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1700 à 1400 avant J.-C.). L'épaisseur du lien est proportionnelle à la valeur du coefficient de Pearson

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Stanisław Wilk<sup>1</sup>

## New data about chronology of the impact of the Hunyadihalom-Lażňany horizon on Younger Danubian cultures north of the Carpathian Mountains

**Abstract:** The subject of this article is connections from Carpathian Basin in the Lublin-Volhynian (LV-C) culture – the first Eneolithic culture in Lesser Poland. Comparative analysis of the pottery from the LV-C child grave no 7 in Książnice (Lesser Poland) points towards the Hunyadihalom-Lażňany horizon as the mainstream source of analogies; and, according to the scheme proposed by Sławomir Kadrow and Anna Zakościelna, the LV-C drew on these analogies at the end of phase III or approx. 3700–3600 BC (Kadrow, Zakościelna 2000). While, the radiocarbon dating ( $5180 \pm 35$ BP) dates the grave to approx. 4050–3940 BC, which according to the scheme proposed by Kadrow and Zakościelna would mean that we are dealing with a feature from phase II. Of extreme importance which influenced the interpretation of the grave were the new data related to absolute chronology of the of the Copper Age in the Carpathian Basin. In the light of new radiocarbon chronology of the Hunyadihalom-Lażňany horizon (ca. 4200–3800 BC, according Raczy, Siklósi 2013; ca. 4000–3800 BC according Brummack, Diaconescu 2014), the date of grave 7 from Książnice corresponds well to the ceramic inventory with the characteristics of the Hunyadihalom-Lażňany horizon. The presence of the Hunyadihalom-Lażňany influences in Lesser Poland in the late 5<sup>th</sup> and 4<sup>th</sup> millennia BC forces us to pose the questions about their role in the spread of “Chalcolithic” attributes north of the Carpathian Mountains. There is clearer support for the thesis that the new cultural trends, which were expressed by the sepulchral ideology borrowed from the area of the Carpathian Basin emphasizing the elitism of burials, drawing clearer distinctions between the sacred and the profane in the spatial sense, and strongly emphasizing sexual dimorphism, could be to a greater extent the result of the influences of the Hunyadihalom-Lażňany horizon, and not just – as has traditionally been accepted – of the Tiszapolgár and Bodrogkeresztúr cultures.

**Keywords:** Eneolithic, chronology, graves, Lublin-Volhynian culture, Hunyadihalom-Lażňany horizon, Carpathian Basin, Lesser Poland

### 1. Introduction

Site 2 in Książnice, Pacanów commune, is located on top of one of the small, loess-covered hill in the eastern part of Pińczów Ridge (site no. 100 in the sheet 95–97 of the Archaeological Survey of Poland). To the west, a nameless stream flows round the foot of the hill, creating a discernible valley. To the north, the terrain gently falls towards the Kraków-Sandomierz

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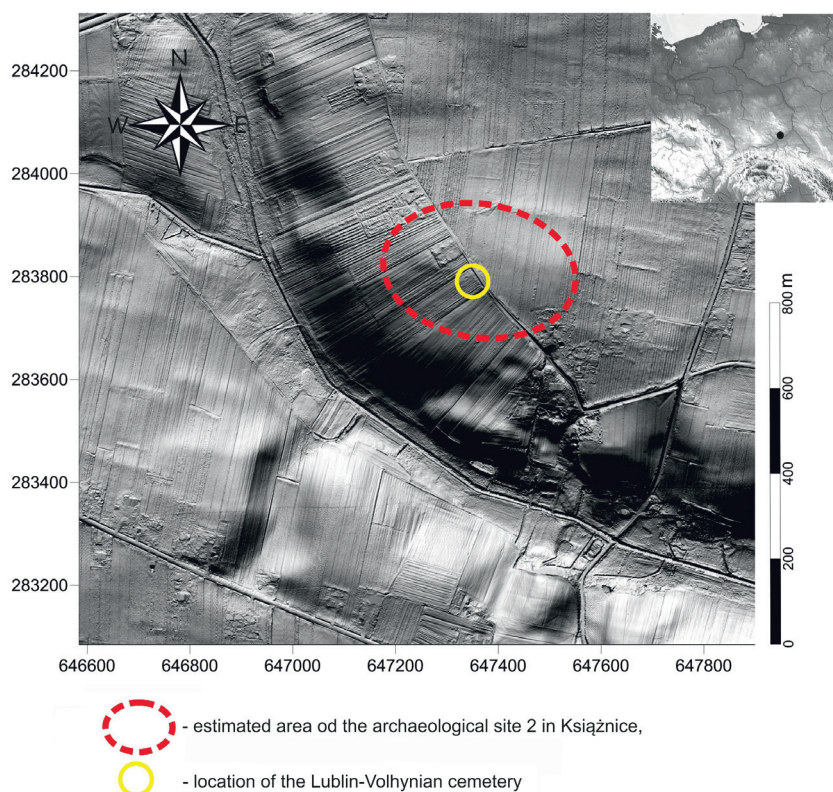
motorway (Fig. 1). The site was discovered by Jan Machnik and Leszek Gajewski in 1955. In 1993 Andrzej and Barbara Matoga conducted surface survey in the village of Książnice and established the Archaeological Survey of Poland (AZP) card for the site.

In the 12 excavation seasons (2001/2002, 2003–2006, 2008, 2010–2015), conducted by the author, multicultural settlement-and-burial Eneolithic and Early Bronze complex was discovered, which consists of: a Lublin-Volhynian culture cemetery (Fig. 2), a Funnel Beaker settlement, a Złota culture cemetery, a settlement with mixed materials from the Złota and Globular Amphorae cultures, a Corded Ware culture cemetery, and a settlement with a Mierzanowice culture ditch (Wilk 2014).

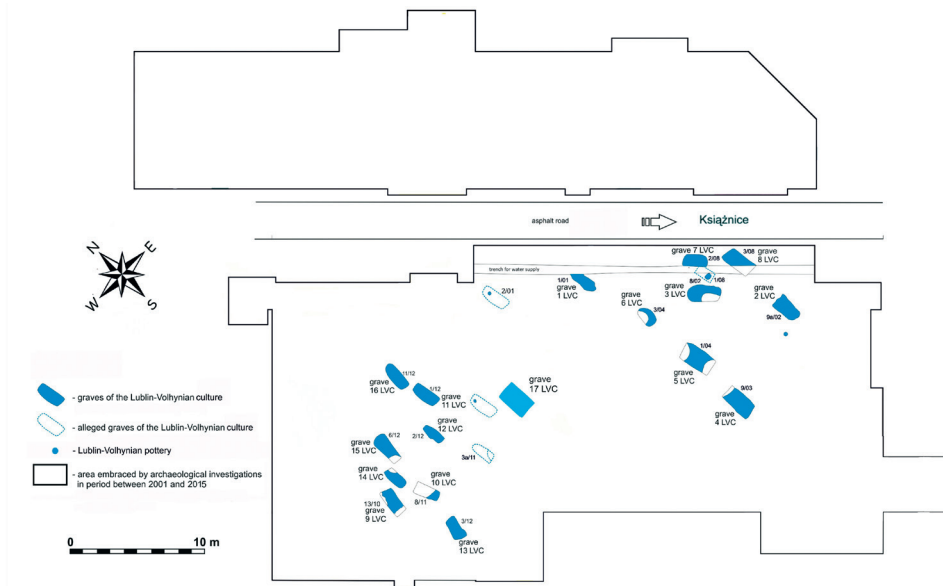
The subject of this article is the skeletal grave 7 of the Lublin-Volhynian culture (L – VC). The excavations conducted in August and September 2008 were financed from the resources from Priority 4 of the Ministry of Culture and National Heritage, in collaboration with “Galileo”, the Foundation for Human Development, named in honour of Professor Marian Mazur.

