UDK 903.23'15.02(437.6)''634''
Documenta Praehistorica XXXIV (2007)

The Lengyel culture settlement in Bučany (preliminary report on pottery processing)

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ABSTRACT – *The paper presents the preliminary results of the numerous ceramic finds from the Lengyel Culture settlement, excavated between 1979 and 1981, with a circular object, probably of cult nature, in Bučany, county Trnava, Slovakia. The analysis focuses on a statistical method of numerical coding that simplifies working with huge data files and helps by exact description and classification of the finds. The starting pointing of this approach is recognition of connections and relations (in typological and decorated respects) of the ceramic material. The most suitable comparisons could be found in material from Neolithic sites of south-west Slovakia, Moravia and Austria.*

IZVLEČEK – *Tema predstavlja preliminarne rezultate številnega keramičnega materiala iz naselja lengyelske kulture, ki je bilo izkopano med leti 1979 in 1981 v kraju Bučany, okrožje Trnava na Slovaškem. Predstavljamo tudi okrogel objekt, verjetno kultne narave. Analiza se osredotoča na statistično metodo numerične kode, ki olajšuje delo z velikimi podatkovnimi datotekami in pomaga pri natančnem opisu in klasifikaciji najdb. Izhodišče pristopa je prepoznavanje tipoloških in ornamentalnih povezav in razmerij. Primerjave najdemo pri materialu iz neolitskih najdišč jugozahodne Slovaške, Moravske in Avstrije.*

KEY WORDS – *Neolithic settlement; Lengyel Culture stage I; pottery; relative chronology*

Introduction

The Lengyel Culture settlement in Bučany, county Trnava was discovered during research project work from 1978 to 1981 led by P. Romsauer and J. Bujna. The site of Bučany (location Kopanice) is situated on the high right-bank loess terrace of the River Dudváh. An area 530 m long and 60–200 m wide, about 6 ha, was explored during four research seasons. 193 settlement structures and 55 graves were uncovered in this area (*Bujna and Romsauer 1982; Bujna and Romsauuer 1986.27*). The following cultures were represented at the site: Lengyel Culture (Neolithic), Group Bajč-Retz (Cooper Age), Madarov Culture (Bronze Age), Kalenderberg Culture (Hallstatt), La Tène Culture group, and sporadic pottery finds from the late Middle Ages.

Lengyel settlement, supported with 33 exploitation and refuse pits, was located approximately in the north half of the explored area of some 200 x 250 m. The excavation of the entire ground plan of a circular feature, probably of a cult character, on the eastern edge of this area is one of the most important achievements. In spite of the fact that a considerable area was examined, the entire settlement was not uncovered and there was no success in uncovering its residential section (*Bujna and Romsauer 1981.59–60*).

The circular enclosure consisted of two concentric ditches, and an interior palisade comprising trench sections and post-holes (Fig. 1). The interior diameter reached 45.5 m and the exterior diameter reached 67–70 m. Two collateral acuminate ditches 2.6 m–3 m wide and 2.6 m deep were interrupted by gates on four opposite sides. A 10 m long outer ditch runs into two rectangular (pliers-like) arms from the point where the gate was located. Hence the maximum extent of the circular enclosure in the

direction of the entrances reached 87 m. The inner ditch was also interrupted at gates locations. In this way the area created was narrowed by two trenches with the pair of stockade pits at their ends, which were probably the remains of the construction of an entrance gate to the inner fenced area. There was a ground plan of a two-room stockade building, 15 m x 7.5 m with, and three big pits in a triangular configuration in the north-eastern quadrant of object. The building was the same age as the circular structure belonging to the group of Lengyel structures (*Bujna and Romsauer 1980.56*).

At a distance of 100–120 m south-westward and even 200 m northward from the circular structure, skeleton graves were diagnosed, two of which are probably the same age as the Lengyel settlement, and two graves with no finds can be assigned to them on the basis of their orientation, as well as the positioning of the dead (*Bujna and Romsauer 1981.60*).

Bučany-Kopanice is categorized as a Lengyel Culture site of primary importance largely thanks to the discovery of circular enclosure which fits with evidence of buildings typical of a defined phase (early stages) of the Lengyel period of the cultural complex (including Moravian Painted Ware Culture – MMK and Austro-Moravian Painted Ware Group – MOG) and contemporary Stroked Pottery Culture in the broader regional sense. The circular enclosure in Bučany was built very functionally and gracefully, without any noticeable repairs which indicates that it probably followed some older pattern (*Karlovský 1999.119*). The very first circular buildings, the evidence of the oldest monumental architecture in central Europe, appeared as early as the period of Protolengyel in an area of Hungary west of the Danube (*Kalicz 1983–1984; Károlyi 1983–1984*).

The fortifications in Bučany-Kopanice consisted of a circular structure with two ditches, an inner palisade and four entrances of type 1–2, according to the classification of V. Podborský (*1988.243–245*). After Trnka's (*1991.312–315*) classification, the circular building belongs to the group of classical double-circle formations with the 3:2 ratio of outer and inner ditch, with four entrances and outward running arms in the outer ditch. In Slovakia, for example, the circular enclosures in Horné Otrokovce-Berinová, Trnava county (*Kuzma 1998.95, Fig.7; Tirpák 1997. 155–156*), and Podhorany-Mechenice in Nitra county (*Kuzma 2005.Fig. 6. B, C*) are assigned to the same type. The ground plan of ditches in Bylany, Czech Republic (*Zápotocká 1983.Fig. 6*), west of the Lengyel cultural circle, is practically identical with Bučany.

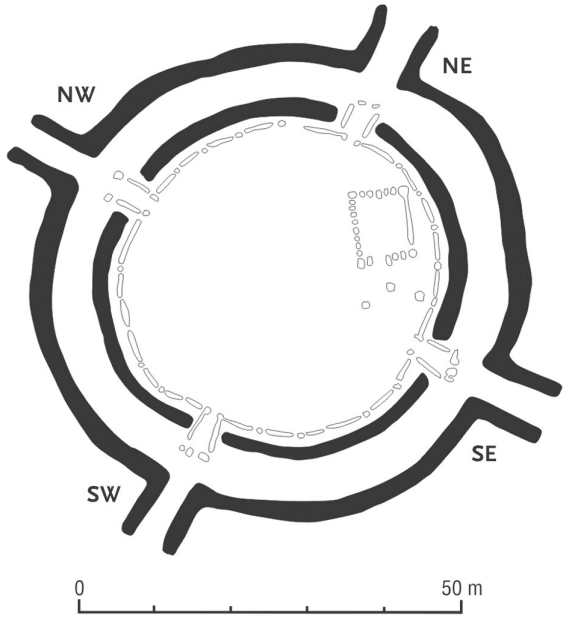

Fig. 1. Bučany–Kopanice circular enclosure ground plan (after* Bujna and Romsauer 1986.Fig.2*).

