

ANTHROPOLOGIE • LIII/3 • pp. 399–412 • 2015

JUDIT P. BARNA

SOCIO-HISTORICAL BACKGROUND OF CULTURAL CHANGES IN SOUTH-WESTERN-HUNGARY AS REFLECTED BY ARCHAEOLOGICAL DATA DURING POST-LBK TIMES

ABSTRACT: The questions of socio-historical circumstances in South-Western Hungary based on observations made mainly at sites in Zala county during Post-LBK times are discussed below. This time period corresponds to the turn of the Middle and Late Neolithic in Western-Hungary which is, at the same time, the beginning of the emergence of the Lengyel culture. It has previously been accepted that there was genetic continuity between the LBK and the Lengyel cultures. The formation process of the Lengyel culture in Hungary has recently been reviewed. The role of the Sopot culture turned out to be more significant than it formerly had been conceived. The emergence of the Lengyel culture has been reconsidered also in other territories, e.g. in Slovakia, where a great cultural and historical break from the preceding LBK (Želiezovce Group) was proved. Climatic changes are hypothesized in the background of the changes. According to former theories the genesis of the Lengyel culture was considered as a process taking place on the multicultural substrate of the LBK groups in which the Sopot culture played a catalyser role causing and inspiring the transformations. On the other hand, essential details of this time period, among them the factual character of the changes, were not clarified.

A fair number of new data resulted from lately excavated sites of the Sopot culture, e.g. Becsehely-Bükkaljai-dűlő, Petrivente-Újkúti-dűlő, Sormás-Török-földek, and Sormás-Mántai-dűlő have broadened our knowledge significantly on the turn of the Middle and Late Neolithic. By the end of the Middle Neolithic a high concentration of Late LBK and Sopot settlements developed in South-Western-Transdanubia. In the territory considered earlier as a periphery compared to the Sopot central core area a secondary settlement block was formed, which consisted of a close chain of extended and enclosed settlements (e.g. the sites mentioned above).

The nature of Post-LBK times are mainly discussed on detailed analyses of two sites from the study area. A multicultural site at Sormás-Török-földek represents settlements of the Sopot and Lengyel cultures. Beyond substantial new relative chronological data several absolute chronological radiocarbon data are also available both from Sopot and formative Lengyel contexts from the site.

Received 25 April 2014; accepted 29 April 2015.

^{© 2015} Moravian Museum, Anthropos Institute, Brno. All rights reserved.

The site at Esztergályhorváti provided a unique feature; a mass grave containing skeletal remains exclusively of male individuals. The Esztergályhorváti find assemblage is dated by ¹⁴C to the same period as Sormás-Török-földek. The comparative review of these two sites aims to clarify whether Post-LBK times in South-Western-Hungary were calm, peaceful terms generating prosperous and continuous development of local communities or should it rather be interpreted as a wartime, fraught with danger and violence? The author sets out arguments in favour of the peaceful nature of this time period.

KEY WORDS: South-Western Hungary – Enclosure – Mass grave – Sopot culture – Formative Lengyel culture

INTRODUCTION

The present paper focuses basically on two topics. One of them is to discuss the socio-historical circumstances in South-Western-Hungary as reflected by archaeological data obtained from two sites, Sormás-Török-földek and Esztergályhorváti in Zala county (Figure 1) dated to Post-LBK times. The investigated time period corresponds to the turn of the Middle and Late Neolithic in Western Hungary (according to Hungarian terminology). The keyquestion is to clarify the character of Post-LBK times in the study area: was this time range a clam, peaceful period producing prosperous and continuous development of local communities or should it rather be interpreted as a wartime, fraught with danger and violence? Was the transition a culturally-socially balanced process or was it determined by a radical change causing break and discontinuity in the development? For the sake of answering these questions I compare these two important, though in character far differing sites with each other. I also employ several relevant data obtained from further, mostly coeval sites excavated in the study area, e.g. Petrivente-Újkúti-dűlő, Becshely-Bükkaljai-dűlő (Kalicz et al. 2007, 2012, Horváth, Kalicz 2003), Sormás-Mántaidűlő (P. Barna 2009, 2012).

The investigation of the site at Sormás-Török-földek has offered opportunities for new approaches in evaluation of the coeval Esztergályhorváti mass grave. This unique feature constitutes the other main topic of this paper. The re-publishing and reappraisal of the Esztergályhorváti mass grave was an additional task of this work.

The mass grave at Esztergályhorváti was first published in Hungarian, completed with a short English summary, in 1996 (P. Barna 1996). A review of the find assemblage was necessary mainly due to the large number of contemporaneous finds discovered posteriorly in Sormás-Török-földek (P. Barna 2007), which are suitable for comparison. The thorough processing of the Sormás finds has been fulfilled in my PhD dissertation (P. Barna *in press*), the results turned out to modulate also the evaluation of the Esztergályhorváti mass grave indirectly.

South-Western-Transdanubia played a role of primary importance in the formation of the Lengyel culture at the beginning of the 5th millennia BC. As it is generally viewed, the two main components in the formation of the culture were the LBK and the Sopot culture. It has also been accepted that there was genetic continuity between the LBK and the Lengyel cultures, in the first instance on the grounds of the high scale coincidence of the territories of both cultures; even though no factual pieces of evidence of the continuity were available (Kalicz 1988, Pavúk 1969, 1981, 2007). The presence of the Transdanubian Sopot culture - on the grounds of the settlement pattern earlier thought to be loose and dispersed (Kalicz, Makkay 1972, Regenve 2002) - seemed to be hardly at all correlated with the groups of the LBK, that is Keszthely group, Music Note and Zselíz phases (according to Hungarian terminology). At the same time the high scale similarity found in the material culture proved that there was a direct correlation between the Sopot and the Lengyel cultures. Accordingly, the genesis of the Lengyel culture was considered as a process taking place on the multicultural substrate of the LBK groups in which the Sopot culture played a catalyser role causing and inspiring the transformations (Kalicz 1988).

The formation process of the Lengyel culture in Western-Hungary has recently been reviewed (P. Barna *in press*) and it has been reconsidered also in other parts of the formation territory. The analysis of the geographical locations of the early Lengyel sites in Slovakia proved a great cultural and historical break from the preceding LBK (Želiezovce Group, according to Slovakian terminology). Climatic changes are hypothesized in the background of the changes (Pažinová 2009).

Compared to the status quo outlined above the results of large surface excavations beginning at the end of the



FIGURE 1. 1, Geographical location of Esztergályhorváti and Sormás-Török-földek, Zala county, Hungary; 2, Map showing all excavated archaeological features in the site at Sormás-Török-földek (2002–2003, 2005–2006); 3a, Location of the mass grave in Esztergályhorváti, Arany J. street 42; 3b, Layers of the mass grave.