## 2. Description of the grave

In trench II/08 at the depth of 25–30 cm, partly in the floor of the arable layer, two clay Lublin-Volhynian vessels (a pear-shaped cup and a small bowl) were found, near the SW profile of the trench, south of the outlines of a water supply system that could be seen at that level (Fig. 3: A).



**Fig. 1.** Location of the Lublin-Volhynian culture cemetery at site 2 in Książnice, Świętokrzyskie Province



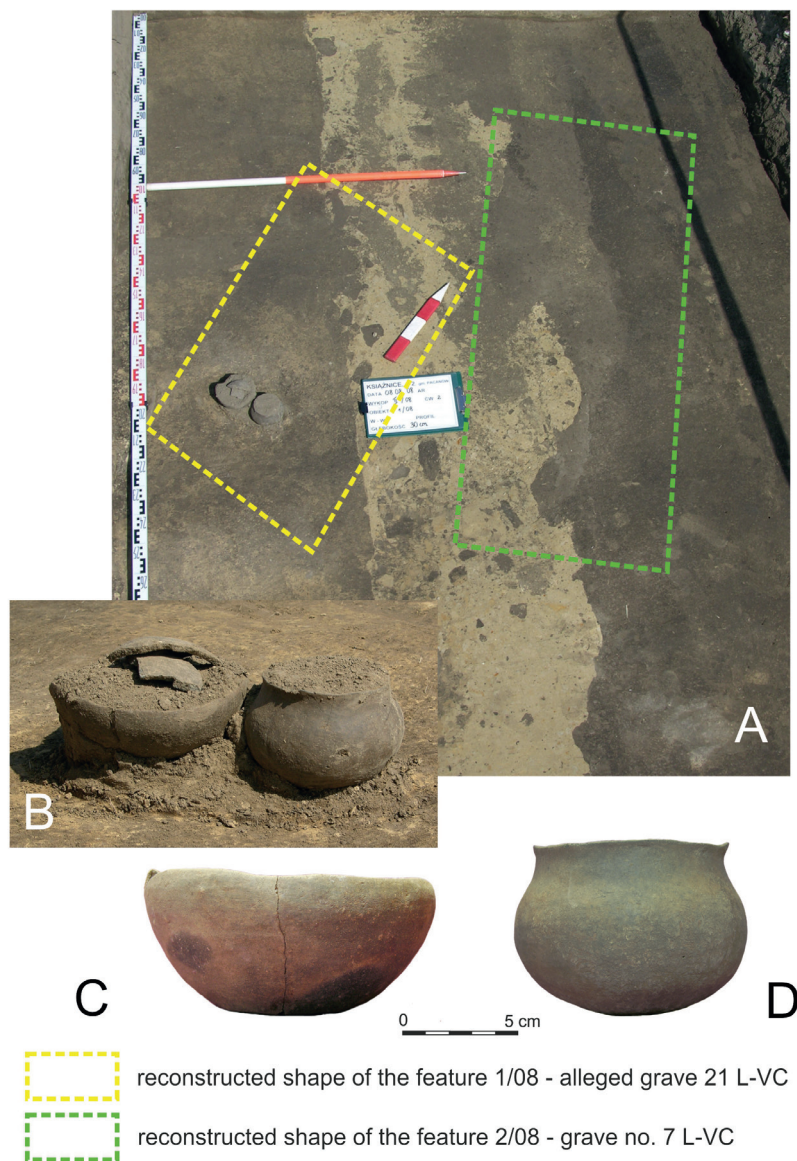
**Fig. 2.** Layout of graves at the Lublin-Volhynian culture cemetery at site 2 in Książnice

The find was designated as 1/08. At the level where the vessels were deposited, only a very ambiguous change in the colour of the grey and brown soil was observed, which could be the trace of the bottom of a N-S oriented rectangular burial pit (Fig. 3: B). Apart from Książnice, there has been no confirmation of graves on L – VC cemeteries, which would be located close to each other, let alone adjoining each other. In the Carpathian Basin such situations are known from sites: Hajdúböszörmény-Ficsori-tó-dűlő (Kovács, Váczi 2007, fig. 1: 2), Rákóczifalva (Csányi *et al.* 2010, fig. 4), Malé Zalužice-Lažňany, Šebastovce, Barca (Šiška 1972, figs 2, 4, 20).

The vessels found in feature 1/08 do not belong to the most characteristic forms of the L – VC. The pear-shaped cup (Fig. 3: D) with a round belly is characterized by a clearly distinguished, slightly open neck, ending with a rim with two protrusions. Vessels of similar proportions, but smaller in size, were found in graves 4 in Książnice (Wilk 2004, fig. 7: 3), and 101/1930, 122/1930 from site Grodzisko II in Złota (Sałacińska, Zakościelna 2007, fig. 21: 13/XIII, 29: 10/X). A similar form was also discovered in grave 390 on site Grodzisko I in Złota (Sałacińska, Zakościelna 2007, fig. 12: 2). In the Wyciąże-Złotniki group (W–ZG), a good analogy is the cup from feature/grave XVI at Kraków Nowa Huta-Pleszów site 17 (Kaczanowska, Tunia 2009, fig. 100: 3). The second vessel – the bowl with a gently rounded belly and the rim folded inside (Fig. 3: C) has analogies in the finds from grave 3 on site 2A in Strzyżów (Gurba, Kutylowski 1970, pl. 151) and from grave 1 on site 26 in Strzyżów (Zakościelna 2010, pl. LXI: 8).

The proper grave 7 (feature 2/08) was revealed several dozen centimetres NE of feature 1/08, on the other side of the water supply system trench, at the depth of 45–50 cm. At the level of its ceiling, the grave was an elongated rectangle along the NW-SE axis, with rounded corners, and grey and brown in colour, damaged to the S and W by the water supply system trench (Fig. 4: A). The exploration of the burial pit was conducted to the bottom level (to the depth of 55 cm), and later – at the length of about 2 m, the water supply system trench was searched for damaged artefacts that were once part of the burial goods.

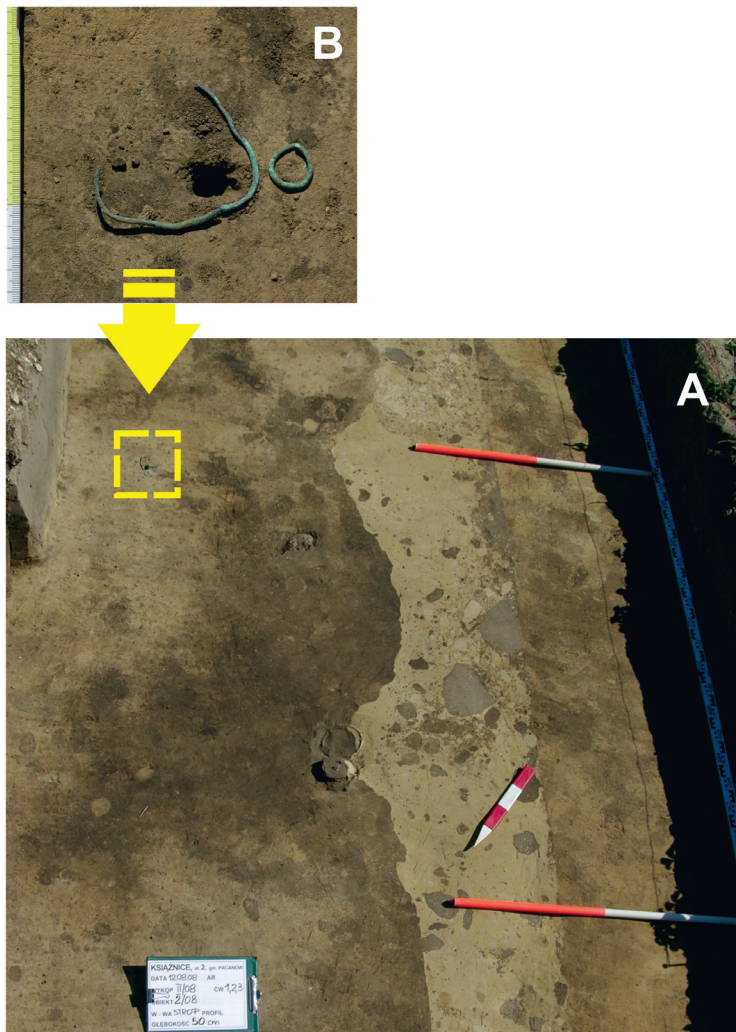




**Fig. 3.** A – feature 1/08 at a depth of 30 cm; B – close up of the pottery in feature 1/08; C, D – pottery from feature 1/08 (photo by S. Wilk)

