, and other animal bones were discovered (Ścibior and Ścibior 1990, 181, 183). Very frequent traces of fire were also identified in two GAC cemeteries located not far from Świącica – Polanów Złocki (traditionally site Złota-“Gajowizna”) (Krzak 1977), and Mierzanowice (Bąbel 1979).

Moreover, depositing animal remains directly on a layer of charcoals or charred sediment seems to be a relatively common practice in GAC funeral features (see catalogue published by Wilk *et al.* 2011, 44-45). Usually in such cases, animal bones were found lying out of anatomical order, which led to their interpretation as relics of ritual consumption (e.g. Szmyt 1996, 180). However, inside feature 1 from Świącica, beside a single fragment of a bovine tarsus bone, archaeologists unearthed the remains of the left rear paw of a brown bear, consisting of a complete set of metatarsals and 3 of the 5 smaller, irregular tarsus bones forming the arch of the foot (Table 1, 2). The bones belonged to an adult or, more likely, a mature individual, as we inferred based on slight degenerative lesions visible on the diaphyses of the metatarsal bones, in the area next to the proximal epiphyses (Fig. 15). Taking into account average measurements of metatarsal bones of modern brown bears, it seems possible that the individual from Świącica was a male (Baryshnikov and Puzachenko 2017).



Fig. 15. Świącica, site 30, Sandomierz district. Metatarsal bones of a brown bear (*Ursus arctos*). View from the dorsal surface (a) and the plantar surface (b). Photo by E. Sieradzka

As far as we are aware, there are no identified *Ursus arctos* remains from the ZC and CWC contexts from Lesser Poland (Włodarczak 2006; Witkowska 2013). A single bear phalanx was discovered in feature no. 3 from the GAC cemetery in Polanów Złocki (traditionally Złota-“Gajowizna”). It was interpreted as some kind of an addition to this mass animal grave pit, containing remains of at least a dozen individuals, mostly pigs (Krzak 1977, 19-20). Moreover, in an inventory of the GAC grave II from Suemcy, Baranivka district, there was a pendant made from an animal tooth, supposedly a bear canine (Levickiy 1929, 198). Finally, *Ursus arctos* remains have thus far been only rarely recognized within faunal assemblages from GAC settlement features (Makowiecki and Makowiecka 2000, 351, table 7; Stefaniak *et al.* 2017, 501).

It is worth emphasizing that the brown bear bones from Świącica were lying in anatomical position, suggesting that in this case, we may not have been dealing with post-consumption remains (see Fig. 8). If so, the bones should have been originally deposited in a chunk of meat, left for the dead as a kind of offering (cf. Makowiecki 2016, 77). Additionally, the observed lack of phalanges could indicate that the paw may have been skinned, since these bones are usually cut to some extent while performing the procedure (Kirkinen 2017).

In early modern Poland, cooked bear paws were regarded as a special treat of hunting-camp cuisine (e.g. Szyttler 1845, 9-12; Łoziński 1931, 132). On the other hand, in ethnographical records we could find numerous instances of various symbolic meanings borne by this specific part of a bear carcass. It was reported that in southern Fennoscandia, canine teeth, claws, penis bones, and paws were believed to be capable of healing, protecting cattle from predators, and finally transferring a bear’s strength and senses (Kirkinen 2017, 3).

Amulets made from bear paws were a part of apotropaic magic of Siberian tribes (Losey *et al.* 2013, 90). In southern Finland, there is a single find interpreted as a building offering (Kirkinen 2017, 3). The great symbolic importance of animal paws among people of northern Eurasia is evidenced by a very specific funerary rite dated to the VII-XI centuries (Callmer 1994). In the Lland Islands and central Russia, researchers have identified a group of kurgans with cremation graves, inside of which were found clay paws, usually resembling those of a beaver or a brown bear (Callmer 1994). Those artefacts are most often deposited in the central part of a barrow, either on a layer of charcoal and calcined bones, or next to an urn containing a burial (Callmer 1994, 17).