1990's in Zala county brought sweeping changes to this research area. The late Sopot find assemblages on the sites at Sormás-Török-földek (P. Barna 2007), Sormás-Mántai-dűlő (P.Barna 2009), Petrivente-Újkúti-dűlő and Becsehely (I)-Bükkaljai-dűlő (Horváth, Kalicz 2003, Kalicz *et al.* 2007, 2012) dated to the turn of the Middle and Late Neolithic, which were unearthed during the works preceding the construction of the M7 motorway in Zala county providing an opportunity to create a more elaborated picture also on Post-LBK times. The reappraisal of the Sopot culture as one of the basic components of the Lengyel culture also made it necessary to revise the complex problem of the formation of the Lengyel culture. This fact gave a special significance to Sormás-Török-földek, since besides the find material from the Sopot culture, the find material from the formative phase of the Lengyel culture was also found here. I have explored these problems in my PhD dissertation (P. Barna *in press*). Out of the achieved results, the history of the settlement at Sormás-Török-földek can be highlighted in terms of present article. Sormás-Mántai-dűlő, an extensive, enclosed, typically flat, single-layer settlement of the Sopot culture (P. Barna 2009, 2012), is not discussed here. The history of this settlement and its findings were also discussed in detail in the dissertation.

SITES CHARACTERISTICS

Sormás-Török-földek

The Sormás-Török-földek site (*Figures 1–2*) is situated on a plateau and southern slope of an elevation the height of which is 185.0 m a.s.l. During four excavation phases (2002–2003, 2005–2006) on the site at Sormás-Török-földek in total an unbroken area of 5.25 ha and 1260 archaeological features were unearthed. Apart from finds from the Sopot and Lengyel cultures, to a lesser extent, remains of several other cultures were also unearthed (P. Barna 2007). A special importance is given to the site by two Neolithic enclosures: Enclosure No. I and No. II (P. Barna, Pásztor 2010, 2011).

Four habitation phases could have been identified on the site during the Neolithic time range. Habitation phase 1 corresponds to the Late Starčevo culture, while habitation phase 2 is characterised by the sparse settlement features of the Keszthely group of the LBK. Following these short Early and Middle Neolithic antecedents (1^{st} and 2^{nd} habitation phases) – the 3^{rd} habitation phase associated with the Sopot culture was the longest one. By this time an extended and long-lived enclosed settlement was established, which lived partly contemporaneously with the neighbouring Sormás-Mántai-dűlő site (P.Barna 2009), but contrary to it, it experienced the beginning of the formative phase of the Lengyel culture. Habitation phase 3 can be divided into further sub-phases. Enclosure No II had been established in sub-phase 3a1 and was used throughout the entire life of the Sopot settlement.

The 4th habitation level, which was also significant, is constituted by the formative and the early phase of the Lengyel culture. This is proved not only by the establishment of another roundel (Enclosure No. I), groups of houses and rich array of finds, but also by the fact, that it is one of the biggest, central-type settlements of the formative phase of the Lengyel culture. The

Find Description Size (cm) Figure 1. Fragments of a cup. Biconical side fragments of a cup with an articulated body. H = 2.4Figure 3, 4 They are decorated by knobs and unidentifiable geometric motives painted in red. Fragment of a small, The short, almost solid pedestal is covered in red paint both H = 6.3Figure 3, painted pedestalled on the interior and also on the exterior. The bowl part is 5a-bcovered in red paint on the interior. There is a pattern vessel. composed of lines and dots painted in yellow on red base on the pedestal. Eight dots arranged in the form of a garland can be recognized. Small jar decorated The rim and neck are damaged. It has thin walls. The long H = 10.6; 3. Figure 3, 6 W, D = 4.0with paintings. neck is cylindrical. The lower part of the bottle is biconical. There are symmetrically placed four little knobs along the B. d. = 2.4 belly line. Traces of red painting can be seen on the surface of the jar. The profile is slightly S-shaped. It has yellow and grey H = 10.04 Fragment of a deep Figure 3, 7 bowl. spots, the wall is thin, and the rim is slightly leaning W, D = 18.6 outward. The bottom is missing. There are traces of red painting hardly visible in the form of spots on the interior. Fragment of an 5. A fragment of a large, funnel-necked amphora. There is W, D = 11.5 Figure 3, 8 a stump of a knob probably pushed out from the interior at amphora. the bottom. The vessel is pale brick colour, the wall is thin, and the rim is straight. 6 Pottery fragments. Small, red, brown and black, plain pottery fragments with a thick wall 7 Fragment of It is made of Úrkút-Eplény-type radiolarite (according to L = 1.8Figure 3, 3 a radiolarite blade the analyses made by T. Bíró, K., Hungarian National W = 1.0base Museum, Budapest) $19.0 \times 22.0;$ 8. Fragments Two grinding stones made of Permian red sandstone. of grinding stones. 10.0×10.0

TABLE 1. List and description of the finds of the common grave at Esztergályhorváti (H, Height; W, width; D, diameter; L, length; B. d, bottom diameter).

chronological relationship between the Sopot and the Lengyel cultures can be detected on the one hand by the stratigraphic data, and on the other hand, by the relationship of the two circular enclosures. The find material confirms the data obtained through the analysis of the settlement layout. Habitation 4 can be divided into two sub-phases (4a and 4b).

The topographical location and the geometrical (set out) central point of Enclosure No. I were most certainly arranged to the topographical location and geometrical central point of Enclosure No. II. This later one had most certainly already been established by the Sopot culture; the central points of both enclosures lie on a common North-South oriented axis. The establishment of Enclosure No. II dates back much earlier, but by the end of its active use, for a short time, it existed simultaneously with the then newly established Enclosure No. I (P. Barna, Pásztor 2011).

In the settlement layout, in the use of the enclosures, and natural sources (e.g. the different types of wood, see: Náfrádi et al. 2015) it is possible to distinguish distinct phases. However, in other aspects, primarily in the pottery finds, the analyses points out signs of continuous, uninterrupted development. The find material belonging to the 3b habitation phase - reflects a perceptible overlap: the vessel forms and the decorations of the pottery of both cultures reveal significant similarities, in fact, matches. Similarities can be encountered even on pieces of find types that are different in both cultures, e.g. anthropomorphic figurines (P. Barna 2013). The abundance of the ceramic painting appearing in the late phase of the Transdanubian Sopot culture is also a common characteristic with the formative phase of the Lengyel culture. A specific characteristic feature is that yellow painting became more frequent, amongst the red painted motives the thick and thin lines constituting line bundles appear, – which due to their regularity create the impression that they were not hand-painted, they were made by a multi-pointed, comb-like tool. All these features may be interpreted as indications of continuous transformation.