### 2.1. Burial

At the depth of 50–55 cm, a complete skeleton of a child at the age of *Infans* II (9–10 years of age; Szczepanek 2008) was found, lying in a contracted position on the left side, with the cranium to the S and lower limbs bent at the angle of approx. 20°. The right upper limb was bent at the angle of 67° and positioned in front of the chest, and the left upper limb, probably straightened (?) was



**Fig. 4.** A – Grave 7 at the ceiling level, at a depth of 45–50 cm; B – close up of the location of copper ornaments (photo by S. Wilk)

found lying along the body (Figs. 5: A; 6: A). Fortunately, the skeleton and most of the burial goods were not damaged by the water supply system trench. To the SW of the lower limbs, there were 3 bones (shoulder bone, humerus and tibia), belonging to almost adult (*subadult*) goat/sheep *Capra hircus* L./*Ovis aries* L., corresponding to the left side of the animals' bodies (see the Annex).

## 2.2. Burial goods

In the grave, four clay vessels were found, arranged in the NW part of the pit (Fig. 5: A): a pear-shaped amphora with a low neck, decorated with four knobs on the widest part of the belly (Fig. 7: A), a cup/bowl with a wide rim and a low, clearly marked neck, decorated with four 'pinched'





**Fig. 5.** A – Grave 7, plan at the level of the skeleton, at a depth of 45–55 cm; B, C, D – close ups of the pottery (photo by S. Wilk)

knobs/handles made in the stylistics of *Scheibhenkel* and attached onto the widest part of the belly (Fig. 7: B), a small amphora with a lowered biconic profile, with four knobs on the widest part of the belly, and two small handles of the *Scheibhenkel* type (Fig. 7: C) and a pot with an S-shaped profile and two handles, decorated with two diagonally running plastic cordons below the rim and eight plastic knobs on the widest part of the belly (Fig. 7: D). The amphora was placed in the S-shaped pot, while the cup/bowl – in the pear-shaped amphora (Fig. 5: B).

Moreover, the fill of the burial pit yielded 32 small Neolithic potsherds and a single piece of Turonian flint.

In the grave and its vicinity, a rich assemblage of jewellery was found, including five copper artefacts. Under the skull, there was a massive earring made of wire (Figs 8: A, B; 9: C). At the height of the chest, there was a bead made of a folded sheet of metal (Figs 8: C, D; 9: D). The second bead was found during the search in the fill of the water supply system trench (Fig. 9: E). A straightened bracelet (Fig. 9: A) and a small earring made of wire (Fig. 9: B) were found in a molehill, about 30 cm E of the burial pit (Fig. 4: B). Additionally, on the humerus, a greenish hue was observed, which was probably the remaining trace of a bracelet (Fig. 8: A). The burial did not have any intentionally deposited flint artefacts.

### 2.3. Absolute chronology

Grave 7 in Książnice yielded one  $^{14}\text{C}$  dating (Poz-27531), made in the Radiocarbon Laboratory in Poznań thanks to the funds from Priority 4 of the Ministry of Culture and National Heritage, in collaboration with “Galileo”, the Foundation for Human Development, named in honour of Professor Marian Mazur. The date obtained from a piece of human rib is  $5180 \pm 35$  BP, which after calibration gives the result of approximately 4050–3940 BC with 95.4% probability and 4040–4020 BC (19.4%), 4000–3960 BC (48.8%) with 68.2% probability (Fig. 6: B).

## 3. Analysis

### 3.1. Burial

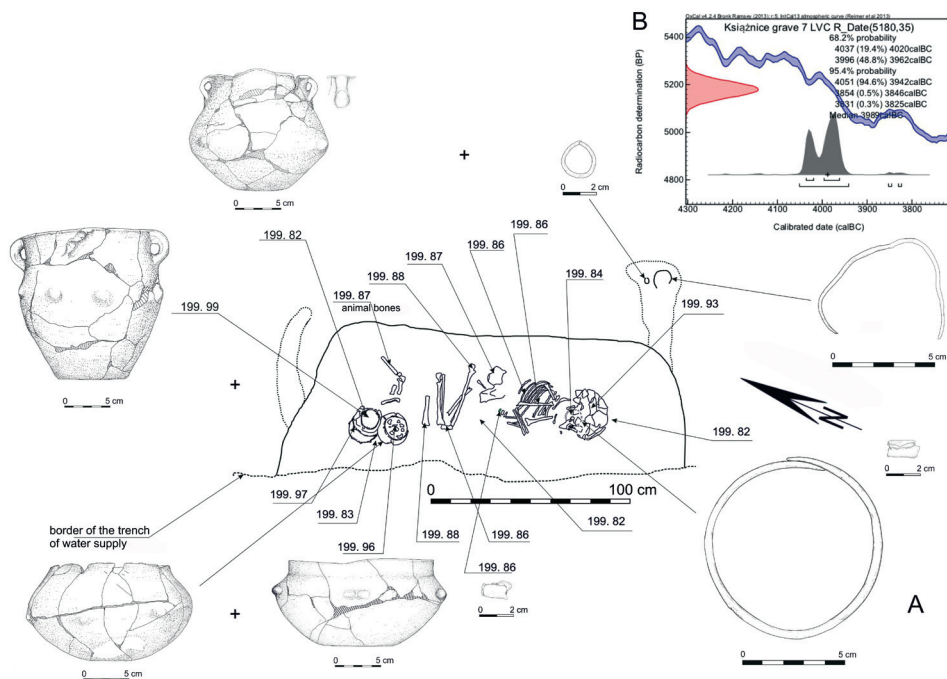
Graves oriented on the NW-SE axis are not exceptional in the L – VC. It is true that the majority of features are oriented on the N-S axis, but deviations from this norm are relatively frequent (Zakościelna 2010, table 8). On the cemetery in Książnice, similarly oriented is the burial pit of grave 3, located 1.4 m to the SW. The NW-SE axis is also found in the case of graves 1 in Gozdów (Zakościelna, Prusicka-Kolcon 2006, fig. 2), in Garbatówka Kolonia, site 7 (Zakościelna 2010, pl. IV), grave II on site 27 in Łubcze (Koman 1997, fig. 4), grave 1/1982 on site 3 in Stefankowice Kolonia (Kokowski, Koman 1985), graves 3, 5 and 6 on site 2A in Strzyżów (Gurba, Kutylowski 1970, pl. 151–153; Zakościelna 2010, pl. LVII), grave 1 on site 10 in Strzyżów (Zakościelna 1996, fig. 4a), graves 101/1930, 121/1930, 122/1930 on site Grodzisko II in Złota (Sałacińska, Zakościelna 2007, figs 19; 23; 26), and the pit of grave III on site Igołomia-Park (Gajewski 1960).

Based on the position of the skeleton, on the left side, and the burial goods – rich in copper jewellery, we can assume that it is the burial of a girl.