### Feature 1a

The shape and dimensions of the grave niche proper – feature 1a – do not diverge from the rather broad variation of forms of such features identified in the ZC milieu (e.g. Krzak 1961; 1970; 1976; Wilk 2014). The only deviation seems to be the stones, loosely deposited in the central part of the pit (Fig. 6). In contrast, pebbles found in a typical ZC niche are most likely to be arranged in a pavement covering the bottom of the grave (Witkowska 2013, 99-100; Wilk 2014). It is worth noting that the human and animal bones in feature 1a were discovered either in the western part of the niche, beyond the range of stones, or under them (Fig. 7). Hence, we could suspect that the pebbles were most likely laid in the grave following both the burial and the subsequent decomposition of the human remains.

If the rubble from feature 1a is not debris from a possible structure sealing the entrance to the niche (see above), we should remember that the idea of using stones in a similar manner inside graves is not unknown among GAC customs. For example, in grave no. 127 from Mierzanowice, human bones as well as grave inventory have been identified on and beneath a stone paving on the bottom of the feature (Bąbel 1979, 69). We should also mention grave no. 2 from Małoszywka, Płock district, where over a dozen pebbles were found covering the charred skeleton of a child of the age of *Infans I* (Kempisty 1964, 392).

Double graves, containing the remains of an adult and a child, have been observed in cemeteries of many Late Neolithic communities. This category of graves is well described in the Lesser Poland CWC (Włodarczak 2006, 66; and table 18, p. 65). In the ZC, two individuals of the exact age as those discovered in Świącica were identified only in grave no. 3 from the cemetery of Złota-“Nad Wawrem” (Krzak 1970, 22). An example of such a grave from the GAC milieu is the aforementioned grave no. 2 from Małoszywka (Kempisty 1964, 389-393).

With two vessels and four amber beads, the grave from Świącica could be placed among the more poorly equipped ZC graves (Witkowska 2013, 116). It is worth noting the lack of such specific ZC vessel types as bowls, vases or cups (Witkowska 2013, 117-118). On the other hand, the set consisting of an amphora and a beaker resembles grave inventories of the CWC in Lesser Poland. Among all CWC graves equipped with two vessels, the discussed types were those most frequently found together (Włodarczak 2006, 70).

The amphora from Świącica could be assigned to type IVc in the classification scheme of ZC vessels produced by Barbara Witkowska (2013, 29). This class of pots is characterized by a low and very broad belly, with the maximum diameter located midway up their height. ZC specimens of matching proportions have been discovered in grave no. 2 from the Książnice cemetery (Wilk 2013, fig. 22: 4), and in settlement pit no. 219 from the site Złota-“Nad Wawrem” (Krzak 1976, 77, fig. 29: f).

With regard to large, four-handled ZC amphoras, scholars unanimously agree that they must have been developed from the so-called “Kuiavian amphoras” of the GAC (e.g. Wilk 2013, 323; Witkowska 2013, 28). Comparing the amphora from Świącica to the typological scheme of GAC pottery, as detailed by Marzena Szmyt, it would be classified under type V BIII11aa (Szmyt 1996, 31). However, no vessel of this exact shape has thus far been obtained from confirmed GAC features. The specimen from Świącica closely resembles an amphora recovered from a construction heap in the course of rescue excavations of site 78 in Sandomierz (Ścibior and Ścibior 1990, 191, fig. 29: a). While the find is traditionally linked to the GAC, graves of both the GAC and ZC were discovered at this cemetery (Ścibior and Ścibior 1990).

Alternating bands of cord impressions and rows of arch-shaped stamps on the neck of the analyzed amphora (Fig. 11: 6) seem to rather deviate from the rules of ZC ornamentation. In this culture, necks of “post-Kuiavian” amphoras are almost always decorated with cord impressions only, often arranged in horizontal or wavy lines (e.g. Krzak 1970; 1976; Wilk 2013). On the other hand, various stamp ornaments, sometimes combined with cord impressions, are more characteristic for the GAC pottery style. Amphoras from the aforementioned site 78 in Sandomierz are a rare departure from such standards, visibly resembling typical ZC decoration (Ścibior and Ścibior 1990). An ornamentation pattern using cord impressions and large, arch-shaped stamps, matching those on the vessel from Świącica, was found on an amphora from a GAC stone cist grave found in Rudno, Parczew district (Ścibior 1986, 116, fig. 6: 1).