To sum up the history of the settlement, features and the find assemblage concerning Sormás-Török-földek, especially the ceramics rather indicate an unbroken, internal development than a sharp political and cultural change accompanied by wars. Based on the find assemblage a development process without any hiatus might be supposed from a horizon indicating clearly Sopot feature (Sormás-Török-földek 3a1 settlement phase) to the appearance of finds indicating clearly Lengyel features (4a settlement phase), and even also to a later period (4b settlement phase). Based on radiocarbon data this development process lasted for approximately 400 years (*Table 2, Figure 2, P. Barna, Pásztor 2011*). There were no strata with traces of destruction, nor traces indicating any kind of crisis, e.g. war at this site.

The site and the history of the rescue excavation at Esztergályhorváti

The find assemblage at Esztergályhorváti was discovered by accident owing to building activity, in September 1994. The village is located in the Little-Balaton region (*Figure 1:1*). Some human bones were unearthed during the construction works. This solitary, small pit, as opposed to the large surface of the site explored at Sormás-Török-földek, raised extremely significant cultural and chronological issues, which were practically the same as the matters regarding the site at Sormás.

The find assemblage was unearthed in the yard of a house on the site of a stable, which had been pulled down not long before (Figure 1:3a). The foundation of the stable was shallow, but the 0.5 m wide foundation ditch for a new building to replace the old one was dug 1.5 m deeper than the original ditch. Human skeleton remains were found in the lower third of this new ditch. The stable, which was pulled down, had previously been attached to the western edge of the house that was standing on the site. The grave pit was located under the common wall of the two buildings at a depth of approximately 1 m. The eastern part of the pit, the dimensions of which are not known, extended under the wall of the house therefore it could not be disclosed. The reconstructed and idealized cross-section of the mass grave is shown in Figure 3:9.

The layout of the explored part of the pit was similar to a square with rounded corners. The foundation ditch for the new building cut this feature in two parts in a direction of approx. north to south (*Figure 3:1*). The width of the pit was 1.80 m, the length extending north to south was also 1.80 m. Its walls were straight, its average depth was 1.30–1.40 m.

At a depth of about 0.30–0.40 m measured from the already bulldozed surface there was a red clay stratum, which was seriously burned through, and which entirely covered the mouth of the pit (*Figure 3:9*). The burnt stratum, whose thickness varied between 2 and 20 cm, had probably been uninterrupted however when the foundation pit was dug, it was disturbed (this is how the bones were discovered). Vessels and ceramic fragments (*Figure 3:4–8*) lay on this partially disturbed, burnt



FIGURE 2. 1–2 Combined radiocarbon dates of the Esztergályhorváti mass grave based on 7 measurements; 3–4 Combined radiocarbon dates of the Esztergályhorváti mass grave based on 5 measurements; 5, Radiocarbon dates from sites mentioned in the text. (The names of the sites the codes are referring to are given in *Table 2*).

404

FIGURE 3. 1, The uppermost layer of the mass grave cut across by a foundation ditch; 2, Idealized reconstruction of the lay of human bodies in the uppermost layer thrown in the pit; 3–8, Stone and pottery finds of the mass grave; 9, The reconstructed and idealized cross-section of the mass grave. (Drawings made by Ms. Edit Ambrus, Göcseji Museum, Zalaegerszeg).

stratum, so it cannot be excluded that some finds had been destroyed by the builders. Two pieces of grinding stones, some charred bone fragments and several daub fragments were found in the filling matter above the burnt stratum east of the ditch. A radiolarite blade fragment was a single find found among the skeletons (*Figure 3:3*).

Due to the conditions present during the rescue excavations it was impossible to disclose the skeletons from stratum to stratum. The disclosure process first had to be performed along the line of the foundation ditch cutting across the pit, which caused mingling of the skeletons. Due partly to this process and also partly to natural rotting the exact number of persons buried in the pit could not be established even after anthropological examinations were later performed. Zsuzsanna K. Zoffman (Hungarian National Museum) performed the anthropological examinations (see Appendix in P. Barna 1996; Zoffmann 2007).

According to Zs. Zoffmann, all the 38 persons buried in the pit were men. It is very difficult to express a firmly based opinion concerning the cause of the death of the males thrown unsystematically into the pit, if only because of the defectiveness of the find material. On the

TABLE 2. Radiocarbon dates from sites mentioned in the text. Calibrated by the OxCal 4.1 programme and IntCal 09 curve. 1–8, Dates of the formative Lengyel cultures; 9–20, Dates of the Late Sopot cultures.

	Name of site	Code	BP	(cal BC) Calibrated age		Sample	Archaeological	Bibliography
							feature	
				1δ(68.2%)	2 δ (95.4 %)			
1.	Esztergályhorváti	OxA-6274	5730+/-80	4690-4490	4780-4370	Human bone	Common grave	Bronk Ramsey 1999: 202
2.	Esztergályhorváti	OxA-6208	5900 +/-75	4900-4680	4960-4550	Human bone	Common grave	Bronk Ramsey 1999: 202
3.	Esztergályhorváti	OxA-6273	5925+/-65	4900-4710	5000-4610	Human bone	Common grave	Bronk Ramsey 1999: 202
4.	Esztergályhorváti	OxA-6271	5970+/-90	4960-4720	5210-4610	Human bone	Common grave	Bronk Ramsey 1999: 202
5.	Esztergályhorváti	OxA-6275	5970+/-70	4950-4770	5050-4700	Human bone	Common grave	Bronk Ramsey 1999: 202
6.	Esztergályhorváti	OxA-6367	6040+/-55	5010-4840	5210-4780	Human bone	Common grave	Bronk Ramsey
7.	Esztergályhorváti	OxA-6272	5990+/-80	4990-4790	5210-4690	Human	Common grave	Bronk Ramsey
8.	Sormás-Török-f.	VERA-	5855+/-35	4780-4690	4830-4610	Animal	Feat. 93	P. Barna 2007:
9.	Sormás-Török-f.	VERA-	5865+/-40	4790-4700	4840-4610	Animal	Feat. 376	P. Barna 2007:
10.	Sormás-Török-f.	VERA-	5970+/-35	4910-4790	4950-4720	Animal	Feat. 376	P. Barna 2007:
11.	Sormás-Török-f.	VERA- 3097	5950+/-35	4900-4780	4940-4720	Animal	Feat. 259	P. Barna 2007:
12.	Sormás-Török-f.	VERA-	6065+/-45	5050-4850	5210-4830	Animal	Feat. 259	P. Barna 2007:
13.	Sormás-Mántai-d.	VERA- 3101	5985+/-35	4940-4800	4990-4780	Animal	Feat. 202	P. Barna 2007:
14.	Sormás-Mántai-d.	VERA- 3103	6045+/-50	5010-4840	5200-4790	Animal	Feat. 369	P. Barna 2007:
15.	Sormás-Mántai-d.	VERA- 3102	6115+/-35	5210-4980	5210-4940	Animal	Feat. 316	P. Barna 2007:
16.	Sormás-Mántai-d.	VERA-	6200+/-35	5220-5070	5300-5040	Animal	Feat. 53	P. Barna, Pásztor
17.	Sormás-Mántai-d.	VERA-	6325+/-40	5360-5220	5470-5210	Animal	Feat. 108.	P. Barna, Pásztor
18.	Petrivente-Újkúti-	VERA-	5910+/-35	4827-4727	4881-4709	Animal	Feat. 1194	Kalicz <i>et. al.</i>
19.	Becsehely I.	2088 VERA-	5985+/-30	4932-4810	4951-4789	Animal	Feat. 161/10	2007: 45 Kalicz <i>et. al.</i>
20.	Becsehely I.	3086 VERA- 3083	6040+/-30	4992-4856	5017-4844	Animal bone	Feat. 6	2007: 45 Kalicz <i>et. al.</i> 2007: 45