Among all of the known L – VC burials (about 150), only six (including the one under discussion) belong to children at the age of *Infans* II, five of whom are those of girls (Zakościelna 2010, Table 12).

The position of the upper limbs has no correspondence to the scheme proposed for the L–VC by Anna Zakościelna (2010, fig. 27). On the other hand, the position of the lower limbs, which were contracted at the angle of about  $20^\circ$ , corresponds to type 1 (Zakościelna 2010, fig. 28: 1).

The occurrence of animal bones in L – VC graves is a relatively frequent phenomenon. Altogether we know of 22 examples of burials, in which single bones or bigger fragments of skeletons of mostly domesticated animals such as goat/sheep or cattle were found (Zakościelna 2010, Table 21). On the cemetery in Książnice, remains of goat/sheep were found in five graves (Wilk 2004; 2006, 2014; Makowicz-Poliszot 2006; 2014). Mostly, they were deposited in the NE part of the pit, behind the lower limbs. An exception is grave 3



**Fig. 6.** A – grave 7, A – plan with grave goods discovered at the level of the skeleton, at a depth of 45–55 cm; B – radiocarbon dating

(partial burial), where animal bones were in the central and northern parts of the pit, and grave 6 (cenotaph), where they were found in the central part of the pit.

### 3.2. Burial goods

#### 3.2.1. Pottery

All vessels were made of clay with grog added as temper, as well as a trace amount of fine sand. The outer surfaces are orange and grey-and-brown, or light orange and light beige, while the inner surfaces are orange-and-grey, grey and light beige. The texture of pottery is flour-like and has a triple band of colours if broken (orange-grey-orange). The sherds are between 3 mm and 7 mm thick.

The vessels from grave 7 differ from other burial inventories of the L – VC. Three of them (the S-shaped pot with two handles, decorated with two diagonally running plastic cordons below the rim and eight plastic knobs on the widest part of the belly (Fig. 7: D), a small amphora with a lowered biconic profile with four knobs on the widest part of the belly, with two handles of the *Scheibhenkel* type (Fig. 7: C) and the cup/bowl with a short, clearly marked neck, decorated with four “pinched” knobs-handles (Fig. 7: B) have no close analogies in the L – VC.

Among the vessels from the analysed assemblage, only the pear-shaped cup (Fig. 7: A) is a classic element of the burial goods of the discussed culture and does not require any further discussion. It should only be mentioned that – like in the case of the decoration of the amphora – the knobs decorating the belly of the cup are formed by ‘pushing out’ the walls.

The remaining vessels are clearly linked with the forms and decorative ornaments of the Hunyadihalom-Lažňany horizon.

An identical ornament to the one on the S-profiled pot in the shape of eight knobs on the widest part of the belly, occurs on the vessel from grave 21 on the cemetery Šebastovce (Šiška 1972, fig. 30: 6), and another ornament – in the form of slightly bigger knobs – on a vessel from Panyola settlement (Patay 2011, pl. III: 5). Six knobs decorate a similar vessel from grave 10 in Barca (Šiška 1972, fig. 32: 2). Eight knobs, but doubly spaced (four times two knobs, one over another) decorate, among others, vessels from grave 39 in Šebastovce and grave 8 in Barca (Šiška 1972, pls IX: 3; X: 13).

Diagonally running plastic cordons – unmarked or incised – are known, among others, from the settlement of Tiszalúc (Patay 2005, pl. 35: 11, 15), while zigzagging bands running round the entire vessel are known from the cemetery of Šebastovce (Šiška 1972, pl. V: 14).

In the L – VC diagonal, plastic cordons on the neck occurred on two vessels from the cemetery in Hołyszów Wołyński (Пелещин 1998). In grave 4, on the neck of a small bowl (Zakościelna 2010, pl. LXXXV: 5) and on the potsherd of a bowl-shaped vessel found in the damaged graves (Zakościelna 2010, pl. LXXXVI: 3). Similar cordons, but running horizontally or vertically, decorate vessels from features 30 and 30A on site 3 in Łañcut (Gruszczyńska, Mitura 2002, pl. II: 12, 13), dated by the authors of that study as L – VC materials from Bronocice (Gruszczyńska, Mitura 2002, 52).

Analogies to the way the amphora with the biconic profile was made are equally rare. Similarly shaped vessels were found in graves 8 and 10 on site 16 in Krasne Kolonia (Zakościelna 2010, pls XXX: 33; XXXIIa: 6) and in grave 121 on site Grodzisko II in Złota (Sałacińska, Zakościelna 2007, fig. 25: 1). However, none of them was decorated with four „pushed out” knobs. A remote analogy of this way of vessel decoration can be found in the already mentioned

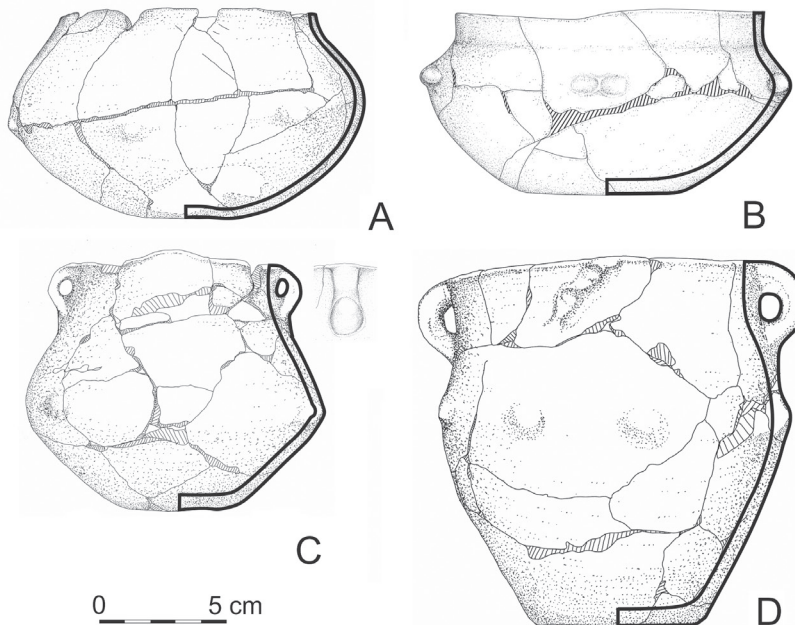
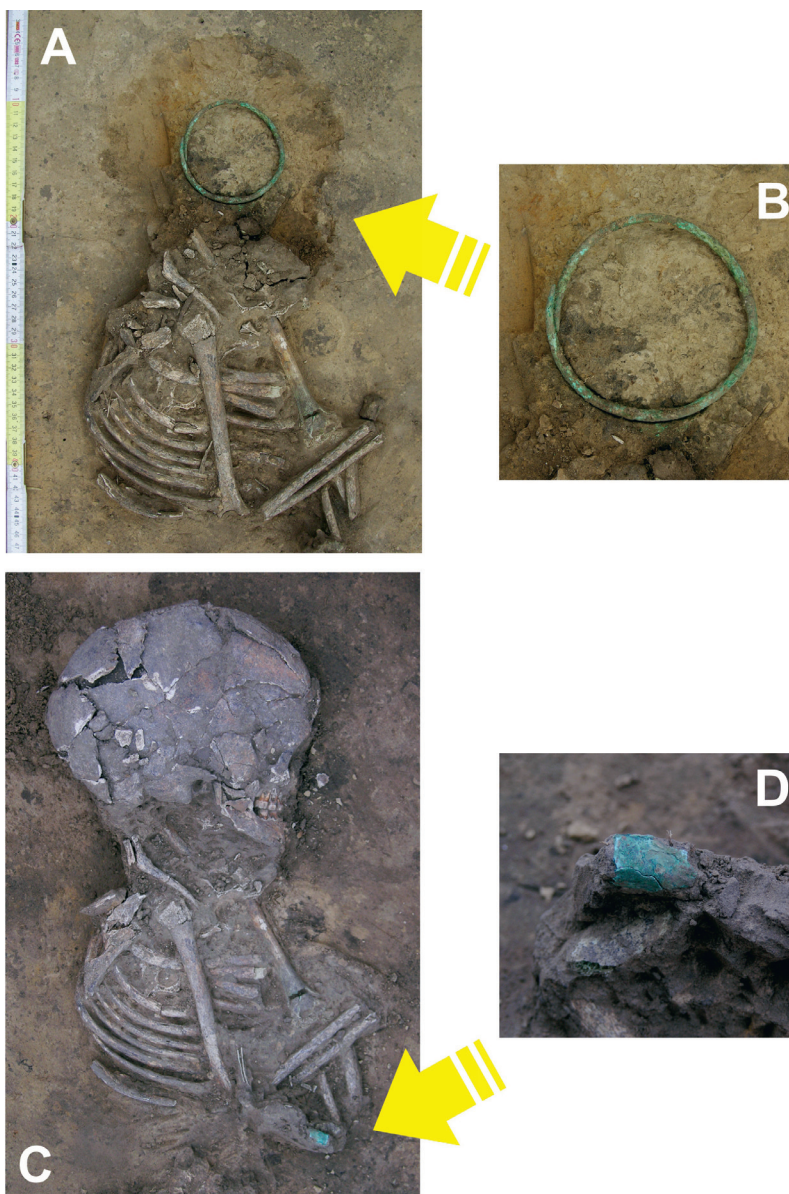