The decoration of the belly of the analyzed amphora also resembles rather the GAC pottery style. Vertical bands consisting of rows of rectangular and arch-shaped stamps are very characteristic for GAC materials from the eastern part of the central group (Nosek 1967), as well as the Volhynia area in the eastern group of this culture (Szmyt 1999). It seems that ZC communities, in a way, “inherited” this manner of decorating the bellies of large, four-handled amphoras (e.g. Krzak 1961; 1970; 1976). A nearly identical ornamentation pattern was identified on the previously mentioned amphora type IVc from grave no. 2 at Książnice (Wilk 2013, fig. 22: 4).

With a poorly distinguished, short, and cylindrical neck, the proportions of the petite beaker found in the grave from Świącica loosely correspond to beakers typical for the oldest A-horizon of the CWC (Fig. 11: 5; cf. Włodarczak 2006, 11; see also Witkowska 2013, 35). A very diagnostic component seems to be the lack of a long, funnel-shaped neck, which is regarded as one of the characteristic features of many younger types of CWC and ZC



beakers. Moreover, the profile of the analyzed specimen resembles beaker-shaped GAC vessels, typical for the Masuria, Mazovia, Podlasie, and Lesser Poland regions, as well as the Lublin area of the central group of the GAC (Nosek 1967). Necks of such vases typically measure less than  $1/3$  or  $1/4$  of the vessel's height (Nosek 1967).

The decoration of the neck of the analyzed beaker, consisting of horizontal cord impressions, underlined by a row of oval stamps, seems to be quite common for similar vessels from the ZC, GAC, and CWC contexts (e.g. Nosek 1967; Krzak 1976; Włodarczak 2006). On the other hand, vertical bands of oval imprints have so far been identified only on the sole petite beaker from grave no. III/15 from the ZC cemetery of Złota-“Grodzisko I” (Krzak 1976, 123, fig. 52: c). In the GAC, a very similar pattern was only sometimes used in order to decorate the bellies of amphoras (e.g. vessel from grave no. 7 from Klementowice, site 4; Puławy district; Halicki 1970, 310, fig. 11: g).

The grave from Świącica yielded only 4 amber beads – 2 tubular and 2 oval button-shaped specimens (Fig. 11: 1-4). It is worth noticing a lack of quadrangular button-shaped beads, which are a very specific type of amber adornment found almost exclusively in ZC graves (Mazurowski 1983, 27-28; cf. Witkowska 2013, 83-84). In this culture, I A1a and 1BIIa-b type beads have only occasionally been identified, usually as part of complex amber necklaces (Mazurowski 1983, 74, table 14).

We should also mention the relatively large diameter of the oval amber buttons discovered in Świącica, measuring more than 2 cm (Fig. 11: 1-4). According to Mazurowski's evaluations, the size of this type of bead from ZC contexts rarely exceeds 1-2 cm (Mazurowski 1983, 71). Hence, the dimensions of amber beads from Świącica match slightly larger adornments typically identified in GAC features. In the Sandomierz Upland, tubular and oval specimens were discovered in GAC graves in Chwałki (Nosek 1967, 192), Grójec (Krzak 1972, 344, fig. 4: f), and grave no. 220 from Mierzanowice (Bąbel 1979, 71, fig. 10: e). In addition, amber beads were also a part of the inventories of grave nos. 9 and 30 from Polanów (“Złota-Gajowizna”) (Krzak 1977, 27; 52).