Bučany is an exception from the point of view of the traditional building process of circular enclosures. The outer ditch, usually markedly narrower than the inner ditch (*e.g.* Svodín – *Nemejcová-Pavúková 1995.63*), is 40 cm broader in the case of Bučany. Hence in Bučany it is not very reasonable to think of the outer ditch as of some complementary element in a certain sense, for example, to gain a bigger quantity of soil to build a bank, or for some other reasons (*Nemejcová-Pavúková 1997.105*). Moreover, Gerhard Trnka (*1991.308–316*) clearly claims that these circular buildings appeared in one stroke, *i.e.* the building and its exact appearance was designed in advance. In Bučany we do not even register the difference in the width between the outrunning rectangular arms of the outer ditch and the width at the gates of the inner ditch (as in the case of two NNW and WSW entrances, the difference is slightly discernible, but there is no difference in the other two).

While appraising the two-room stockade building, *i.e.* the house with one open part without a transverse wall in the inner area of circular architecture in Bučany, we must emphasize that its construction corresponds to buildings uncovered in a fenced area of a palisade circular enclosure in the settlement of Lengyel Culture (Lengyel II stage) in Žlkovce (*Pavúk 1991.350–354, Fig. 4; 1998*) on the same terrace as the settlement in Bučany, and only some 2.5 km distant. There are also two houses of 'megaron' type at

Database section	Rated category	Data type
A. General	Registration number of pot	Numeric
	Inventory number	Numeric
	Serial number of box	Numeric
	Year of field research	Numeric
	Feature number	Numeric
	Type of feature	Numerical code
	Layer of feature (cm)	Numeric
	Fragmentary remains (quantity)	Numeric
B. Typological	Pottery class (type)	Numerical code
	Pottery class (variant)	Numerical code
	Degree of pot conservation	Numerical code
	Form of the vessel rim	Numerical code
	Form of the neck	Numerical code
	Form of vessel collar	Numerical code
	Form of the lower half of vessel	Numerical code
	Profile of the bottom	Numerical code
	Form of the pedestal	Numerical code
	Profilation of vessel	Numerical code
C. Metric	Diameter of the rim (cm)	Numeric
	Diameter of the convexity (cm)	Numeric
	Diameter of the bottom (cm)	Numeric
	Diameter of the pedestal (base) (cm)	Numeric
	Thickness of the pot-wall (mm)	Numeric
	Thickness of the pot-wall	Numerical code
D. Technological and decorative	Pot-surface preparation, exterior	Numerical code
	Pot-surface preparation, interior	Numerical code
	Density of ceramic material	Numerical code
	Grade of grain classification	Numerical code
	Grain roundness	Numerical code
	Material roughness	Numerical code
	Addition to the ceramic material	Numerical code
	Surface color, exterior	Numerical code
	Surface color, interior	Numerical code
	Type of interior decoration	Numerical code
	Type of exterior decoration	Numerical code
	Incised decoration technique	Numerical code
	Placing of the exterior incised decoration	Numerical code
	Type of the exterior incised decoration	Numerical code
	Placing of the interior incised decoration	Numerical code
	Type of the interior incised decoration	Numerical code
	Placing of the plastic decoration	Numerical code
	Placing of the engraved decoration	Numerical code
	Type of plastic decoration/application	Numerical code
	Type of engraved decoration	Numerical code
	Multiplication of plastic decoration elements	Numerical code
	Plastic decoration or serviceable forms	Numerical code
	Placing of the exterior painted decoration	Numerical code
	Exterior color combination	Numerical code
	Exterior paint motif and its variants	Numerical code
	Placing of the interior painted decoration	Numerical code
	Interior color combination	Numerical code
	Interior paint motif and its variants	Numerical code

Tab. 1. Database structure of the Lengyel Culture pottery finds from Bučany.

Circular enclosure components (object 60)	Ceramic classes							
	Pots and pot-like types	Large-pitcher	Bowls and bowls on pedestal	Beakers	Special types	Small forms	Unidentified	Total
Outer ditch	9	2	1	3	1	0	13	**29**
Inner ditch	15	4	7	3	0	0	28	**57**
Outer entrance	13	6	7	1	0	1	20	**48**
Inner gate	5	2	1	0	0	0	7	**15**
Posthole-house	0	0	0	0	0	0	1	**1**
Palisade	0	0	0	0	0	0	2	**2**
Surface collection	3	0	1	3	0	0	2	**9**
Total	**45**	**14**	**17**	**10**	**1**	**1**	**73**	**161**

Fig. 2. Pot-quantity share of the basic pottery classes in the circular enclosure components.

the settlement in Santovka, synchronous with the Moravian Painted Ware Culture Ib–c phase in south Moravia (*Pavúk 1994*). The ground plans of such houses occurred then in the south-west of Slovakia during at least three pottery phases (Bučany, Santovka, Žlkovce).

Database structure of pottery finds

The centre of material found in the Lengyel settlement of Bučany is comprised of pottery, which is overall processed in database system. The basic structure of the pottery database (Tab. 1) partially arises from a detailed system made for the Moravian Painted Ware Culture (*Podborský et al. 1977*).

Lengyel settlement pits and pottery finds from Bučany form a rich source of information. Their analysis and evaluation is the condition for understanding the chronological and dimensional structure not only of the settlement itself, but also of the position of Lengyel village within the partial regional units. We decided to present the results of a pottery set analysis from the building complex with the circular architecture ground plan (Fig. 2) and from some selected settlement pits from Bučany (Fig. 3). These so-called common settlement pits generally contain the largest number of structures in Neolithic settlements. The pits are of approximately oval or irregular ground plan, with variously shaped walls, and flat, concave, or waved bottoms. Probably bigger sets of pits uncovered in Bučany can be interpreted as building clay pits which became dumps after fulfilling their function (*e.g.* structures 4 and 180). Also, smaller pits which were originated in relation to the need for clay for building purposes served for the purchase of clay. We have chosen to analyze the following structures: 1, 29, 82, 117, 153, and 155.