Fig. 7. Pottery from grave 7 (drawn by S. Wilk)





**Fig. 8.** Close ups of the copper ornaments in grave 7; A, B – massive wire earring; C, D – bead made of a folded sheet (photo by S. Wilk)

vessel from grave 1 in Hołyszów Wołyński (Zakościelna 2010, pl. LXXXIII: 5). In the Wyciąże-Złotniki group among the burial goods from the grave in Bodzanów, there was a vessel with a similarly looking lower part of the belly, decorated with four “pushed out” knobs (Kaczanowska, Tunia 2009, fig. 68: 2). In the Carpathian Basin, “pushed out” knobs on the widest part of the belly occurred on small jugs from the cemetery of the Bodrogkeresztúr in Fényeslitke

(Patay 1968, pls VII: 5; IX: 10) and on the sites of the Hunyadihalom-Lažňany horizon in Tiszalúc (Patay 2005, 184, pl. 3: 7) and Barca (Šiška 1972, pl. XI: 1). An identical ornament was found in the assemblage of the pottery decorated with the *Furchenstich* ornament, in the Puch-Scheibelfeld settlement in Lower Austria (Ruttikay 2006, fig. 3: 4a).

Discoid attachments of handles (*Scheibenhenkel*) in Younger Danubian groups, north of the Carpathians, are very rare (Fig. 10). From the territory of the L – VC, the only published examples of such handles are two specimens found in feature 76-I and 166 from Grodzisko I site in Złota (Kamieńska, Kozłowski 1990, fig. 31: 1, 4). In both cases, relatively small sherds of the upper parts of the vessels have been preserved. Some more examples of discoid attachments of handles (*Scheibenhenkel*) come from the Wyciąże-Złotniki group in western Lesser Poland. In 1986 Małgorzata Kaczanowska published some extremely interesting finds from pit 230 on site 55 in Kraków Nowa Huta-Mogiła, including a large sherd of a bowl with an intact handle and a fragment of a handle (Kaczanowska 1986, figs 4; 5).

Two pieces of *Scheibenhenkel* handles were found in features 1049 and 836 on site 2 in Modlniczka (Czekaj-Zastawny, Przybyła 2012, 179–180, fig. 53: 2–3). Also, a milk jug with such handles was found in Zakrzowiec (Grabowska, Zastawny 2011). From the area of Polish territory, we also know two examples of intact vessels with *Scheibenhenkel* handles from pre-war excavations: a jug from site 19 in Kietrz-Łęgi and an amphora from site 9 in Racibórz-Studzienna (Chmielewski 2014). The handles on both specimens are very large and very broad (Chmielewski 2014, figs 4; 9).

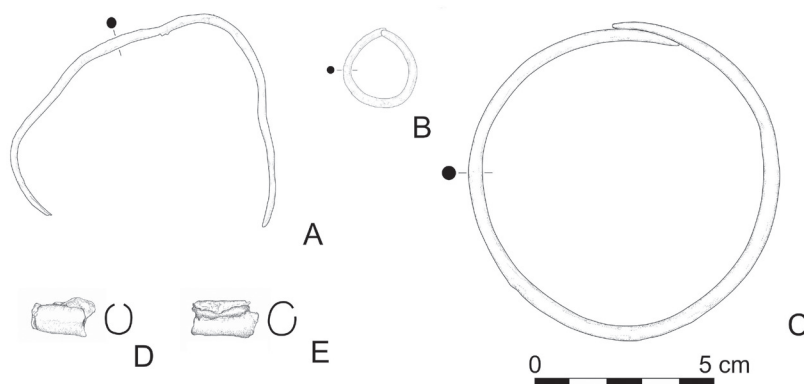
The handles on the amphora from grave 7 in Książnice are characterized by small size and relatively indistinct discoid base (Figs 5: C; 7: C). Analogous finds were discovered, among others, on site Tiszalúc in the Carpathian Basin (Patay 2005, pl. 48: 2), and Merești/Homorodalmas – cave “Locsúr” in the Romanian Carpathians, where they were found among pottery materials of the Petrești, Ariuşd, Bodrogkeresztúr and Coţofeni cultures (László, Sztáncsuj 2013, 581, 589, fig. 1: 2).

Handles with discoid attachments are common for many groups of the Middle Copper Age in the Carpathian zone. Apart from the Hunyadihalom-Lažňany horizon, they occur in phase B of the Bodrogkeresztúr culture, in *Ariuşd* and Balaton Lásinja cultures, and in the *Furchenstichkeramik* horizon, as well as in the Baalberg group and the Protoboleráz phase (Kaczanowska 1986; László, Sztáncsuj 2013; Chmielewski 2014).

Analogies of the cup/bowl with a short, distinct neck, decorated with four „pinched” handles (Fig. 7: B) do not occur in the L – VC. In the Wyciąże-Złotniki group, similar vessels were discovered in grave 7 (34) on site Kraków Nowa Huta-Wyciąże 5 (Kaczanowska, Tunia 2009, fig. 80: 2). It was classified as type MS.I.2 by Marek Nowak (Nowak 2014, fig. 8: 3, 4). The described form is widespread on sites of the Hunyadihalom-Lažňany horizon. Such vessels frequently occurred on – often described – necropolises in Barca (Šiška 1972, pl. XII: 12) and Šebastovce (Šiška 1972, fig. 29: 2, 4; pls IV: 9; V: 15), in Tiszalúc settlement (Patay 2005, pls 15: 17, 18; 16: 2, 3; 36: 1) and Panyola settlement (Patay 2011, pl. I: 5). Most often, they were decorated with a horizontal variation of *Scheibenhenkel* handles with two discoid attachments (Patay 2011, pl. I: 3, 4). It seems that „pinched” knobs from grave 7 in Książnice (Fig. 5: D) might constitute a simplified version of such handles.

### 3.2.2. Copper jewellery

Copper jewellery from grave 7 was described in detail in a separate article by S. Wilk and A. Garbacz-Klempka in this volume (Wilk, Garbacz-Klempka 2016).