Among the grave offerings from Świącica, a few pig bones were identified: a pelvic bone and the mandible of a male, possibly belonging to the same individual (pers. comm. by Daniel Makowiecki and Mirosława Zabilska-Kunek) (Table 1). So far, animal remains have been unearthed in ZC graves only on very rare occasions. A number of animal bones were found in grave nos. 6 (60), 13 (190), 55 (448), and 57 (436) from Złota-“Grodzisko I”, as well as nos. 4, 76, and 235 from Złota-“Nad Wawrem” (Krzak 1976, 177; Witkowska 2013, 83). Furthermore, within the infills of graves 1-3 from Książnice, researchers discovered teeth and bone fragments belonging to cattle, pigs, and goats or sheep (Makowicz-Polisztot 2013). There is also the unique ZC grave from Sandomierz-Mały Rynek, containing a skeleton and the mandible of a pig (pers. comm. by Monika Bajka and Marek Florek).

On the other hand, animal remains seem to play a very important role in GAC funerary rites (e.g. Nosek 1967, 275; Szmyt 1996, 178-179, table 28; 1999, 32, table 3). Pig mandibles are common finds in graves of all GAC territorial groups. Since this part of a pig carcass



Fig. 16. Świącica, site 30, Sandomierz district. Shells of the snail *Cepaea vindobonensis* from feature 1a. Photo by M. Bajka

does not have significant consumption value, it has been suggested that the practice of burying it with the dead most likely bore a symbolic meaning (Makowiecki and Makowiecka 2008, 377; Makowiecki *et al.* 2014, 231). The presence of a porcine pelvic bone suggests that, originally, a portion of meat may have been deposited in the grave. The tradition of equipping the dead with food could be also linked to the GAC (e.g. Nosek 1967; Krzak 1977; Szmyt 1996; 1999).

If we assume that farrowing of Neolithic pigs occurred between February and April, like contemporary wild boars, then the slaughter of the individual whose remains were found in the grave from Świącica must have taken place in one of the summer months (pers. comm. by Daniel Makowiecki). Pigs found in the GAC grave from Chodzież, Chodzież district, were possibly butchered in the same season (Makowiecki and Makowiecka 2008). Similarly, in the case of a male individual placed in a GAC grave in Kowal, Włocławek district, it has been suggested that slaughtering may have occurred between late spring and summer (Makowiecki *et al.* 2014).

Finally, we should briefly comment on the occurrence of the shells of the snail *Cepaea vindobonensis* identified in the lower parts of features 1 and 1a from Świącica (Table 3) (Fig. 16). This species lives in dry, exposed, and sunny environments, and is typically spotted in steppe-like xerothermic grasslands (Barga-Więcławska and Jedynak 2014, 298). The collection from Świącica is the second confirmed case of *Cepaea vindobonensis* shells from Late Neolithic contexts in the Sandomierz Upland. Within settlement pits of the GAC settlement in Krzczonowice, among other molluscs, there were identified in total 8 specimens of the aforementioned species (Barga-Więcławska and Jedynak 2014). Compared to Krzczonowice, the snail shell assemblage from Świącica is vastly more abundant and strikingly uniform.

#### 4. CHRONOLOGY

Two radiocarbon dates were obtained from the structure at Świącica (Table 4). The samples were the talus bone of an adult individual and a pig mandible, both taken from the bottom of feature 1a (Fig. 7). The resulting dates,  $4\ 160\pm 35$  BP and  $4\ 120\pm 35$  BP (Table 4), correspond closely to each other (Fig. 17). Sadly, the measurements calibrate to a plateau on the curve covering most of the 1<sup>st</sup> half of the 3<sup>rd</sup> millennium BC (Fig. 17).