Object No.	Year of field research	Length/cm	Width/cm	Max. depth/cm	Pots and pot-like types	Large-pitcher	Mushroom	Bowls and bowls on pedestal	Beakers	Serviceable forms	Special types	Small ceramic forms	Unidentified fragments	Total
01	1978	450	200	80	10	6	0	11	13	0	0	0	15	**55**
04	1978	520	440	140	12	2	0	13	10	2	0	0	2	**41**
29	1978	450	340	80	10	4	0	5	10	0	0	1	12	**42**
82	1979	> 70	370	n.	13	0	0	29	13	1	0	0	28	**84**
117	1980	> Ø 200–220		65	5	1	0	3	3	1	1	0	12	**25**
153	1980	600	375	60	10	2	1	9	12	0	0	0	57	**91**
155	1980	380	350	100	11	1	0	14	9	2	0	0	17	**54**
180	1981	700	530	190	6	5	0	13	3	0	0	0	36	**63**
		Total			**77**	**21**	**1**	**97**	**73**	**6**	**1**	**1**	**179**	**456**

Fig. 3. Representative Lengyel Culture structures: basic data and pot-quantity share in the pottery ensemble (n. – not detected).

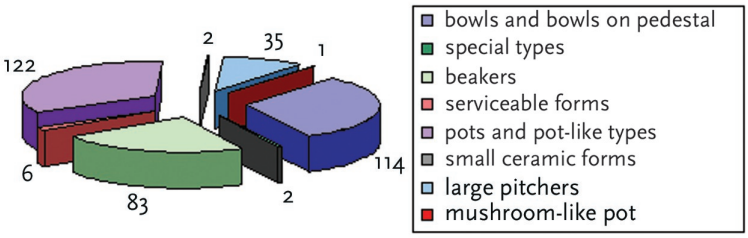

Fig. 4. Pot-quantity share of the basic pottery types in the pottery ensemble.

The selected pottery ensemble from Bučany-Kopanice includes 617 specimens. 365 (60 %) of them can be categorized into six basic types of pottery classes (Fig. 4), and each of them can be further categorized into variants of pottery classes enabling a shape diagnosis of particular vessels.

Pottery vessels were made of dough with a high content of sandy admixtures. Strong-wall pottery (more than 0.5 cm thick) is hence mostly grain and wholegrain, usually containing bigger pebbles and micas. The colour of the pot surfaces varies depending on the kind of burn: black, grey, here and there changing to brown, orange and yellow. Of the final surface design techniques, a natural surface fine-tuned by smoothing is prevalent. The surface of thin-wall pottery (up to 0.5 cm thick vessel walls) was usually tuned by polishing, and rarely painted with a special clay layer.

It is possible to divide the complex into four pottery groups according to wall thickness (Fig. 5):

a. thin-wall pottery (thick wall max. till 0,25 cm),
b. slightly halfrough-wall pottery (thick wall between 0,25 and 0,5 cm),
c. halfrough-wall pottery (thick wall between 0,5 and 1 cm),
d. rough-wall pottery (thick wall over 1 cm).

Forms of the vessels

Pots and pot-like types (Fig. 6). These two categories are unified, due to obvious fragmentation, which prevents further determination. It is possible to include 158 samples in this category. Large pitchers (35 pieces), for which horned ears are typical (Fig. 9.5.7) are markedly present here. Mushroom pots appear sporadically in this set (Fig. 9.1). Pots, other pot-like types and large pitchers, generally belong to the group of thick pottery, 20 % of which can be classified as slightly half rough-walled pottery, 64 % as half rough-walled pottery and 16 % as a rough-walled pottery. The oval-shaped rim obviously dominates (71 %) in the examined set. Extended horned ears with a hole mostly appear on the surface of large pitchers (37 %). An embossed design is also represented by simple vertically extended bosses and also by a variation with a horizontal hole, then asymmetrically projecting, hemispherical, conical, projecting and sporadically tongue-like bosses. Incised decoration appears on the surface of only eight specimens as true meander motifs, true (continuous multiple) spirals and zig-zag motifs. Painting is discernible in the case of 37 exemplars. The motif of vertical, horizontal or oblique bands appears repeatedly.

Bowls and bowls on hollow pedestals (Fig. 7). This pottery class is also very numerous, with 114 specimens. In many cases it was not even possible to decide reliably if it is a bowl or bowl on a hollow pedestal. 35 bowls on hollow pedestals appear in the set examined. Bowls are usually classified as rough-walled pottery, while 21 % of the set examined can be classified as slightly half rough-walled pottery, 72 % as half rough-walled pottery, and 7 % as rough-walled pottery. The set examined contained five main variations of bowls, from which the most numerous were bowls with symmetrical collars (13 %), then with opened (14 %) and inward-leaning collars (9 %), and finally conic bowls (7 %). Examining the form of the vessel rim, the oval-shaped rim which appears in the case of 60 specimens predominates. Narrow rims also appear relatively often (11x). The decoration was preserved on the surface of 65 % of fragments, on which painting was found in the case of 59 specimens – it is usually a motif of vertical, horizontal or oblique bands, 7x circle motif, and once a diagonal net motif. Engraved decoration does not occur. Plastic decoration is represented mainly by bosses. Hemispherical (11x), conical (8x) and projecting (5x) bosses are the most

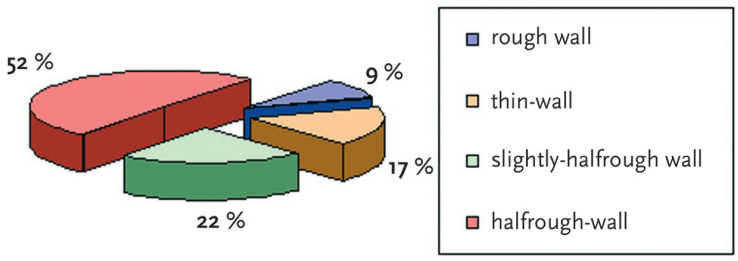

Fig. 5. Percentage shares of various pottery wall thickness groups.

commonly occurring. Incised decoration was diagnosed in the case of three exemplars. In the first case there is a zig-zag motif grouped in vertical stripes made with simple thin line; in the second case the exterior surface of bowl is decorated with a single fine incised line which created a convex-concave star shape motif aided by an incised net motif. The third bowl with incised decoration technique had true spiral motifs made with a group of fine lines on its exterior surface and continuous meanders with hooks on its internal surface.