**Fig. 9.** Grave 7, copper ornaments: A – opened bracelet Ks/w/3/08, B – small wire earring Ks/w/4/08, C – massive wire earring Ks/w/18/08, D – bead made of a folded sheet Ks/w/21/08, E – bead made of a folded sheet Ks/w/7/08 (drawn by S. Wilk)

### 3.3. Chronological and typological interpretation of the pottery from grave 7 in Książnice

In the framework of the periodization system of the Lublin-Volhynian culture, proposed by Sławomir Kadrow and Anna Zakościelna, cemetery on site 2 in Książnice belongs to phase III, characterized by the gradual disappearance of white-painted vessels, lower frequency of occurrence of small cups and a greater amount of imported copper artefacts, and – in the sphere of religious beliefs – the appearance of small, separate cemeteries (Kadrow, Zakościelna 2000, 223, 236; Zakościelna 2006, 84–85; Zakościelna 2010, 30–31).

Phase III, based on radiocarbon dating of pits 19, 36 and 54 from site 7 in Las Stocki and graves 1, 2 and 4 from site 26 in Strzyżów, is dated to approximately 3800–3600 BC (Kadrow, Zakościelna 2000, 252, fig. 43). To the same horizon, the following sites belong as well: site 1C in Gródek on the Bug river, 10 in Strzyżów, 16 in Krasne Kolonia and 10 in Łańcut (Zakościelna 2006, 84).

The cited researchers synchronize phase III of the Lublin-Volhynian culture with the Bodrogkeresztúr culture, the Ludanice group, Balaton-Lasinja culture and phase CI of the Tripolye culture (Kadrow, Zakościelna 2000, 235; Zakościelna 2006, 90).

Comparative analysis of the pottery from grave 7 in Książnice points towards the Hunyadihalom-Lažňany horizon as the mainstream source of analogies; and, according to the scheme proposed by Kadrow and Zakościelna, the L – VC drew on these analogies at the end of phase III (phase IIIb), or approx. 3700–3600 BC (Kadrow, Zakościelna 2000).

While, the radiocarbon dating ( $5180 \pm 35$ BP) dates the grave to the turn of the 5<sup>th</sup> and 4<sup>th</sup> millennium BC, and – or, even more precisely, to approx. 4050–3940 BC, which according to the scheme proposed by Kadrow and Zakościelna would mean that we are dealing with a feature from phase II – in other words, from the classic phase.

The above presented differences in chronology and typology inspired the author of this paper to find some explanation to the problem of periodization of grave 7 from Książnice.

The starting point for further discussion is the answer to the question whether radiocarbon date obtained for the grave 7 is correct. The date was obtained in Poznań Radiocarbon Laboratory (Poz-27531) in 2008. The small standard error ( $\pm 35$ BP) indicates that it could be so. Moreover, it turns out that there are more L – VC dates which look “problematic” as they differ

from the pottery – for example, there are relatively recently performed datings of graves 101 (Poz-19407, 5060±30 BP) and 122 (Poz-19408, 5020±40 BP) from site Złota Grodzisko II. In Sałacińska's and Zakościelna's opinion, the authors of the study of Złota materials, "they do not correspond to the formal and stylistic characteristics of the vessels from these features – they are too early" (Sałacińska, Zakościelna 2007, 109; Zakościelna 2010, 34). The link between such dates and the influences of the Hunyadihalom-Lažňany horizon has already been pointed out by T. Chmielewski (2008, 82).

Therefore, as in the case of Książnice, we are dealing here with dates from phase II (classic), and with pottery from phase III (late). The problem then might not lie in the dates, but in arriving at a greater precision when it comes to the periodization of L – VC pottery.

Of extreme importance which influenced the interpretation of the grave were the new data related to absolute chronology of the Hunyadihalom-Lažňany horizon.

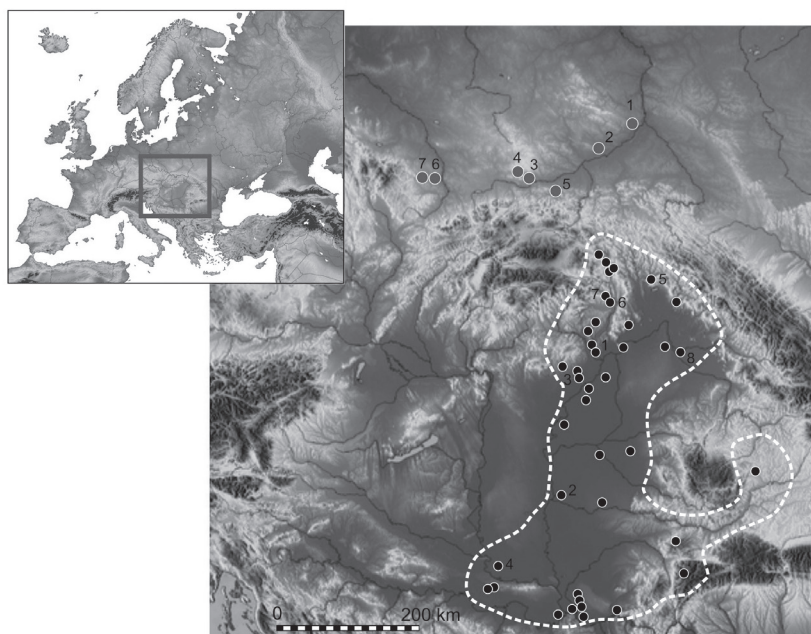
In recent years, a large series of radiocarbon dates has been obtained from large cemeteries of the Early and Middle Copper Age in the Carpathian Basin. A re-examination of old (Tiszapolgár-Basatanya, Füzesabony-Pusztaszikszó), and the recognition of new or unpublished material (Rákóczifalva-Bagi, Tiszalúc-Sarkadpuszta, Hajdúböszörmény-Ficsori-tó, Pusztataskony-Ledence performed by P. Raczky and Zs. Siklósi – Raczky, Siklósi 2013) allows us to present a very interesting vision of the cultural situation in the Early and Middle Copper Age in the eastern part of the Carpathian Basin. First of all, it turned out that the chronologies of the Tiszapolgár and Bodrogkeresztúr cultures practically overlapped with each other. Starting from approx. 4380 BC to approx. 4080 BC the two cultures, and perhaps it would be more correct to say the two pottery styles, coexist in the Carpathian Basin. In contrast, the Bodrogkeresztúr culture in its independent form lasts until the beginning of the 4th millennium (Raczky, Siklósi 2013, 569, fig. 6). Thus, the traditional linear succession of cultures in the Carpathian Basin, established on the basis of numerous stratigraphic observations, including the eponymous site of Tiszapolgár-Basatanya (Brummack, Diaconescu 2014, 244), has now been undermined.

As regards the most interesting for us, Hunyadihalom-Lažňany horizon, it was shown that the pottery characteristic of its style appeared already approx. 4200 BC (Tiszapolgár-Basatanya) and lasted for approx. 3900–3800 BC (Tiszalúc-Sarkadpuszta – Raczky, Siklósi 2013, 570, fig. 7). Such an approach to the chronology of the Chalcolithic in the Carpathian Basin is a true revolution in relation to the traditionally accepted scheme. The authors showed that the cultural beginnings of the Bodrogkeresztúr culture should be moved by at least 200 years, and those of the Hunyadihalom horizon by 400 years. The cited study, however, has several weak points. One of them is that only on one site (Tiszapolgár-Basatanya) the entire cultural spectrum of the Early and Middle Copper Age has been captured. The other cemeteries are monocultural, which excludes the possibility of a reliable chronological-typological analysis based on the coexistence of different styles of pottery (cultures) on a single cemetery.