only relatively well preserved skull, an injury from a blow which might have caused death can be observed without any trace of healing beside two more injuries with similar shapes but caused by weaker blows. All three blows must have come from some sharp, \pm 30 mm wide weapon. Disregarding another injury probably from a blow (?) on another skull, no other trace suggesting the cause of death could be observed, but observations in this direction were seriously limited by the considerable defectiveness of the material (Zoffmann 2007).

The finds of the common grave deserve special interest, since the dating of the feature is based mainly on the ceramic finds (*Table 1*). The ceramic fragments reveal characteristic features dating to the earliest, formative phase of the Lengyel culture. Their closest parallels can be found in Sé (Kalicz 1998) and Sormás-Török-földek (P. Barna 2007).

As for the contemporaneity of the Esztergályhorváti and Sormás-Török-földek sites it is a fact of extraordinary importance that absolute chronological data are available from both sites. Radiocarbon data from several Neolithic sites from the study area mentioned in the text are used for comparision (Figure 2:5, Table 2). As it can be seen the radiocarbon data of the Late Sopot and formative Lengyel cultures show a partial overlap considering both cultures. On the other hand, the contemporaneity of the Esztergályhorváti and Sormás-Török-földek sites can also be seen (Figure 2:5). The radiocarbon series extracted from the seven samples taken from the human bones in the Esztergályhorváti mass grave is the most important, most numerous sample series from the period under review up to this day (Bronk Ramsey et al. 1999). The combined value of the seven radiocarbon data is 4940-4720 (95.4 % probability) (Figure 2:1-4). This 220-year-long time period can be considered as the most precise date for the beginning of the Lengyel culture for the time being. The absolute chronology of the Esztergályhorváti mass grave strengthened the dating and cultural classification of the site based solely on pottery typology previously.

COMPARISON WITH SIMILAR SITES AND EVALUATION OF THE FIND ASSEMBLAGE

No other find assemblage similar to the mass grave unearthed at Esztergályhorváti has been discovered from the region and age of the Lengyel culture up to this date. As for burial customs, no general trends can be established for the whole territory of this culture (Kalicz 1998: 56, Zalai-Gaál 2010).

The LBK "massacres" concern a period around 5000 BC and are centred on archaeological sites e.g. Talheim (Price et al. 2006), Herxheim (Spatz 1998, Zeeb-Lanz et al. 2007), Wiederstedt (Meyer et al. 2004) and Schletz-Asparn (Windl 1994, 2001) in Austria. They may well be compared to the Esztergályhorváti find assemblage. The comparable features are e.g. the large number of bodies and the peculiar features of the burials. Skeletons of several individuals and parts of skeletons were not only found in pits (e.g. Talheim, Wiederstedt), but also in ditch systems found at LBK settlements such as Schletz-Asparn, Eisleben (Kaufmann 1990) or Herxheim. The regular inhumations in ditches (e.g. Menneville or Vaihingen) of the LBK are not discussed here (Faruggia et al. 1996, Krauss 1998, 2002). Most such burials date to the younger stage, the late or even the latest period of the LBK (Kaufmann 1990, Müller-Scheeßel et al. 2007: 11). With the exception of Herxheim, which can only be evaluated as related to rites (Zeeb-Lanz 2009), there is one thing common in these sites: they are equally interpreted as remains of massacres due to unequivocal evidence of violence.

A characteristic feature of the Köln (Cologne)-Lindethal type enclosures, among others, is that obvious traces of violence can often be documented in relation to them. These features are manifested at sites e.g. Schletz, Eisleben, however also at ditches B and C at Erkelenz-Kückhoven and Köln (Cologne)-Lindenthal (Podborský, Kovárník 2006: 47). Some archaeologists are of the opinion that these traces of violent acts and in certain cases those of cannibalism might be indicative of events that resulted in the end of the LBK such as overpopulation, economic crisis, over-utilisation of the environment, climatic changes, difficulties relating to the acquisition of raw materials, etc. (Faruggia 2002, Makkay 2000: 39). Nevertheless, in the case of Esztergályhorváti evidences of violence could be detected only in a lesser extent, meanwhile some quite obvious traces of ritual activity were documented.

Altogether three comparable find assemblages from the Lengyel culture may be mentioned: Friebritz 1 (Austria), Bajč-Ragona and Ružindol-Borová (Slovakia). Inside a double roundel in a site at Friebritz 1 (Austria) a small burial site with 10 contracted skeletons was unearthed. The skeletons revealed evidence of violence (Neugebauer-Maresch 2005: 225). The remains of a couple – the male was probably 20–30 years of age, the female about 18–25 years old – were found nearby. The couple was buried in a peculiar way (Gronenborn 2005: Abb. 5.5). The finds indicate that both were shot with arrows. In the case of the male, whose skeleton lay at the bottom of the grave, it

could be observed that he had suffered a strong blow at the jaw while he was still alive. His arms seemed to have been tied together. It seemed quite certain that the bodies were disturbed after the burial for reasons of anthropophagi (manipulation of human remains). Due to its age and mainly to the unusual features, this double burial unearthed at Friebritz may be regarded as a close parallel find to the Esztergályhorváti find assemblage.

In a shaft-like, circular-shaped 2.73 m deep pit at Bajč-Ragona dated to the Ludanice group, regarded as a late developmental phase within the Lengyel culture, skeletons of altogether six persons were unearthed in several strata (Točík 1991: 307–308, Fig. 4). The arrangement of items in the burial (the skeletons lay close to the bottom, the grave furniture was found closer to the top), the composition of the grave furniture (ceramics, a flint tool), furthermore, the fact that this pit was also found far from a settlement are common features with those observed in the case of the Esztergályhorváti find assemblage.