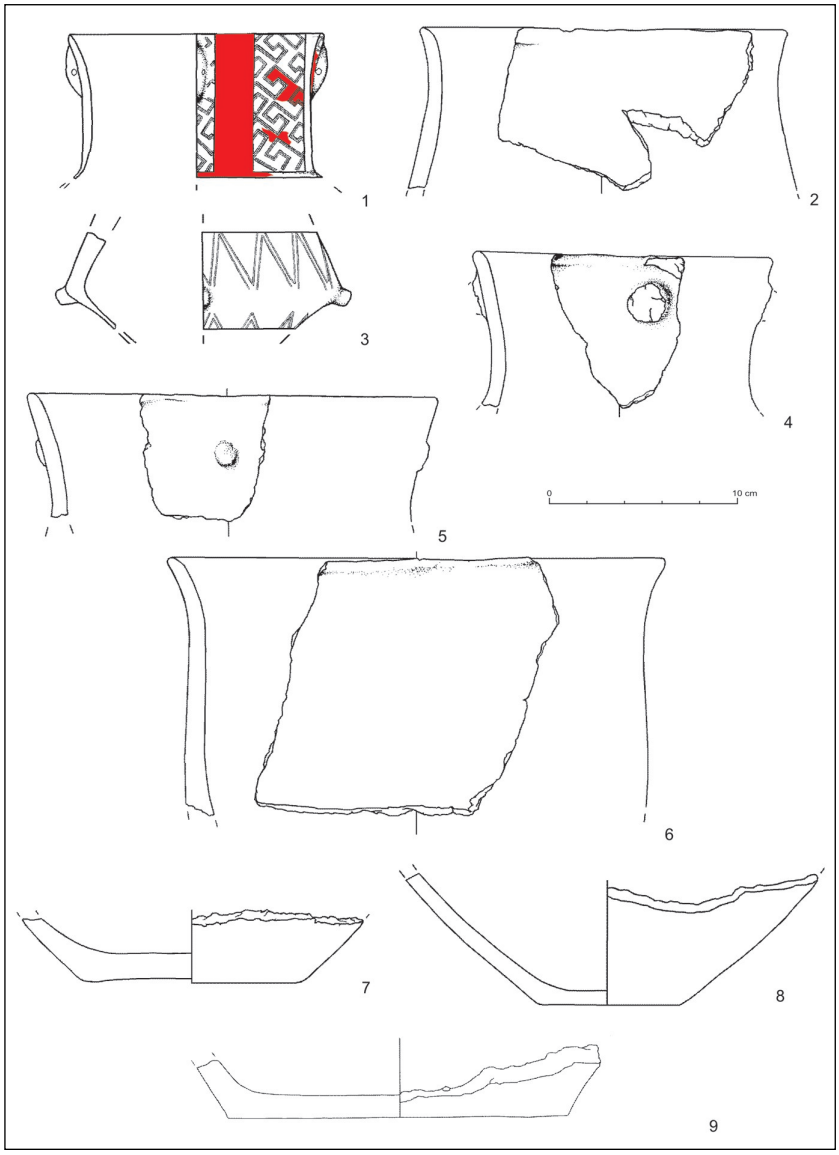

Fig. 6. Bučany-Kopanice. Pots and pot-like types: 1, 3 – structure 29; 2, 4, 7–9 – structure 60; 5, 6 – structure 153.

Beakers (Fig. 8). They belong to the category of thin-walled pottery (70 %), possibly to a slightly half rough-walled pottery (30 %). In the set of shapes identified they comprise one quarter. In the case of bigger fragments (34 %). We were successful in determining their variation. Beakers with biconical bodies predominate here (29 %), followed by beakers with a globular body (21 %), then by beakers with upper convexity and tall thin beakers with bent necks and biconical bodies, both types representing 14 % in the set. The most of the cups have an oval-shaped vessel rim (60 %), then narrowed (20 %), pointed (11 %), sharply accentuated (6 %), and, finally, one fragment has a bevelled rim. Decoration occurs on the surface of 77 cups. Incised decoration occurs on the exterior surface of 43 specimens. A double-thin line decoration technique dominates here (26x), but there is also a group of fine thin incised lines (11x) and simple thin lines (6x) in the ensemble. From the motifs of incised ornaments, mainly true spiral (63 %), meander (15 %), stripe (10 %) and zig-zag motifs (10 %) are applied in the case of cups. Plastic decoration in the form of bosses occurs on the surface of at least half the cups. Projecting out bosses predominate here (25 %), followed by hemispherical bosses (17 %), asymmetrically projecting bosses (16 %) and vertically projecting bosses (11 %). Painted decoration is frequently present on cups, as it occurs on the surface of 61 specimens, one of them being painted on the interior side of the neck only, and 21 fragments were painted on both sides. Within the colourful combinations on the surface of the cup ensemble purely red paint dominates (80 %). However, there occurred also a combination of red and yellow (15 %), as well as red and white (5 %). Horizontal monochrome bands, eventually a combination of horizontal and vertical bands on the interior neck surface, are the most common motifs of painted decoration applied on the surface. There were two examples of perpendicular plain red bands on the interior neck surface of cups lined with white bands. A circle motif (8x) applied also round the boss was a typical decoration of the exterior. The motif of a horizontal letter 'S' of

multiple white was recognized on the surface of one beaker with a bent opened neck and lower convexity (Fig. 8.1). A plain red spiral motif was identified on the surface of two beakers.

Serviceable forms. Casks, lids and ladles belong to this category. In the set examined these forms are not widely represented. Only two casks with a wide mouth, two flat lids, one with an ear, and one ladle with socket applied at an angle (Fig. 9.2) were found within the ensemble.

Special forms. We defined two specimens belonging to this category. They are special forms of bowls with quadratic and oval bottoms, with plastic decoration on the edge in the form of button-like bosses. The forms resemble small tubs (Fig. 9.3, 4).

Small ceramic forms. Miniature vessels belong to this varying group. There are two exemplars in the set examined. One comes from the filling of clay pit 29. It is not clear of what shape it is; however, its surface is smooth natural, with plastic decoration (one small asymmetrically projecting boss on the convexity). Second presents a small mushroom-like pot with engraved and plastic decoration.

Relative chronology

The pottery ensemble from the Lengyel Culture settlement in Bučany is very interesting as it has typical features of a young phase of the first stage of this culture. Figure 10 denotes the division and synchronization of the first stage of the Lengyel cultural complex. Settlement corresponding to this dating has not been completely processed in Slovakia yet. But since the examined pottery set was studied and evaluated according to the Moravian Painted Ware Culture numerical code, it can be compared with other localities of the Lengyel cultural complex processed in similar way. In the process of comparing and evaluating, We took into consideration mostly the sites contemporary with the settlement in 'Kopanice' and those which enabled objective conclusions thanks to their extent and quality. The locality of Kamegg in Austria (*Doneus 2001*), Těšetice-Kyjovice (*Kazdová 1984*), Jaroměřice nad Rokytnou (*Košturík 1979*), Popůvky (*Pálečková 2004*) in Moravia, and finally Svodín (*Kličová 2004*) and Santovka (*Diškancová 2006*) in Slovakia met these conditions.