The findings of P. Raczky and Zs. Siklósi were critically analysed by S. Brummack and D. Diaconescu, who performed Bayesian analysis of 60 radiocarbon dates from the features representing the most important sites of the Early and Middle Copper Age, including the ones that had already been published (Čičarovce, Gorsza B, Polgár-Bosnyákdomb, Vésztő-Bikeri, Körösladány-Bikeri, Tiszapolgár-Basatanya, Male Raškovce, Uivar, Hajdúböszörmény, Pusztataskony-Ledence 1, Rákóczifalva-west, Tiszalúc-Sarkad) as well as some completely new ones (Barca Baloty; Brummack, Diaconescu 2014, tables 1–6).

The result of their findings is the proposal of periodization of the Copper Age in the Carpathian Basin, which would be somewhat closer to the traditional approach, but – which is





- - sites of the Hunyadihalom-Lažňany culture
  - 1 - Tiszalúc, 2 - Hódmezővásárhely-Hunyadi halom, 3 - Tiszavalk-Kenderföld, 4 - Vajska, 5 - Malé Zaluzice Lažňany, 6 - Sebastovce, 7 - Barca, 8 - Panyola
- - sites with *Scheibenhenkel* handles on the Polish Lands
  - 1 - Złota site Grodzisko I, 2 - Książnice site 2, 3 - Kraków Nowa-Huta Mogiła, 4 - Modliniczka site 2, 5 - Zakrzowiec, 6 - Racibórz-Studzienna site 9, 7 - Kietrz-Lęgi site 19

**Fig. 10.** Map of the Hunyadihalom-Lažňany culture, and occurrence of the *Scheibenhenkel* handles in the Polish Lands; after Patay 2005, Chmielewski 2014, changed and supplemented

interesting in the context of the problems discussed in this article – taking into account the somewhat earlier chronology of the Bodrogresztúr culture (approx. 4300–4000 BC) and the horizon Hunyadihalom-Lažňany (approx. 4000/ 3950–3800/3750 BC; Brummack, Diaconescu 2014, figs 12; 13: 252).

The argument confirming the relatively early chronology of the materials belonging to the Hunyadihalom-Lažňany horizon in Lesser Poland are new radiocarbon dates for the Wyciąże-Złotniki group (closely related to this environment), which have recently been obtained. They have helped to determine the period of this group's functioning at approx. 4300–3800/3750 BC (Grabowska, Zastawny 2011, 134; Nowak 2014, 250), which almost coincides with the L – VC.

In conclusion, in the light of new data on the radiocarbon chronology of the Copper Age in the Carpathian Basin, the date of grave 7 from Książnice corresponds well to the ceramic inventory with the characteristics of the Hunyadihalom-Lažňany horizon.

A separate comment is needed about the analogies between the way of decorating vessels from grave 7 from Książnice and the material from the cemetery in Hołyszów Wołyński (diagonally running plastic cordons below the rim, “pushed out” knobs on the sharply profiled belly), representing the pre-classical phase (phase I) of the L – VC. At the moment, it seems that these analogies are merely formal and we should not draw any conclusions regarding chronology.

The assemblage of vessels from Hołyszów Wołyński is related to the pottery of the Malice culture at the turn of phase Ic and IIa (Kadrow, Zakościelna 2000, 208).

#### 4. Summary

The analyzed burial significantly contributed to our knowledge of the beginnings of the Eneolithic in Lesser Poland and cultural relations between the Carpathian Basin and the areas situated north of the Carpathian Mountains at the turn of the 5<sup>th</sup> and 4<sup>th</sup> millennia BC.

The above presented conclusions regarding the dating of grave 7, indicate the need to modify the 15-year-old scheme of the L – VC relative chronology which was proposed by Kadrow and Zakościelna, particularly in the context of recent publications of the radiocarbon dates from Early and Middle Copper Age cemeteries in the Carpathian Basin and of the Wyciąże-Złota group. It should be, however, remembered that such modifications have already been suggested (Chmielewski 2008).

The presence of the Hunyadihalom-Lažňany influences in Lesser Poland in the late 5<sup>th</sup> and 4<sup>th</sup> millennia BC forces us to pose the questions about their role in the spread of “Chalcolithic” attributes north of the Carpathian Mountains. There is clearer support for the thesis that the new cultural trends, which were expressed by the sepulchral ideology borrowed from the area of the Carpathian Basin emphasizing the elitism of burials, drawing clearer distinctions between the sacred and the profane in the spatial sense, and strongly emphasizing sexual dimorphism, could be to a greater extent the result of the influences of the Hunyadihalom-Lažňany horizon, and not just – as has traditionally been accepted – of the Tiszapolgár and Bodrogkeresztúr cultures (Kozłowski 1971; 2006; Kadrow 2008; Zakościelna 2010).

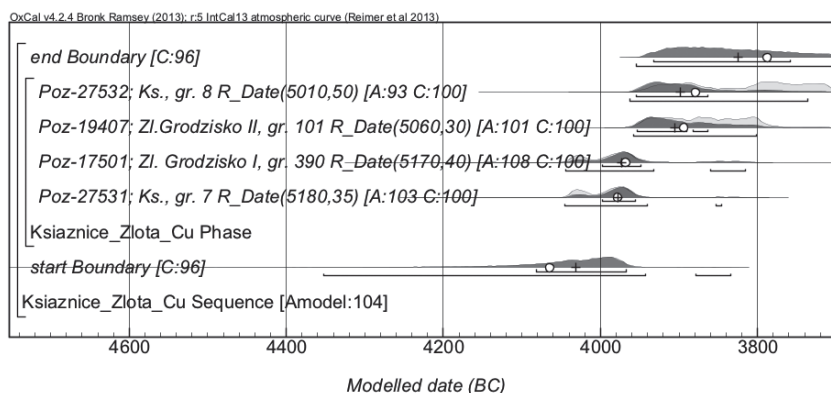
The bayesian analyses of the radiocarbon dates of burial assemblages containing copper artefacts from Lesser Poland also seem to prove this. Among them are two dates from the L – VC cemetery on site 2 in Książnice: grave 7 (Poz-27531; 5180±35 BP) and grave 8 (Poz-27532; 5010±50 BP) and two dates of the L – VC burial complex in Złota: grave 390 from site Grodzisko I (Poz-17501; 5170±40 BP) and grave 101 from site Grodzisko II (Poz-19407; 5060±30 BP). The two older dates are approx. ca. 4070–4030 BC (Złota Grodzisko I grave 390, Książnice site 2 grave 7), and two younger ones are approx. 3830–3790 BC (Złota Grodzisko II grave 101, Książnice site 2 grave 8) (Fig. 11).

But when we consider the observations of the proximity of graves 7 and 8 on the layout of the cemetery in Książnice (Fig. 2) and fact that the time of use of the very similar Jordanów culture cemetery in Domasław was estimated at 3–4 generations (Furmanek, Mozgała-Swacha 2017, 181), we could assume that the two features were built at a relatively short time – according to the author of this paper, within no more than 80–100 years.

For the features found in Złota, there are no stratigraphic grounds for narrowing the ranges of the probabilities of the dates in a similar way. The analyzed assemblages were found at a great distance from each other, on two separate sites. Besides, grave 390 was included in Phase II (the classic phase) of the L – VC on the basis of the characteristics of its pottery, and grave 101 in Phase III (the late phase) of the L – VC (Sałacińska, Zakościelna 2007, 107).

Thus, taking into account the general similarity of pottery and copper ornaments from Książnice and Złota, we can safely assume that all of the four assemblages were deposited within approx. 100–150 years (most likely between 4030–3830 BC); and, therefore, taking into consideration what has been determined above, they might be related to the influences of the Hunyadihalom-Lažňany horizon in Lesser Poland.