The victims of an unambiguous massacre in a site at Ružindol-Borová (Slovakia) dating to the early Lengyel culture period might be mentioned due to the high number of skeletons found there. Remains of a minimum number of 18 persons among them new-born babies, children, males and females were found in the filling of the roundel. On the bones traces of non-healed injuries and animal bites could be observed, which indicate that there was a one-way fight and clear violence in that area (Němejcová-Pavúková 1995: 214–215, 1997: 95–99, Jakab 1997: 193–218, Makkay 2000: 43, Neubauer, Trnka 2005: 223).

Interpretation of the Esztergályhorváti find assemblage. As for profane or ritual features of the Esztergályhorváti find assemblage despite discussions concerning this matter, no clear position may be taken based on data available at present. In the first publication I have interpreted this find assemblage as one of ritual character. At the same time I have rejected its interpretation as human sacrifice - regarding the fact that the act of intentional homicide with ritual motif cannot be proved (P. Barna 1996: 153). In the case of finds interpreted as human sacrifices (e.g. Jungfern Cave, Eilsleben, Cviklivci, Traian) diverse forms of intentional manipulation may be proved, which, according to certain experts, are regarded as criteria for sacrificial characteristic features. The definition "mass grave" can be used in the absence of a better expression. The fact that a minimum number of 38 persons of the same sex (male) were buried in a relatively small size pit provides reasonable grounds for this definition.

This condition alone excludes that this find assemblage may be interpreted as a customary act of pit burial. However, there are some further ritual features: the presence of fragmented and painted ceramics (for reasons of prestige?), the character of the potteries (looking like being parts of an assortment used for rites); the grinding stones and the burnt clay stratum, which closes the mouth of the pit and also the fact of burning. The extremely unusual features compared to customary burial rites of this find assemblage raise diverse problems and opportunities for interpretation such as ritual acts, a burial following a massacre (war) or a newly discovered burial custom not seen before, etc.

Regarding the find context it must be stated that the Esztergályhorváti pit was not part of a settlement, but a completely independent feature. It is proved by the fact that no other archaeological features were found in the foundation ditches of the building under construction. Naturally, this issue can undergo final evaluation only when excavations are completed in the eastern part of the pit, which has not yet been explored. The find assemblage may not be interpreted as a building sacrifice, since that type of bloody sacrifices was performed in a fundamentally different form during the Lengyel culture. They originated in building sacrifices performed and placed in post holes of long houses in the LBK (in the Music Note phase; Makkay 1978).

Zs. K. Zoffmann drew temporary and conditional conclusions from anthropological examinations, which are awaiting corroboration by other, similar finds. In this author's opinion in the case of the mass grave found at Esztergályhorváti the injuries, which (could also) cause(d) death, exclude the possibility of an epidemic, which could have killed these persons. Anthropophagy cannot be proved, and the number of dead bodies is too high for either a ritual-related murder or to a mass killing performed for profane reasons, nor to an accident. The author regards it most probable that these persons were killed in an internal conflict, or during an act of tribal (?) retaliation, after which these people, who were kept in captivity, were buried ritually. This is indicated by a fire over the pit and since traces indicating respect for the buried persons were not found, the people buried in this pit might have been enemies (Zoffmann 2007: 56).

J. Makkay first correlated this find assemblage with historical events that took place during the transitory period between the Sopot-Bicske phase and the Lengyel culture. This period, in his opinion, was not a peaceful transition, but a period during which invaders and invaded people waged war against each other (Makkay *et al.* 1996: 275). Next time he devoted an independent, short monograph to this topic with an informative title "A prehistoric war", in which he affirmed his original interpretation (Makkay 2000). His final conclusion was that since this was the only mass burial that included males only, there must have been a war waged in this region as a result of which these males were buried. The cause of death of these males could not be determined exactly, and it is not known, either, who performed the burial act. Were these males buried by survivors within their own community following a not completely successful military attack (Makkay 2000: 35), or by the enemy, who won the battle (Makkay 2000: 63-65). As a third possibility J. Makkay supposes that the survivors, after they were conquered by representatives of the Lengyel culture, mingled with the Lengyel population, took over their ceramic style, and used these for the burial rites of males, who fell in this battle from their own community. He considered cult purposes "secondary" only (Makkay 2000: 73).

I. Zalai-Gaál supported the opinion of C. Lichter (2001: 200–201), who thought that it is a mass grave independent of any cult of the dead, and that this grave served the purpose of burying dead bodies only or, perhaps it commemorates a particular act, which cannot be interpreted based on the available information (Zalai-Gaál 2010: 229).

The excavation of the site at Sormás-Török-földek yielded new information on the issue concerning Esztergályhorváti, as well. Sormás-Török-földek is the largest site in the study area dated to the same Post-LBK transition phase between the Middle and Late Neolithic period. This period is characterised by the cultural change between the Late Sopot and formative Lengyel cultures. In this way the site is of fundamental importance for the interpretation regarding the general conditions, among them the issue of wars during this period. As it was already mentioned above, data obtained from this site indicate an unbroken, internal development than a sharp political and cultural change accompanied by wars which queries Makkay's "war-theory". Moreover at various other settlements dating to the late Sopot period, mainly at neighbouring Sormás-Mántai-dűlő, Petrivente-Újkúti dűlő and Becsehely I no traces were found, which could indicate any hostile attack. Taken all round the mass grave found at Esztergályhorváti in itself may not cause one to suppose that there were social or ethnic tensions also manifested by wars in South-Western-Transdanubia during Post-LBK times. A bare, inner conflict within the local community could have resulted in a mass grave.

CONCLUSION

As it has been mentioned J. Makkay was the first who brought the Esztergályhorváti mass grave in relation with violence, correlating it with the social and military conditions and events of the transition period from the Sopot-Bicske times (i.e.: the Transdanubian Sopot culture) to the Lengyel ones. Meanwhile, he also emphasised the ritual character of the find assemblage (Makkay et al. 1996: 275). J.-P. Faruggia has interpreted the Esztergályhorváti mass grave together with the LBK massacres of Asparn, Talheim and Herxheim as a manifestation of violence accompanying a crises hypothesised around 5100 BC. According to Faruggia the crises, which reached across the whole of Europe might have been of economic and social character resulting in the sudden end of the LBK. He located the origin of the crises somewhere in the middle Danube (Faruggia 2002). From among the above mentioned sites, on which Faruggia stated his theory, the interpretation of at least two sites is debatable. In the case of Esztergályhorváti the settlement history of coeval sites, e.g. the one at Sormás-Török-földek, contradict the probability of any crises in the study area. In turn in the case of Herxheim A. Zeeb-Lanz also rejects possibility of any kind of warfare, famine or climate crises resulting in the end of the LBK which she rather explains by social-cultural factors account for the spiritual-religious domain (2009).