Radiocarbon dates for the analyzed grave match the date obtained ( $4\ 165\pm 35$  BP) for the early ZC grave from Wilczyce in the Sandomierz Upland (Florek and Zakościelna 2005; Włodarczak 2013, 375). As discussed above, the grave construction from Wilczyce loosely resembles the structure from Świącica (Florek and Zakościelna 2005; 46, fig. 3: B). However, despite the parallel chronology, similar layout of features, and relatively close distance between these two graves, their inventories show a clear discrepancy (cf. Florek and Zakościelna 2005; 51, fig. 7; 53, fig. 8). Instead, the amphora from Świącica seems to be rather affiliated with a vessel from Książnice, located in the Nida Basin, far on the western edge of the ZC territory (Wilk 2013). Taking into account the uncalibrated chronology only, the Książnice cemetery, dated about  $4\ 200$  BP, would be just slightly earlier than both the Świącica and Wilczyce graves (Wilk 2013).

We could not broach the topic of the earliest niche graves in Lesser Poland without discussing the chronology of such features in the CWC milieu. While the initial ZC stage is often synchronized with the earliest A-horizon of the CWC (e.g. Włodarczak 2006, 129), or even regarded as slightly older than the dawn of this culture (e.g. Witkowska 2013, 154-157), the first appearance of niche graves marks the beginning of phase II of Lesser Poland CWC (e.g. Włodarczak 2006, 98-99). The CWC niches, dated not earlier than  $2\ 700$  BC, would thus be younger than the first such structures in the ZC (Włodarczak 2006, 126, fig. 54). However, it is worth noting that radiocarbon dates obtained for some complexes representing the CWC phase II turned out to be very similar to the ones for the Świącica structure. We should mention that this is the case with the CWC grave no. 23 from Samborzec, already given as an example of a niche grave with a profile similar to that in Świącica (Fig. 14: c) (Kamieńska and Kulczycka-Leciejewiczowa 1970). The radiocarbon date obtained for this grave,  $4\ 160\pm 50$  BP, matches closely the absolute chronology of the analyzed features (c.f. Włodarczak 2006, 125, table 35).

Perhaps it would be best to discuss this issue in the context of the theory of Stanisław Wilk regarding the origins of ZC niche graves (Wilk 2014). In opposition to commonly accepted views of an eastern provenance of such features, tracing them to a late and post-Trypillia culture background, Wilk analyzed the local roots of niche graves. According to Wilk's evaluations, many ZC niches often have attributes resembling GAC graves, including their internal organization and the practice of covering the bottom of a grave pit with a stone paving (Wilk 2014, 185). Moreover, the lining of niche walls with stones, as observed in a few ZC graves, could be closely linked to the GAC grave constructions (Nosek

1967). It is worth noting that such a construction was discovered in one of the niche graves from Książnice (Wilk 2013, fig. 29).

Since the GAC features of the grave from Świącica seem to be even more evident than in the case of Książnice (see above), according to Wilk's theory, it should be regarded as one of the oldest ZC complexes. Instead, radiocarbon dates for the analyzed complex are very similar to ones obtained for the Książnice and Wilczyce graves, all characterized already by predominantly very distinctive ZC traits (Florek and Zakościelna 2005; Wilk 2013).

In attempting to explain this situation, first and foremost, we should bear in mind the previously mentioned plateau on the radiocarbon calibration curve, covering the entire timespan of the ZC and the early stages of the CWC (Reimer *et al.* 2013). Consequently, correlation of the chronology of the complexes of these two cultures must be based on a comparative analysis of the style of artefacts, most often concerning pottery (e.g. Krzak 1976; Włodarczyk 2006, 129; Witkowska 2013, 154-157). Sadly, still very few radiocarbon dates for GAC assemblages in Lesser Poland cannot be used as reliable reference to the GAC traces identified in the ZC graves (e.g. Szmyt 1999, 76-77; Witkowska 2013, 147-148).

