

## KURGANS AND THEIR BUILDERS

### The Great Hungarian Plain at the dawn of the Bronze Age<sup>1</sup>

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*Dedicated to Prof. Dr. Pál Sümegei DSc,  
University Professor,  
Director of the Department of Geology and Palaeontology  
on the occasion of his sixtieth birthday*

*Despite the fact that the enigmatic Yamnaya culture whose communities raised kurgans over their dead (known also as the people of the Pit-grave kurgans) has provided the lowest number of finds in the archaeology of the Carpathian Basin to date, it is nevertheless regarded as one of the most important archaeological cultures which profoundly shaped the history of Europe after 3000 BC in the light of the new advances in, and fresh findings of archaeogenetic and isotope studies during the past decade. The core distribution of the Yamnaya culture was the vast grass steppe extending from Kazakhstan to the northern and western Pontic, while the westernmost mass presence of these prehistoric pastoralist communities can be found on the Great Hungarian Plain.*

## INTRODUCTION

Although their number has dwindled during the bygone centuries and millennia, the enormous earthen mounds raised over prehistoric burials remain distinctive elements of the landscape of the Great Hungarian Plain. Often mistakenly called kunhalom [“Cumanian mound”] in common Hungarian parlance,<sup>3</sup> the artificial mounds erected over burials predominantly dating from the close of the Copper Age and the Early Bronze Age (late fourth–earlier third millennium BC), which in archaeological scholarship are designated as kurgans, a word of Turkic-Mongolian ancestry, have fascinated scholars engaged in archaeological and historical studies since the nineteenth century. A heated scholarly debate emerged in the mid-nineteenth century on whether these mounds were natural formations or man-made, artificial relics (burial mounds or possibly look-out mounds). Following a study trip to Counties Békés and Csanád, József Szabó, professor of geology, argued in his academic inaugural lecture held in 1858 that the mounds were natural geological formations deposited by rivers (SZABÓ, 1859, 186–187). However, the question of how the mounds were formed was not laid to rest, particularly in historical and archaeological studies. Flóris Rómer played an outstanding role in this field, too, and he can be credited with inspiring further studies after he described the mounds he had seen on the outskirts of several settlements in his Bihar travelogue. He also mapped the mounds in several instances (SZ. MÁTHÉ, 1975, 309, map).

In the following, I shall offer a brief overview of the current state of research on these prehistoric mounds, whose study was begun over one and a half centuries ago (see *Fig. 14* for the sites mentioned in the text).

<sup>1</sup> The present study focuses on the kurgans erected during the Copper Age and the Early Bronze Age, and does not cover the burial mounds of the Iron Age and later periods.

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<sup>3</sup> A designation based on the erroneous historical arguments of the linguist and historian István Horvát (1784–1846). The prehistoric kurgans discussed here quite obviously have no connections whatsoever with the Cumanians (TÓTH 2009, 481–482; BALÁZS-KUSTÁR 2015, 16–18).

KURGANS AND THEIR EXPLORERS<sup>4</sup>

Motivated by thirst for discovery, curiosity and, obviously, the desire to unearth dazzling treasures, the spadework involved in, and experiences gained during, the very first excavations of these mounds offered some answers regarding their origins. Mention must be made of Pál Frenyó's rescue excavation at Dévaványa-Templomdomb in 1887, where in addition to the primary burial containing ochre that had been dug into the yellow subsoil and covered with wooden beams, two additional, secondary prehistoric burials deposited according to the same mortuary rite were uncovered under the disturbed kurgan, the location of a planned church building (FRENYÓ 1889). The very first kurgan excavations include the investigation of one of the mounds of the Kettőshalom ["Double mound"] on J. Hering's farmstead at Tiszaigar by Endre Tariczky, parish priest of Tiszafüred, and Béla Miliesz in December 1898 (MILESZ, 1899, 81–83; TARICZKY, 1906). Tivadar Lehoczky's investigations of the kurgans at Králóvský Chlmec (Királyhelmece)-Erős erdő in 1894 involved the excavation of a few small mounds of a kurgan group of the Early Bronze Age Corded Ware culture (LEHOCZKY, 1894a; 1894b).

The same period saw the investigation of the first mounds in Transylvania at Carpenii de Sus (Gyertyános) and Izvoarele (Bedellő) by Samu Fenichel in 1887–1888 (FENICHEL, 1891a; 1891b), and at Ocland (Oklánd) by Endre Solymossy, who excavated no less than eighteen mounds within a span of two years, in 1894 and 1895 (SOLYMOSSY, 1895). Dr. András Jósa mentions several landowners who began the exploration of the kurgans on their estates on their own initiative or with the assistance of Jósa: Menyhért Okolicsányi of the Nyírkársz-Garahalom kurgan (1895); Baron József Vécsey of Geszteréd-Mound A (1868) and Count Jenő Pongrácz of the Potyhalom and Bashalom mounds at Tiszafüred (1889) (JÓSA, 1897).