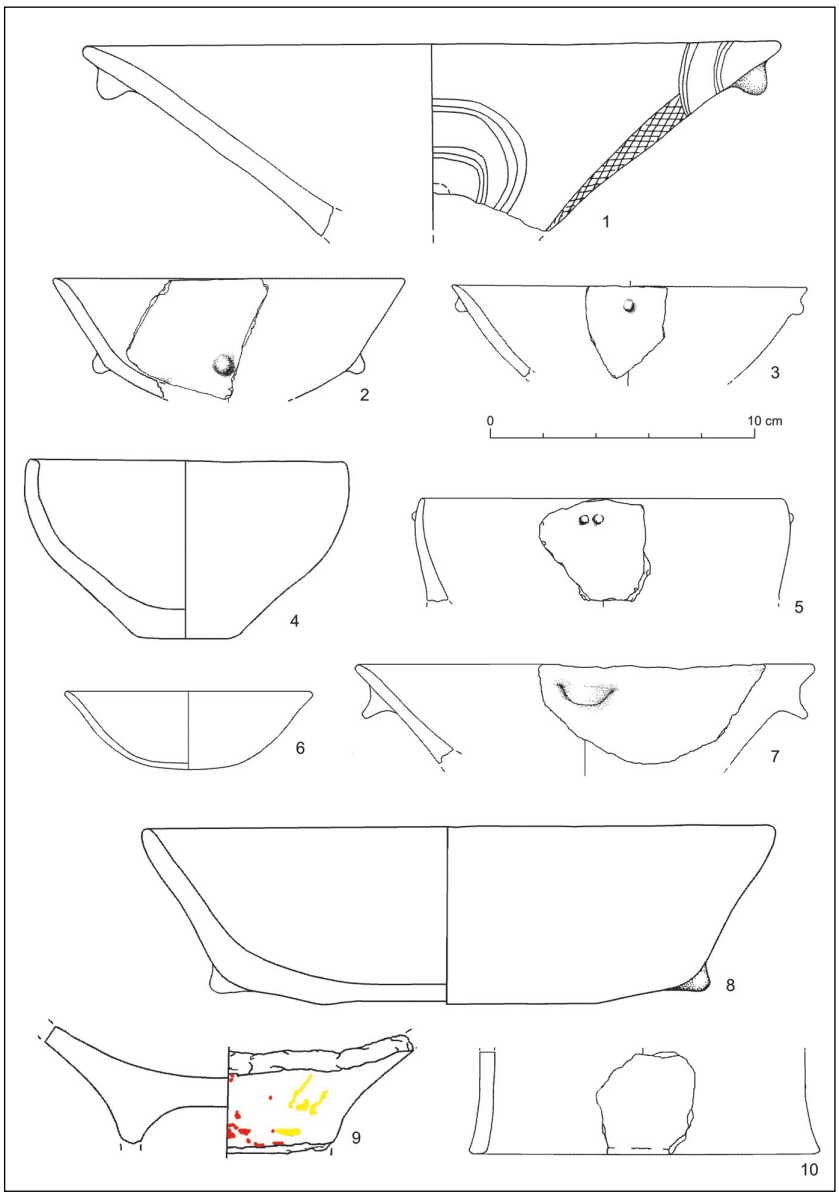

Fig. 7. Bučany-Kopanice. Bowls and bowls on hollow pedestals: 1, 6 – structure 04; 2, 3, 9 – structure 153; 4, 5, 10 – structure 60; 7 – structure 155; 8 – structure 117.

In our analysis we mostly examined the decoration of pot-

tery which, however, has a higher evidentiary value for the older stage of Lengyel Culture. Painted decoration did not offer many possibilities for study as it is not well preserved. Particular patterns of decoration were often not readable at all, or we could determine them only in part. Considering this fact, the traces of painting (red, white, or yellow) could have been identified on the surface of 181 pieces. However, it was usually impossible to determine the particular type of decoration. The scale of colours is typical of classical Lengyel Culture first stage. The application of this painting predominated on the surface of beakers (39 %). The following two types of painting occurred in the set: simple paint decoration on the natural surface, and paint decoration with incions. Tracking the placement of painted decoration in particular parts of vessels was useless because there was a distortion caused by considerable fragmentation and poor remaining condition. Only a small number of discernible motifs remained from the original painted ornaments. Vertical, horizontal plain bands (stripes) and their mutual combinations are the most common. This motif has no specific value as evidence of chronology, as it does not occur evenly during the whole of the first chronological stage of Lengyel Culture.

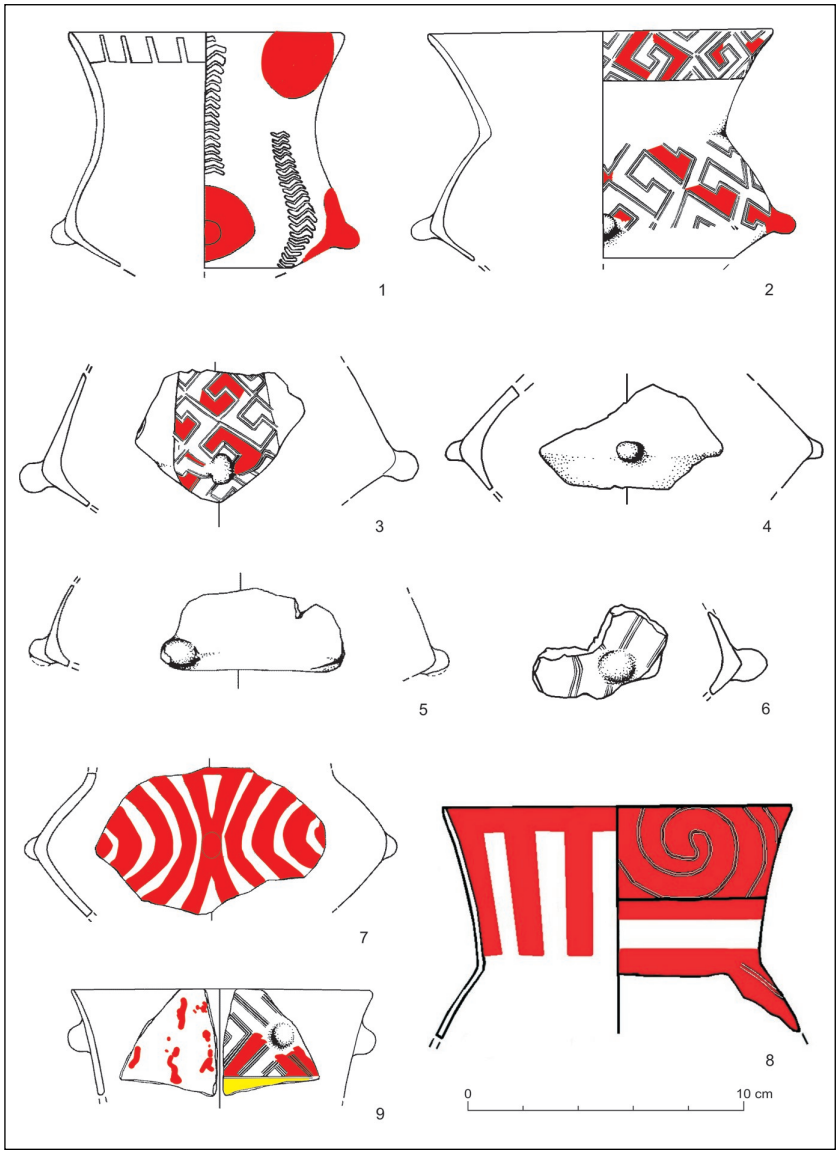

Fig. 8. Bučany-Kopanice. Beakers: 1, 2, 8 – structure 01; 3–6 – structure 60; 7 – structure 04; 9 – structure 153.