In relation to the theories of Wilk just discussed above, the commonly accepted ZC periodization scheme suggests that the general course of changes in the material culture

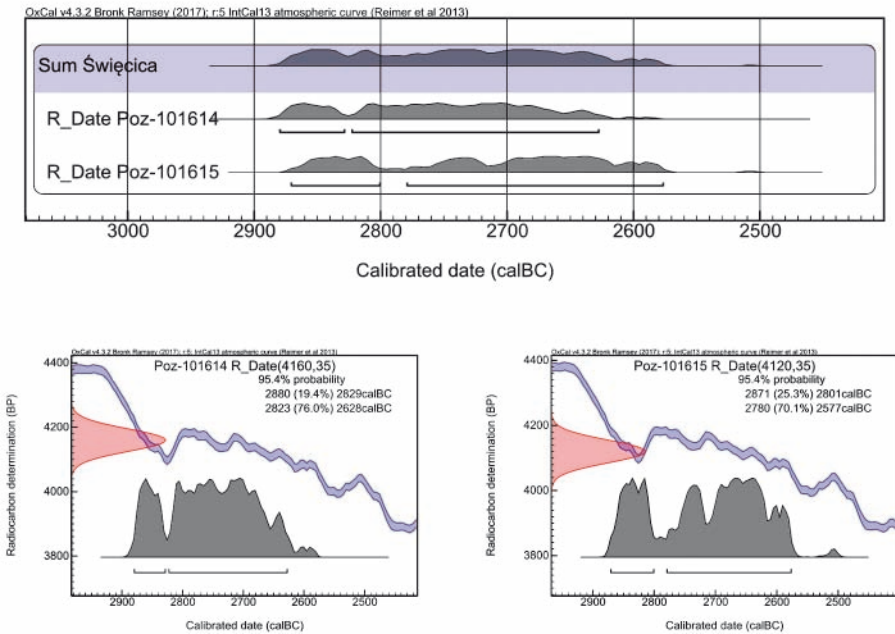


Fig. 17. Świącica, site 30, Sandomierz district. Calibration of the radiocarbon dates of feature 1a

would be abandoning initial GAC-like features, and gradually replacing them in the course of developing specific ZC elements (Ścibior 1991, 68-71; Wilk 2013; Witkowska 2013; cf. Wilk 2014). Consequently, in the case of the Świącica grave, numerous GAC reminiscences combined with a relative scarceness of clear CWC traits (see above), confirm once more the rather early chronological position of the structure (cf. Witkowska 2013, 133-136). Bearing in mind that the absolute chronology of the ZC cemetery in Książnice was established to be 2900-2830 BC (Wilk 2013, 335), we would suggest that the most probable chronology of the analyzed grave from Świącica could be the first peak shown in the calibration graphs of both radiocarbon dates obtained for the feature, which would be about 2880-2800 BC (Fig. 17).

## 5. CONCLUSION

The specifics of the structure from Świącica seem to lie in the integration of a ZC niche type of grave construction with multiple elements whose direct equivalents could be found only in the GAC milieu. Distinctive traces of the latter culture may be identified in various aspects of the layout of the grave, funerary rites, and selection of grave goods. So far, clear instances of the continuation of the GAC tradition have been identified only when it comes to rather secondary construction details of ZC graves (Wilk 2013; 2014). Thus, Świącica makes the first ZC structure where the keeping of GAC customs has manifested itself so evidently.

The most striking detail about the analyzed grave is the entrance pit to the niche. On the bottom of feature 1 there was unearthed a charred layer, on which were laid a single cattle bone and the paw of a brown bear (Table 1, 2). The latter find is completely unique when it comes to Late Neolithic funerary features. Since in this period of time remains of domesticated animals clearly prevail in both graves and various ritual deposits (Nosek 1967; Krzak 1977; Szmyt 1996), the discovery from Świącica provides new insight into the spiritual sphere of Late Neolithic communities of Lesser Poland.

Radiocarbon dates for the analyzed grave may appear a little bit younger that could have been expected based on comparative analyses (Fig. 17). However, the measurements confirm the attribution of the grave from Świącica to the earliest stage of the ZC, among such well-known finds as graves from Książnice (Wilk 2013) and Wilczyce (Florek and Zakościelna 2005). The observed differences between those complexes may reflect the initial multiformity in the period of formation of the ZC phenomenon (cf. Witkowska 2013).

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