Regarding the nature of the crises around 5100–5000 BC, also climatic causes can be hypothesized. In D. Gronenborn's theory the spread of the Neolithic has been driven by periods of crises in which rapid and drastic climate changes have played a decisive role. He has stated chronological correlation between periods of increased anomalies (IRD-events) during early to Mid-Holocene and the spread of Neolithisation. IRD-events would have had consequences for the economy and, as a result of it, also for the societies, causing instability in their social, ritual, and political stability (Gronenborn 2010). In the case of Post-LBK times, the trend toward drier conditions by the end of the LBK is of special interest, around the end of 6th millennium cal BC. It was argued that these climatic uncertainties might have resulted in the final collapse of LBK (Strien, Gronenborn 2005) and ultimately in the change towards the emergence of Middle Neolithic societies (e.g. Hinkelstein, Stichbandkeramik or Lengyel; according to German terminology). On the other hand, the mentioned climatic uncertainties could not reach our study area. Furthermore, the settlement histories of the large, late

LBK settlements in South-Western-Transdanubia (Becsehely (I)-Bükkaljai-dűlő, Becsehely (II)-Homokos, Petrivente-Újkúti-dűlő, and Sormás-Mántai-dűlő) show no clues for any crises with drastic consequences for the society (P. Barna 2004, 2009, Kalicz *et al.* 2012).

In spite of the obvious similarities apparent among the Asparn, Talheim, Herxheim, and Esztergályhorváti features also stressed by e.g. Makkay and Faruggia, an essential difference must be highlighted. While the previously mentioned three sites belong to the LBK, Esztergályhorváti can be dated maximum as a Post-LBK site. As it was argued earlier, the ceramic finds date the Esztergályhorváti find assemblage explicitly to the formative phase of the Lengyel culture (P. Barna 1996). On the strength of that at least one significant difference, a cultural one, can be stated among the Asparn-Talheim-Herxheim features and Esztergályhorváti.

What can be the cause of the apparent similarities? Could it be the same reason hypothesized behind these features, e.g. health (epidemic or famine), social (breaking a taboo), military conditions, or climatic causes (drought), to sum up: any kind of crisis? Even without giving a final answer to these questions it can be presumed that in spite of the cultural differences there must have been some common (ritual? ideological? social?) reason behind the mass graves of the LBK and the formative Lengvel culture. Due to the genetic relations between the LBK and the Lengyel culture the possibility of an independent and policentrical development of such a special burial act is not taken into consideration in the case studied here as it was in the case of an early Copper Age site located in the Bánát region (Gligor 2010). This similarity of the burial acts the background of which is yet unknown can also be taken as a further argument of continuity in Post-LBK times just like the history of the settlement at Sormás-Törökföldek where definite signs of continuous progressiveness were detected. The continuity can be traced beyond the material culture also in the settlement mode, also in the development of the enclosures belonging to settlements, and, partly related to it, in sacral life, as well between the Late Sopot and formative Lengyel cultures. As it was already studied in detail earlier none of the Neolithic enclosures excavated in South-Western-Transdanubia can be evaluated as of defensive character (P. Barna, Pásztor 2011). No evidences of any kind of crisis could be detected in the approximately 400-year-long unbroken inner development of the Sormás-Török-földek site. The same can be stated regarding further Neolithic sites in this region. On the strength of all these, a peaceful and calm social and political background is outlined in SouthWestern-Transdanubia during Post-LBK times. The case of Esztergályhorváti at the same time puts us wise to further aspects. One of them is that "radical" solutions of inner conflicts could also have appeared even in peacetime sporadically. One further aspect is that local distinctiveness cannot be left out of consideration. The low number of massacre sites in proportion to the huge territory of the LBK queries the general validity of the theories based on them. The present article covers such a case of local validity from South-Western-Transdanubia.

REFERENCES

- P. BARNA J., 1996: A lengyeli kultúra tömegsírja Esztergályhorvátiban. The common grave of the Lengyel Culture in Esztergályhorváti (County Zala). Zalai Múzeum 6: 149–160.
- P. BARNA J., 2004: Becsehely-Homokos. Előzetes a M7 gyorsforgalmi út 71. sz. lelőhelyén feltárt neolitikus telep kutatásáról (1999. augusztus – 2000. március). Őskoros Kutatók II. Összejövetele, Debrecenben 2000. november 6–8. MΩMOΣ II: 33–44.
- P. BARNA J., 2007: A New Site of the Lengyel Culture in Sormás–Török–földek (County Zala, South-western Transdanubia). In: J. Kozłowski, P. Raczky (Eds.): *The Lengyel, Polgár and Related Cultures in the Middle/Late Neolithic in Central Europe.* Pp. 365–380. Polska Akademia Umiejętności, Kraków.
- P. BARNA J., 2009: A Sopot kultúra házai és települése Sormás-Mántai-dűlő lelőhelyen. Zalai Múzeum 18: 11–27.
- P. BARNA J., 2012: Újabb adatok a DNy-dunántúli középső neolitikum időrendjéhez. New Data on the Chronology of the Middle Neolithic Period of South-Western Transdanubia. MΩMOΣ V. Őskoros kutatók IV. összejövetelének konferenciakötete. Pp. 171–190. Déri Múzeum Régészet Tár, Debrecen.
- P. BARNA, J., in press: The Formation of the Lengyel Culture in South-Western Transdanubia. PhD dissertation defended at Eötvös Loránd University, Faculty of Humanities, Archaeological Program of Sciences of History Doctoral School, Budapest (2012). (The publication of the English version of the dissertation is in progress.)
- P. BARNA J., 2013: A Miniature Anthropomorphic Vessel from the Early Lengyel Culture Site at Sormás-Török-földek in Southwestern Hungary. In: A. Anders, G. Kulcsár, G. Kalla, V. Kiss, G. Szabó (Eds.): *Moments in Time, Papers Presented* to Pál Raczky on His 60th Birthday. Ősrégészeti Tanulmányok. Prehistoric Studies. Pp. 311–321. Ősrégészeti Társaság / Prehistoric Society. Eötvös Lóránd University, Budapest.
- P. BARNA J., PÁSZTOR, E., 2010: Two Neolithic Enclosures at Sormás-Török-földek (SW-Transdanubia, Hungary) and their possible geometrical and astronomical role. Case study. In: D. Calado, M. Baldia, M. Boulanger (Eds.): *Monumental Questions: Prehistoric Megaliths, Mounds, and Enclosures.* Proceedings of the XV UISPP World Congress (Lisbon, 4–9

September 2006). BAR International Series 2122, Vol. 7. Pp. 119–125. Archaeopress, Oxford.