Incised ornaments, which have a better chance of remaining in their original condition than painting, are important for the building of a smooth relative chronology. Incised ornaments present on the pottery from Bučany-Kopanice are made either in the double-thin line decoration technique, or in groups of fine thin incised lines. While the first technique mentioned occurs on the material from the first as well as the second Lengyel stage settlements, and hence is of continuous character, the second technique is typical only of sites of the first stage. The smooth transition from multiple incised lines through a double, smoothly incised line, to the single incised line is a generally known trend observable in the incising decorative technique of the Lengyel I stage. The number of techniques used on objects is shown in Figure 11. One of the usual decorative elements was a strip, which was used in phase Ia of the Moravian Painted Ware Culture; it is not very common in phase Ib. Spirals and meanders were also frequently used, which corresponds to the situation of younger as well as older phases of the Moravian Painted Ware Culture. Zig-zag elements follow in popularity. Among the motifs on incised ornaments, the following occur most frequently: true spiral (31x), zig- zag grouped in vertical stripes (7x), true meander (5x), vertical stripe (3x), true diamond (2x).

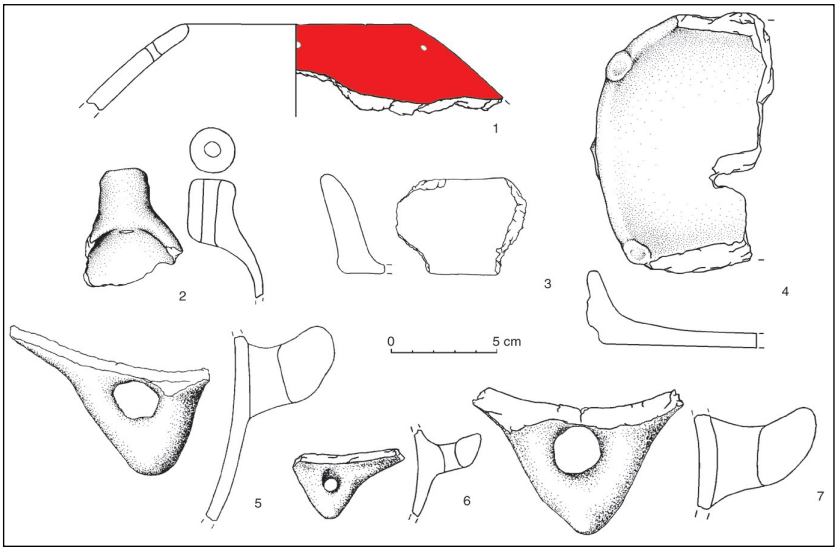

Fig. 9. Bučany-Kopanice. 1 – mushroom shaped vessel (structure 153); 2 – ladle with handle (structure 82); 3–4 – special bowls (3 – structure 117; 4 – structure 60); 5–7 – horned handles (5 – structure 155; 6,7 – structure 153).

A true spiral motif is used in phase Ia as well Ib of the Moravian Painted Ware Culture; a motif of continuous meanders with hooks (once in the ensemble) is very common in the phase Ib of the MMK (*Koštuřík 1979*); a zig-zag motif grouped in vertical stripes, is also very typical of phase MMK Ib. The relation of motifs and the incised decoration technique chosen is shown in Figure 12. It can be stated that the motifs which are typical of a certain phase are made with the technique typical of this phase.

The range of motifs mentioned above enriches the incised motif in the form of a net applied on the exterior surface of a conical bowl on a hollow pedestal, together with the element of an incised circle and half-arch (Fig. 7.1). It is formed with a simple thin line. Analogy to this kind of decoration can be found in the settlement of Santovka (*Diškancová 2006.Fig. 2.7,9; Pavúk 1981.Fig. 9.12; 1994.Fig. 3.3*), which represents the interim phase between the first and second stages of the Lengyel Culture in Slovakia. This interim phase corresponds to the chronological position of Moravian localities of phase Ib of the Moravian Painted Ware Culture. A sporadically simple incised net motif is registered also in the excavation context of the Lengyel II stage in Trakovice and Vel'ké Kostol'any (*Pavúk 1981.Fig. 9.3, 5*). An incised net is also documented in the oldest Lengyel pottery from Hungary, *e.g.* Aszód (*Kalicz 1985*).

Slovakia	Moravia (independently)			Moravia and Austria	
stage	culture	phase	Subphase	culture, phase	subphase
A	MMK	Ia	Ia1	MMK/MOG I	Ia1
Lengyel I			Ia2		Ia2
B			Ia3		Ia2/Ib(1)
phase Santovka		Ib	Ib1		Ib
			Ib2		
			Ib3		Ib/IIa
		Ic	Ic		

Fig. 10. Differentiation and synchronization of the first stage of the Lengyel cultural complex.

In the set examined, plastic decorative and serviceable forms are present. They are applied in various pottery classes, together on the surface of 160 specimens, *i.e.* their representation in the entire set is 26 %. More than a quarter of the plastic elements occur on the surface of cups, as well as on bowls and bowls on hollow pedestals. Then pots and pot-like types follow (20 %), and 16 % decorates large-pitchers. In the foundation examined, bosses without a hole are definitely prevalent (thirteen variations recognized on the surface of 107 vessels altogether); their occurrence in percentage according to variations is shown in Figure 13. Bosses with a hole are in the second position. Two variations of these were identified in the set: vertically extended (2x) and circular (6x), both with a horizontal hole. These types are typical of the Ib phase of the Moravian Painted Ware Culture, but they occurred even before. Relief adjustment on the surface of edges occurred in the case of three pot-like vessels; two of them with overprinted edges, and the third one had an indented edge, or decorated with little notches. In the examined set of pottery with serviceable forms three variants of horned ears occur: extended with a hole (13x), compressed with a hole (6x) and smooth edged with a hole (2x). These shapes were chosen by Eliška Kazdová (*1984*) as chronologically important features of the Ia phase of the Moravian Painted Ware Culture pottery. A delicate chronological indicator is also the spread of plastic decoration on the vessel. The overwhelming majority of plastic shapes was placed on the convexity, and on the neck of cups, which is typical of Lengyel I.