It should be noted that most of the dates for copper-containing L – VC graves in the eastern part of Lesser Poland which are mentioned in the literature (Gródek site 1C, Strzyżów



**Fig. 11.** Bayesian analysis of the radiocarbon dates obtained from the L–VC graves with copper artefacts from site 2 in Książnice and site Grodzisko I and II in Złota (by Marek Nowak)

site 26) are clearly younger and are grouped in the second quarter of the 4<sup>th</sup> millennium BC (Zakościelna 2010, table 6). The exception is the date of feature 18 on site 2 in Podlodów (Ki-8730; 5180±100 BP), but it has a very large standard error. At the same time, as Anna Zakościelna has shown (2010, 35), the date of 4570±70 BP (Ki-10028; for grave V from site Gródek C) and 4490±70 BP (Ki-10026; for grave VI in the same cemetery) belonging clearly to the 2<sup>nd</sup> half of the 4<sup>th</sup> millennium BC, due to the presence of intensive Funnel Beaker culture settlement on the Western Volhynian Upland at that time, should definitely be ruled out.

Obtained relatively recently in Poznań Radiocarbon Laboratory, a new date from grave VI from site Gródek 1C (Poz-31594; 4960±35 BP; Zakościelna 2010, 35), although clearly older than the previous ones, seems to confirm a younger, reaching approx. 3800–3650 BC, dating of copper-containing graves on the Western Volhynian Upland in comparison to the Sandomierz Upland and Pińczów Ridge.

To determine which of the groups living in Lesser Poland at the end of the 5<sup>th</sup> and beginning of the 4<sup>th</sup> millennium BC first imported copper artefacts remains a difficult question to answer, because we do not have radiocarbon datings for copper-containing graves of the Wyciąże-Złotniki group. The only exception is the date from an unpublished grave from site 24 in Proszowice (5370±40 BP), which is related to the Wyciąże-Złotniki group by its discoverer, Marcin M. Przybyła (Przybyła 2009). Unfortunately, apart from a rich set of copper and stone jewellery, the burial did not include pottery, which would allow its cultural identification. It should, however, be noted that the above-mentioned grave, which after calibration can be dated to the years 4330–4060 BC at 95.4% probability, is the oldest known assemblage with copper artefacts in Lesser Poland (Nowak 2014, fig. 2).

The above proposed thesis about greater than previously thought role of the Hunyadihalom-Lažňany horizon in the spreading of Eneolithic cultural patterns from the Carpathian Basin in Lesser Poland results from the interpretations, presented in this article, of the new data about the cultural and chronological relations of the Carpathian Basin with Lesser Poland in the Middle Copper Age. The question is how the data about the burial ritual of the Hunyadihalom-Lažňany horizon, which must largely have served as the pattern for the societies living north of the Carpathians, fits in with this new vision.

From not very many published burial assemblages, we know that, in the discussed society, there were biritual burial practices. Almost half were cremation burials, and the rest – skeletal ones. Graves

were mostly located on separate, relatively small, consisting of 6 to 42 features, cemeteries. Clemens Lichter, analyzing the burial ritual of the Hunyadihalom-Lažňany horizon, observed that, among skeletal burials, there was the custom of positioning the deceased in a contracted position, on the left or right side, which was assimilated from the Bodrogkeresztúr milieu. According to Lichter, this was a continuation of differentiating between the deceased relative to their sex, which was a very characteristic custom of societies from the early or initial stage of the Middle Copper Age. What is more, on the explored cemeteries, like in the Bodrogkeresztúr culture, we observe elite burials, containing, among other artefacts, daggers and copper jewelry (Lichter 2001, 357–358).

The above described characteristics, apart from the cremation practice, are very similar to the sepulchral rituals of groups living in Lesser Poland at the end of the 5th and at the beginning of the 4<sup>th</sup> millennium BC. If we add to this the fact that, in the Lublin-Volhynia culture, the first cremation graves have recently been unearthed (the unpublished grave 14 from the cemetery in Książnice; grave from Gródek in Lviv region; Pawliw *et al.* 2016), it may turn out that, the differences that we may find existing at first glance between the deceased in the two societies are not so large, and are mainly due to inadequate state of research.

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### Nowe dane na temat chronologii oddziaływania horyzontu Hunyadihalom-Lažňany na młodsze społeczności naddunajskie na północ od Karpat

Przedmiotem niniejszego artykułu są wpływy ugrupowań środkowej epoki miedzi z Kotliny Karpackiej na kulturę lubelsko-wołyńską – pierwszą eneolityczną kulturę w Małopolsce. Analiza porównawcza ceramiki z grobu 7 kultury lubelsko-wołyńskiej z Książnic (Małopolska) wskazuje jako główny nurt analogii horyzont Hunyadihalom-Lažňany, do którego nawiązania wg schematu Sławomira Kadrowa i Anny Zakościelnej, występują w KLV pod koniec fazy III, czyli ok. 3700–3600 BC (Kadrow, Zakościelna 2000). Jednocześnie data radiowęglowa ( $5180 \pm 35$ BP) dość precyzyjnie umieszcza omawiany zespół na przełomie V i IV tysiąclecia BC, a dokładniej ok. 4050–3940 BC, co wg schematu S. Kadrowa i A. Zakościelnej oznacza, iż mielibyśmy do czynienia z obiektem z fazy II. Niezwykle ważnym czynnikiem, który wpłynął na interpretację omawianego grobu okazały się nowe dane dotyczące chronologii absolutnej epoki miedzi w Kotlinie Karpackiej. W świetle nowej chronologii radiowęglowej horyzontu Hunyadihalom-Lažňany w Kotlinie Karpackiej (ok. 4200–3800 BC wg Raczky, Siklósi 2013; ok. 4000–3800 BC wg Brummack, Diaconescu 2014), data z grobu 7 z Książnic dobrze współgra z inwentarzem ceramicznym o cechach horyzontu Hunyadihalom-Lažňany. Obecność wpływów Hunyadihalom-Lažňany w Małopolsce na przełomie V i IV tysiąclecia BC zmusza do postawienia pytań o ich znaczenie w rozprzestrzenianiu się atrybutów „epoki miedzi” na północ od Karpat. Coraz wyraźniej rysuje się teza, że nowe trendy kulturowe, których wyrazem była zapożyczona z terenu Kotliny Karpackiej ideologia sepulkralna podkreślająca elitaryzm pochówków, wyodrębniająca sacrum i profanum w sensie przestrzennym, oraz silnie akcentująca dymorfizm płciowy, mogły być w większym stopniu wynikiem oddziaływań horyzontu Hunyadihalom-Lažňany, a nie tylko, jak tradycyjnie zakładano, kultur Tiszapolgár i Bodrogkeresztúr.

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## Appendix 1

### Animal bones from Lublin-Volhynian grave 7 at site 2 in Książnice, Świętokrzyskie Province

Danuta Makowicz-Poliszot

The bone material analysed in the present study includes a few bones which come from Lublin-Volhynian grave 7 (feature 2/08), discovered in 2008 at site 2 in Książnice, Pacanów commune. The bone remains were subjected to zoological analysis which involved the determination of species and anatomy, the identification of bone sizes (0,5 – half of the bone; 0,3 – fragment of the bone), body side (*sin.* – left side) from which the elements originate and the age of animals (*sub.* – nearly adult specimen).

The material from grave 7 comprises 3 elements of the skeleton of goat/sheep *Capra hircus* L./*Ovis aries* L. The bones include the scapula and the humerus from the front extremity and the tibia from the rear extremity. They come from nearly adult specimens, i.e. grown-up but morphologically immature, whose skeletal ossification process was incomplete (Lasota-Moskalewska 2008, 137).

Bones of nearly adult small ruminants (goats and/or sheep) were also discovered in other Lublin-Volhynian graves (no. 5 – feature 1/04, no. 6 – feature 3/04, no. 8 – feature 3/08) from site 2 in Książnice. They also include parts of front and rear extremities of these animals (Makowicz-Poliszot 2006; 2014).

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