- P. BARNA J., PÁSZTOR E., 2011: Different Ways of Using Space: Traces of Domestic and Ritual Activities in a Late Neolithic Settlement in a site at Sormás-Török-földek. *Documenta Praehistorica* 38: 185–206.
- BRONK RAMSEY C., PETTITT P. B., HEDGES R. E. M., HODGINS G. W. L., 1999: Radiocarbon dates from the AMS system: datelist 27. Archaeometry 41, 1: 197–206.
- FARRUGGIA J.-P., GUICHARD Y., HACHEM L., 1996: Les ensembles funéraires de Menneville Derrière le Village (Aisne). Actes du XVIIIe colloque interrégional sur le Néolithique, Dijon 1991. *Revue Archéologique de l'Est*, 14e supplement: 119–174.
- FARUGGIA J.-P., 2002: Une crise majeure de la civilisation du Neolithique danubien des années 5100 avant notre èr. A major crises in the Danubian Neolithic at the end of the 6th millennium BC. Archeologické rozhledy 54: 44–98.
- GLIGOR M., 2010: Funerary discoveries in Neolithic settlement from Alba Iulia-Lumea Nouã (Romania). Multiple burial or ritual centre? *Transylvanian Review*. XIX, Suppl. No. 5, 1: 233–250.
- GRONENBORN D., 2005: Bauern Priester Häuptlinge. Die Anfänge der Landwirtschaft und die frühe Gesellschaftsentwicklung zwischen Orient und Europa. In: F. Daim, W. Neubauer (Eds.): Zeitreise Heldenberg Geheimnisvolle Kreisgräben. Niederösterreichische Landesausstellung. Pp. 115–123. Verlag Berger, Horn – Wien.
- GRONENBORN D., 2010: Climate, crises, and the "Neolithisation" of Central Europe between IRD-events 6 and 4. In: D. Gronenborn, J. Petrasch (Eds.): *The Spread of the Neolithic to Central Europe*. International Symposium, Mainz 24 June – 26 June 2005. RGZM Tagungen Band 4, Pp. 61–80. Verlag des Römisch-Germanischen Zentralmuseums, Mainz.
- HORVÁTH L., KALICZ N., 2003: Újkőkori település feltárása Petriventén. Excavation of a Neolithic site at Petrivente. Archaeological Investigations in Hungary 2001 (2003): 5–29.
- JAKAB J., 1997: Analyse der menschlichen Skelettreste aus der Kreisgrabenanlage in Ružindol-Borová. In: V. Němejcová-Pavúková (Ed): Kreisgrabenanlage der Lengyel-Kultur in Ružindol-Borová. Pp. 193–218. Facultas Philosophica Universitatis Comenianae Bratislavensis, Bratislava.
- KALICZ N., 1977: Becsehely. Ausgrabungen. Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften 7: 119–120.
- KALICZ N., 1988: Beiträge zur Entstehungsfrage der Lengyel-Kultur. Slovenská Archeológia 36: 105–118.
- KALICZ N., 1998: Figürliche Kunst und bemalte Keramik aus dem Neolithikum Westungarns. Archaeolingua, Series Minor 10. Budapest.
- KALICZ K., KREITER E., TOKAI Z.M., 2007: Die Rolle der Sopot-Kultur in der Entstehung der Lengyel-Kultur auf Grund der Neuen Ausgrabungen in Südwestungarn. In: J. Kozłowski, P. Raczky (Eds.): *The Lengyel, Polgár and Related Cultures in the Middle/Late Neolithic in Central Europe*. Pp. 29–47. Polska Akademia Umiejętności, Kraków.
- KALICZ N., KREITER E., TOKAI Z.M., 2012: A neolitikum kronológiai kérdései Becsehely-Bükkaljai dűlő lelőhelyen.

Chronological Questions of the Neolithic at Becsehely-Bükkaljai dűlő. *MΩMOΣ V. Őskoros kutatók IV. összejövetelének konferenciakötete.* Pp. 87–170. Déri Múzeum Régészet Tár, Debrecen.

- KALICZ N., MAKKAY J., 1972: A neolitikus Sopot-Bicske kultúra. Archaeologia Értesítő 99: 3–14.
- KAUFMANN D., 1990: Ausgrabungen im Bereich linienbandkeramischer Erdwerke bei Eisleben, Kr. Wanzleben.
 In: D. Kaufmann (Ed.): Befestigte neolithische und äneolithische Siedlungen und Plätze in Mitteleuropa. Pp. 15–28. Jahrbuch für Mitteldeutsche Vorgeschichte 73, Deutscher Verlag der Wissenschaften, Berlin.
- KRAUSE R., 1998: Die bandkeramischen Siedlungsgrabungen bei Vaihingen an der Enz, Kreis Ludwigsburg (Baden – Württemberg). Berichte der Römisch-Germanischen Kommission 79: 7–105.
- KRAUSS R., 2002: Zum Abschluss der Grabungen 1994–2002 in der bandkeramischen Siedlung bei Vaihingen an der Enz, Kreis Ludwigsburg. Archäologische Ausgrabungen in Baden Württemberg: 34–41.
- LICHTER C., 2001: Untersuchungen zu den Bestattungssitten des südosteuropäischen Neolithikums und Chalkolithikums. Verlag Phillip von Zabern, Mainz.
- MAKKAY J., 1978: Über neolitschen Opferformen. In: E. Anati, P. L. van Berg (Eds.): Actes du Valcamonica Symposium '72: Les Religions de la Prehistoire. Pp. 161–172. Edizioni del Centro, Capo di Ponte.
- MAKKAY J., 2000: Egy ősi háború. Az esztergályhorváti késő neolitikus tömegsír. An early war. The Late Neolithic mass grave from Esztergályhorváti. Published by the author, Budapest.
- MAKKAY J., STARNINI E., TULOK M., 1996: Excavations at Bicske-Galagonyás (Part III). The Notenkopf and Sopot-Bicske Cultural Phases. Trieste.
- MEYER C., KÜRBIS O., ALT K.W., 2004: Das Massengrab von Wiederstedt, Ldkr. Mansfelder Land. Jahresschrift für mitteldeutsche Vorgeschichte 88: 32–65.
- MÜLLER-SCHIESSEL N., SCHMITZ J., HOFMANN R., KUJUNDŽIĆ-VEJZAGIĆ Z., MÜLLER J., RASSMANN K. 2007: Die Toten der spätneolithischen Tellsiedlung von Okolište/Bosnien-Herzegowina: Massaker, Seuche oder Bestattungsbrauch? <u>http://www.jna.uni-kiel.de/index.php/jna/</u> <u>article/view/21/21</u>. (12. 12. 2014.)
- NÁFRÁDI K., P. BARNA J., SÜMEGI P., 2015: Geoarchaeological investigation on the environmental background of Sormás-Török-földek, a Neolithic site in Southwestern Transdanubia, Hungary. J Archaeol Sci Reports 1: 8–20.
- NEUBAUER W., TRNKA G., 2005: Totenbrauchtum. In: F. Daim, W. Neubauer (Eds.): Zeitreise Heldenberg Geheimnisvolle Kreisgräben. Niederösterreichische Landesausstellung. Pp. 223–224. Verlag Berger, Horn – Wien.
- NEUGEBAUER-MARESCH Ch., 2005: Tod im Kreisgraben. In: F. Daim, W. Neubauer (Eds.): Zeitreise Heldenberg Geheimnisvolle Kreisgräben. Niederösterreichische Landesausstellung. Pp. 225–227. Verlag Berger, Horn – Wien.
- NĚMEJCOVÁ-PAVÚKOVÁ V., 1995: Svodín. Zwei Kreisgrabenanlagen der Lengyel-kultur. Studia Archaeologica