Conclusion

The pottery presented in the article is just a part (one third) of the whole assemblage excavated in Bučany-Kopanice. However, it reflects well the characteristics that are assumed relevant for the entire pottery ensemble of the site.

	Structure No.									Total
Incised decoration technique	01	04	29	60	82	117	153	155	180	
group of fine lines thin	1	0	4	1	3	0	2	5	0	16
double-thin line	6	4	6	4	4	0	7	1	0	32
simple thin line	1	2	3	0	2	0	2	0	1	11
Total	8	6	13	5	9	0	11	6	1	59

Fig. 11. The amount of incised decoration techniques used in selected structures.

After evaluating the pottery set from the building complex of circular architecture ground plan, and selected structures processed in a database system, the following conclusion can be stated:

The shapes of the set in general include bigger painted pot-like vessels, large-pitchers, profiled bowls on high and low hollow pedestals, bowls with opened collar and short lower half, and thin-walled cups with painted and incised decoration.

On the basis of pottery shape and decoration analysis, the typical features of the first stage of Lengyel Culture are discernible in the set examined (pottery decorated by incisions and polychromic painting – red, yellow and white, but not pastose). Classical Lengyel Culture, with a typical incising ornament and mostly red painting, which is best comparable to Moravian Painted Ware Culture pottery, was defined in Slovakia on the basis of pottery material from the settlements of Nitriansky Hrádok-Zámeček (*Točík and Lichardus 1966*), Veľké Hoste (*Lichardus 1961*), Koláre and Bardoňovo (*Urminský 1998*), and on the basis of comparable units from Svodín–Busahegy (*Lichardus and Šiška 1970; Nemejcová-Pavúková 1995*). According to Juraj Pavúk (*1981.270*), the finds from Veľké Hoste are younger; hence they will probably not belong to the Lengyel I phase. With the progressive increase of finds, a more detailed classification of stage Lengyel I seems to be more atractive because qualitative and quantitative differentiation is obvious in the comparison of finds. The processing of the pottery from the Lengyel settlement in Svodín in Slovakia (*Kličová 2004. 97–107*), Tešetice-Kyjovice in Moravia (*Kazdová 1984*) and Kamegg in Lower Austria (*Doneus 2001*) are among such attempts.

In the detailed analysis of incised ornaments on the pottery set from Bučany, the examined locality defies the frame of all the finds from Slovakia. From the point of view of quality, the occurrence of incised ornamentation, according to Juraj Pavúk (*1981. 270*), is even approaching the situation in southern Moravia, where the incised ornamentation is significantly more frequent than in the west part of Slovakia. In this case the presumption of the existence of a phase with a frequent occurrence of incised ornamentation in the south-west of Slovakia (from Koláre on Poiplie up to Bučany on Považie) could be possible. If we concentrate on particular excavation units, then after the Protolengyel group Lužianky, in which the incised ornament is absolutely absent, we must count with the developmental section without or only with rare occurrence of incised elements in Lengyel I stage. (*e.g.* in Bardoňovo and Svodín). After that, the developmental section characterized by regular or unusually frequent occurrence of incised ornamentation follows. So we can assume, as Pavúk (*1981.270*) claims, that the pottery in stage Lengyel

	Incised decoration motif (codes after *Podborský et al. 1977.179–188*)												
Incised decoration technique	21	23	24	31	31, 32	34	31, 41	41	53, 85	71	81	91	93
group of fine lines thin	2	0	1	1	0	0	1	8	0	0	0	0	0
double-thin line	1	1	0	3	1	0	0	22	0	0	2	1	0
simple thin line	0	0	0	0	0	1	0	0	1	1	0	0	7
Total	3	1	1	4	1	1	1	30	1	1	2	1	7

Fig. 12. The relation of the incised decoration technique and motif (21 – vertical stripe; 23 – fringe; 24 – ladder-like stripe; 31 – true meander; 32 – meandroid; 34 – continuous meanders with hooks; 41 – true spirals; 53 – convex-concave star-shape;71 – cross in "X"-form; 81 – true diamond; 85 – net; 91 – continuous multiple zig-zag; 93 – zig-zag grouped in vertical stripes).

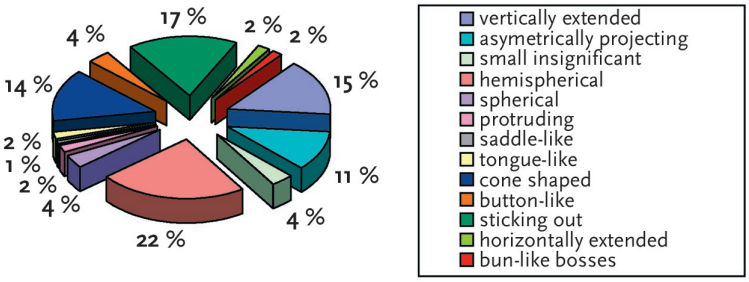

Fig. 13. Bosses without holes – occurrence in percentages according to variations.

I in the south-west of Slovakia underwent development from the phase without or only with rare occurrence of incised ornamentation, through a phase with regular and more frequent occurrence of incised decoration. The next developmental trends of the final phase of the Lengyel Culture first stage are evident in finds from Santovka (*Pavúk 1994*), where the rare occurrence of incised pottery is again, and, moreover, the ornament itself is changing, too.

From the point of view of the decorative richness of the pottery examined, besides incised and painted decoration, plastic elements are also dominant and presented by the rich shape and size scale of the various kinds of bosses. For the territory of Slovakia the following conclusion is notable: only after the not very widespread plastic decoration of the pottery of the Lužianky group does the older stage of Lengyel pottery include an elaborated system of plastic decoration placement in the form of bosses.

The examined locality of Bučany-Kopanice is of great importance for the disposal of contemporary cultures, mainly via their typical decoration. The situation of archaeological context in the area examined and the analysis of pottery in this site indicate continuous settlement during the younger section of the first chronological stage of Lengyel Culture – Lengyel IB phase. This phase can be more exactly synchronized with MMK/MOG Ia (Ia2 and 3 or Ia2/Ib1) in Moravia and Austria, with the Lengyel Ib stage in western Hungary, and with the younger IVa phase of the Stroked Pottery Culture in the Czech Republic, and at the same time continuously lock onto the transitional phase Santovka (Slovakia) – MMK/MOG Ib (Austria, Moravia) – Zengővárkony 3 – Mórágy-Tűzkődomb (Hungary).