Following the initial adventuresome attempts, the first truly pioneering work with academic goals was undertaken by András Jósa in County Szabolcs-Szatmár-Bereg (JÓSA, 1897, JÓSA, 1915) and by Lajos Zoltai in County Hajdú-Bihar, who systematically surveyed and investigated countless prehistoric kurgans in the early decades of the twentieth century, principally in the Hortobágy region and along the Tócs Stream (Figs 1–2). Both polyhistorians – who founded a regional museum in their respective county – soon realised



Fig. 1. Kurgans along the River Árkus in the Hortobágy region (watercolour: L. Zoltai)



Fig. 2. The primary burial of the Hortobágy-Halászláponyag kurgan with a neck vertebra by the left elbow (pencil drawing: L. Zoltai, 1924)

that the kurgans they had excavated had often been used during several periods, and not solely in prehistoric times. Zoltai cited the burials reflecting the disposal of the dead according to similar mortuary rites that had been unearthed under kurgans in southern Russia when interpreting the prehistoric tumulus burials he had excavated (ZOLTAI, 1911). He can be credited with the first systematic micro-regional kurgan research, in the course of which he surveyed and mapped the artificial mounds and elevations in the broader Debrecen

<sup>4</sup> Secondary literature on this topic is extensive and covers a wide range of questions. This paper aims to provide a general overview, which is impossible within the framework of a short paper. Therefore, a bibliography more lengthy than what is usual for our journal is attached to the paper. – The editors

area (ZOLTAI, 1938). In the Voivodina, Bódog Milleker undertook pioneering work with the excavation of three mounds on the northern outskirts of Ulma (Homokszil) near Versec. Among these, he discovered an extraordinarily richly furnished burial in the centre of the kurgan located in the maize field of Ittebeácz: the west to east oriented crouched burial of a woman (or perhaps a child) with a lavish array of gold jewellery laid to rest in a wooden chamber (MILLEKER, 1901; DANI, 2020).

The systematic research of the prehistoric kurgans on the southern Hungarian Plain with a clear academic research agenda was undertaken by Gyula Gazdapusztai until his death in 1968. His main area of activity was County Békés, where, among others, the well-known kurgan cemetery of Kétegyháza is located (cf. BEDE et al., 2019, Fig. 1, 361–362, with the relevant literature). Nándor Kalicz has covered in detail the early excavations in his monograph on the Early Bronze Age (KALICZ, 1968). In 1979, István Ecsedy published his seminal monograph, *The People of the Pit-Grave kurgans*, in which he devoted a long section to the Hungarian research history of this period (ECSEDY, 1979).

### THE FIRST EASTERN EUROPEAN IMPACTS

The publication of the Copper Age cemetery at Decea Mureşului (Marosdécse) (KOVÁCS, 1932; 1944) and of the burial of the strong, sturdy man provisioned with a long obsidian blade from the site Csongrád-Kettőshalom (Bárdos-tanya), who was interred in an uncusomary position with his legs bent at the knees and drawn up (ECSEDY, 1973; 1979, 11–13; MARCSIK, 1974), provided conclusive evidence that Eastern European impacts can first be attested in the eastern half of the Carpathian Basin as early as the Tiszapolgár period, i.e. around 4400–4300 BC, which corresponds to the period of the Zepterträger (sceptre-bearers), the steppean cultural complex incorporating the Sredny Stog, Skeliya and Suvorovo-Novodanilovka cultures, in which the use of zoomorphic sceptres carved from stone can be noted among the male members of the Eastern European elite (GOVEDARICA & KAISER, 1996; MANZURA, 2000, 252–257; GOVEDARICA, 2004, ANTHONY, 2007, DERGACHEV, 2007, 69–212; NIKOLAEVA, 2012). In addition to the stylised zoomorphic sceptres, certain outstanding male burials were furnished with globular and four-knobbed mace-heads of stone in the eastern half of the Carpathian Basin (GOGÂLTAN, 2011; SCHUSTER et al., 2015).

The possibly earliest finds that can be associated with a kurgan burial come from the Nádas-halom kurgan located on the boundary between Békésszentandrás and Szarvas that was disturbed during road construction (MRT 8, Site 1/51, 85–86, Pl. 19. 8a-c): a vessel decorated with the Wickelschnur technique, a variant of cord-impressed decoration (Fig. 3), dated to the Bodrogkeresztúr–Cernavodă I–Cucuteni C–Sălcuța III–Șuplevec–Crnobuki–Bakarno Gumno period on typological grounds, i.e. to the onset of the fourth millennium BC (ROMAN et al., 1992, 35, 38–47, Abb. 2).

Thus, on the testimony of the archaeological record, we cannot assume any large-scale migrations into the Carpathian Basin from Eastern Europe – what we see is the infiltration of a few individuals or smaller groups at the most (HEYD, 2016, 60).