et Mediaevalia, Tomus 2. Facultas Philosophica Universitatis Comenianae Bratislavensis, Bratislava.

- NĚMEJCOVÁ-PAVÚKOVÁ V., 1997: Kreisgrabenanlage der Lengyel-kultur in Ružindol-Borová. Studia Archaeologica et Mediaevalia, Tomus 3. Facultas Philosophica Universitatis Comenianae Bratislavensis, Bratislava.
- PAVÚK J., 1969: Anteil der Želiezovce-Typus an der Genesis der Lengyel-Kultur. *Študijné zvesti* 17: 345–360.
- PAVÚK J., 1981: Súčasný stav štúdia lengyelskej kultúry na Slovensku. The present state of knowledge of the Lengyel culture in Slovakia. *Památky archeologické* 72: 255–299.
- PAVÚK J., 2007: Zur Frage der Entstehung und Verbreitung der Lengyel-Kultur. In: J. Kozłowski, P. Raczky (Eds.): The Lengyel, Polgár and Related Cultures in the Middle/Late Neolithic in Central Europe. Pp. 11–28. Polska Akademia Umiejętności, Kraków.
- PAŽINOVÁ N., 2009: Contribution to the Slovakian Early Lengyel Setting. Acta Arch Carpathica 44: 22–35.
- PODBORSKÝ V., KOVÁRNÍK, J. 2006: Neolithic and post-Neolithic enclosures in Moravia in their Central European context. In: A. Harding, S. Sievers, N. Venclová (Eds.): *Enclosing the Past. Inside and Outside in Prehistory.* Pp. 44–68. J. R. Collis Publications, Sheffield.
- PRICE T. D., WAHL J., BENTLEY R. A., 2006: Isotopic evidence for mobility and group organization among Neolithic farmers at Talheim, Germany, 5000 BC. *European Journal of Archaeology* 9: 259–284.
- REGENYE J., 2002: Chronological situation of the Sopot culture in Hungary. A Sopot kultúra kronológiai helyzete Magyarországon. Veszprém Megyei Múzeumok Közleményei 22: 31–42.
- SPATZ H., 1998: Krisen, Gewalt, Tod zum Ende der ersten Ackerbauernkultur Mitteleuropas. In: A. Häußer (Ed.): Krieg oder Frieden? Herxheim vor 7000 Jahren. Katalog zur Sonderausstellung. Pp. 10–19. Speyer, Landesamt für Denkmalpflege, Herxheim.
- STRIEN H.-C., GRONENBORN D., 2005: Klima- und Kulturwandel während des mitteleuropäischen Altneolithikums (58./57.–51./50. Jahrhundert v. Chr.). In D. Gronenborn (Ed.): Klimaveränderung und Kulturwandel in neolithischen Gesellschaften Mitteleuropas, 6700–2200 v. Chr: RGZM – Tagungen 1. Pp. 131–150. Verlag des Römisch-Germanischen Zentralmuseums, Mainz.

- TOČÍK A., 1991: Erforschungstand der Lengyel-Kultur in der Slowakei. Rückblick und Ausblick. In: J. Lichardus, J. (Ed.): Die Kupferzeit als historische Epoche. Saarbrücker Beiträge zur Altertumskunde. Pp. 301–317. Habelt, Bonn.
- WINDL H., 1994: Zehn Jahre Grabung in Schletz, VB Mistelbach. Archäologie Österreichs 5,1: 11–18.
- WINDL H., 2001: Erdwerke der Linaerbandkeramik in Asparn an der Zaya / Schletz, Niederösterreich. *Preistoria Alpina* 37: 137–144.
- ZALAI-GAÁL I., 2010: Die soziale Differenzierung im Spätneolithikum Südtransdanubiens. Die Funde und Befunde aus den alten Ausgrabungen. Varia Arch Hung XXIV. Archaeolingua. MTA Régészeti Intézet, Budapest.
- ZEEB-LANZ A., 2009: Gewaltszenarien oder Sinnkrise? Die Grubenanlage von Herxheim und das Ende der Bandkeramik.
 In: A. Zeeb-Lanz (Ed.): Krisen – Kulturwandel – Kontinuitäten. Zum Ende der Bandkeramik in Mitteleuropa.
 Beiträge der Internationalen Tagung in Herxheim bei Landau (Pfalz) vom 14.–17. 06. 2007. Internationale Archäologie, Arbeitsgemeinschaft, Symposium, Tagung, Kongress Bd. 11. Marie Leidorf, Rahden/Westf.; 87–101.
- ZEEB-LANZ A., HAACK F., ARBOGAST R.-M., HAIDLE M. N., JEUNESSE C., ORSCHIEDT J., SCHIMMELPFENNIG D., 2007: Außergewöhnliche Deponierungen der Bandkeramik – die Grubenanlage von Herxheim. Darstellung einer Auswahl von Komplexen mit menschlichen Skelettresten, Keramik und anderen Artefaktgruppen. Germania 85: 199–274.
- ZOFFMANN ZS., K., 2007: Anthropological Material from a Neolithic Common Grave Found at Esztergályhorváti (Lengyel Culture, Hungary). *Folia Anthr* 6: 53–60.

Judit P. Barna Balatoni Museum H-8360, Keszthely Múzeum u.2. Hungary E-mail: judit.pbarna@balatonimuzeum.hu