ACKNOWLEDGEMENTS

An early draft of this paper was presented in 1984 at the international conference in Nove Vozokany, Slovakia, and was later published in its proceedings. I would like to thank Professor Peter Romsauer and Professor Jozef Bujna, who kindly gave me the Lengyel Culture pottery finds from Bučany for analysis, and I also thank Dr. Mihael Budja, who invited me to take part in the 13th Neolithic Seminar and to present this research.

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REFERENCES

BUJNA J., ROMSAUER P. 1980. Výskum v Bučanoch v roku 1979. *Archeologické výskumy a nálezy na Slovensku 1979: 56–60.*

1981. Tretia sezóna výskumu v Bučanoch. *Archeologické výskumy a nálezy na Slovensku 1980(1): 55–57.*

1982. Záverečná výskumná sezóna v Bučanoch. *Archeologické výskumy a nálezy na Slovensku 1981(1): 59–64.*

1986. Siedlung und Kreisanlage der Lengyel-Kultur in Bučany. In B. Chropovský and H. Friesienger (eds.), *Internationales Symposium über die Lengyel-Kultur*. Nitra-Wien: 27–35.

DIŠKANCOVÁ S. 2006. *Keramika zo sídliska lengyelskej kultúry v Santovke*. Unpublished Dissertation. Bratislava.

DONEUS M. 2001. *Die Keramik der mittelneolithischen Kreisgrabenanlage von Kamegg, Niederösterreich. Ein Beitrag zur Chronologie der Stufe MOG I der Lengyel Kultur. Mitteilungen der prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 46.* Wien.

KALICZ N. 1983–1984. Übersicht über den Forschungsstand der Entwicklung der Lengyel-Kultur und die ältesten 'Wehranlagen' in Ungarn. *Mitteilungen der Österreichischen Arbeitsgemeinschaft für Ur- und Frühgeschichte 23–24: 271–293.*

1985. Kőkori falu Aszódon. Múzeumi Füzetek Aszód. Aszód.

KARLOVSKÝ V. 1999. Rondel v Bučanoch ako možné slnečné a mesačné observatórium. In I. Kuzma (ed.), *Otázky*

neolitu a eneolitu našich krajín–1998. Materialia Archeologica Slovaca SAV, Nitra: 111–124.

KÁROLYI M. 1983–1984. Ergebnisse der Ausgrabungen bis 1980 in der befestigten Ansiedlung von Sé. Westungarn. *Mitteilungen der Österreichischen Arbeitsgemeinschaft für Ur- und Frühgeschichte 33–34: 293–307.*

KAZDOVÁ E. 1984. Tešetice-Kyjovice I. Starší stupeň kultúry s moravskou malovanou keramikou. Univerzita J. E. Purkyně, Brno.

KLIČOVÁ J. 2004. Spracovanie keramiky zo sídliska lengyelskej kultúry vo Svodíne. In V. Janák and S. Stuchlík (eds.), *Acta archaeologica Opaviensia. (Otázky neolitu a eneolitu našich zemí)*. Slezská univerzita v Opavě, Opava: 97–107.

KOŠTUŘÍK P. 1979. Neolitické sídliště s malovanou keramikou u Jaroměřic n. R. *Studie Archeologického Ústavu ČSAV 7(1)*. Academia, Praha.

KUZMA I. 1998. Kruhové priekopové útvary na Slovensku (súčasný stav). In J. Prostředník (ed.), *Otázky neolitu a eneolitu našich zemí*. OMČR Turnov, Turnov-Hradec Králové: 94–102.

2005. Archeologia lotnicza na Słowacji. In J. Nowakowski, A. Prinke and W. Rączkowski (eds.), *Biskupin... i co dalej? Zdjęcia lotnicze w polskiej archeologii*. Instytut Prahistorii UAM, Ośrodek Ochrony Dziedzictwa Archeologicznego, Muzeum Archeologiczne w Biskupinie, Poznańskie Towarzystvo Prehistoryczne. Poznań: 457–478.

LICHARDUS J. 1961. Neolitické osídlenie Vel'kých Hostí. *Študijné Zvesti AÚ SAV 6: 41–50*.

LICHARDUS J., ŠIŠKA S. 1970. Záchranný výskum pohrebiska a sídliska lengyelskej kultúry vo Svodíne roku 1965. *Slovenská archeológia 18: 311–352*.

NĚMEJCOVÁ-PAVÚKOVÁ V. 1995. *Svodín. Zwei Kreisgrabenanlagen der Lengyel-Kultur*. *Studia Archaeologica et Mediaevalia 2*. Bratislava.

1997. *Kreisgrabenanlage der Lengyel-Kultur in Ružindol-Borová*. *Studia Archaeologica et Mediaevalia 3*. Bratislava.

PÁLEČKOVÁ O. 2004. *Sídlište s moravskou malovanou keramikou staršího stupně v Popůvkach, okr. Brno-venkov*. Seminar work Masaryk University, Brno.

PAVÚK J. 1981. Súčasný stav štúdia lengyelskej kultúry na Slovensku. *Památky archeologické 72: 255–299*.

1991. Lengyel-culture fortified settlements in Slovakia. *Antiquity 63: 348–357*.

1994. Santovka – eine bedeutende Siedlung der Lengyel-Kultur in der Slowakei. *Archäologisches Korrespodenzblatt 24: 167–177*.

1998. Hlavné výsledky výskumu sídliska lengyelskej kultúry v Žlkovciach. *Slovenská archeológia 46(2): 169–186*.

PODBORSKÝ V. 1988. *Tešetice-Kyjovice 4. Rondel osady lidu s moravskou malovanou keramikou*. Univerzita J. E. Purkyně, Brno.

PODBORSKÝ V. ET AL. 1977. *Numerický kód moravské malované keramiky. Problémy deskripcie v archeológii*. Univerzita J. E. Purkyně, Brno.

TIRPÁK J. 1997. Geophysikalische Messungen urzeitlicher Rondelle. In V. Nemejcová-Pavúková (ed.), *Kreisgrabenanlage der Lengyel-Kultur in Ružindol-Borová*. *Studia Archaeologica et Mediaevalia 3*: 153–156.

TOČÍK A., LICHARDUS J. 1966. Staršia fáza slovensko-moravskej mal'ovanej keramiky na juhozápadnom Slovensku. *Památky Archeologické 57: 1–90*.

TRNKA G. 1991. *Studien zu mittelneolithischen Kreisgrabenanlagen. Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften 26*. Wien.

URMINSKÝ J. 1998. *Lengyelské osídlenie Slovenska na sklonku neolitu*. Unpublished Dissertation. Masaryk University Brno. Brno.

ZÁPOTOCKÁ M. 1983. Kruhové příkopy kultúry s vypíchanou keramikou v Bylanech, okr. Kutná Hora. *Archeologické Rozhledy 35: 475–485*.