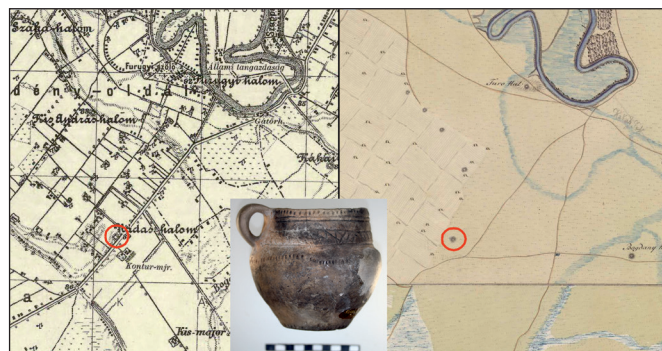


Fig. 3. The Békésszentandrás, Nádas-halom kurgan: detail of the maps of the Fourth and First Military Ordnance Survey and the vessel from the kurgan (photo: J. Szarka)

### THE PRE-YAMNAYA PERIOD AND THE FIRST KURGANS

It is clear from the above that similarly to the northern and western Pontic and the Lower Danube region, the construction of the earliest kurgans in the Carpathian Basin cannot be linked to the Yamnaya culture. Some of the burials lying underneath enormous earthen mounds such as the grave of an extraordinarily tall man laid to rest in a hollowed-out tree trunk coffin underneath the Tiszavasvári-Deákhalom mound (Grave 6) and the interment of a man under the Tiszaigar-Kettőshalom mound, who was in all likelihood laid to



rest according to a similar rite if the surviving description is to be believed, can be best likened to the mortuary rites of the Late Eneolithic Kvityana culture of the pre-Yamnaya period in the Dnieper region (DANI, 2011, 27–28; RASSAMAKIN, 2013, Figs 3–4, 116–117; HEYD, 2016, 60–62). The left-crouched primary burial underneath the Sárrétudvari-Órhalom kurgan (Grave 12) and the destroyed burial (actually a double burial with a child) of the Püspökladány-Kincsesdomb kurgan (Grave 3) can be likewise interpreted as pre-Yamnaya kurgan burials, which in part conform to the mortuary rites of the local Late Copper Age Baden culture and in part to those of the late Eneolithic Lower Mikhailovka culture distributed between the lower reaches of the Dniester and the Dnieper.

The first kurgans, rather small affairs during this period, were thus raised in the earlier fourth millennium, the period corresponding to the Middle Eneolithic in the Pontic (Rassamakin, 2012).

### THE PROCESS OF KURGANISATION

Kurgans appeared en masse on the Great Hungarian Plain between 3100/3000 and 2600/2500 BC (Fig. 4). István Ecsedy had already noted the interaction between the local Late Copper Age Baden and Coţofeni communities and the newly arriving Yamnaya groups (ECSÉDY, 1973, 19, 39; 1979, 51). Interaction between the local Late Copper Age population and the Eastern European immigrants can be documented on several levels.

(1) In Hungary, mounds were raised over biritual graves at Mezőcsát-Hörösögös and Tiszavasvári-Gyepáros (KALICZ, 1999), while at the Skorenovac site in Serbia, the mounds were constructed over thirteen inhumation burials of the Baden period (GARAŠANIN, 1959, 39, note 204). At two other Serbian sites, Perlez (Perlasz)-Batka C, Pašića Humka (MEDOVIĆ 1987, 79; TASIĆ, 1995, 153) and Padej (Padé)-Baranahát (GIRIĆ 1982, 102; 1987, 72, 76), as well as at the more recently investigated Hajdúnánás-Zagolya site (DANI et al., 2017, 142, Fig. 9), the kurgans were erected over settlements of the Baden culture. The minutely documented vertical stratigraphy of the Jabuka (Torontálalmás)-Tri Humke mound by Pančevo (Pancsova) indicated that the Baden-period layer was overlain by a settlement of the Kostolac culture and that the Pit-grave kurgan was constructed over the Eneolithic humus layer marking the end of the settlement's occupation (BUKVIĆ, 1979, 14–18; 1987, 85; TASIĆ, 1995, 161). In many cases, pottery fragments of the Baden and Coţofeni cultures were found in the earth of the kurgans: Baden sherds at Debrecen-Ohat-Dunahalom and Dunsok-Garáb-halom, while Coţofeni pottery at Hajdúnánás-Tedej, Lyukas-halom, in the fill of Grave 11 at Sárrétudvari-Órhalom, at the Bare I mound near Kragujevac in Serbia (SREJOVIĆ, 1976, 122, sl. 3–5) and at the Bodo-Movila lui Cordoş mound in the Banat in Romania (GOGĂLTAN, 2013, 37, 40).

The minute re-assessment of the original reports of the Tiszaeszlár-Potyhalom mound enabled the reconstruction of a Baden-Yamnaya sequence. The mound was partially excavated by András Jóna and Count Jenő Pongrácz in 1889: they uncovered a burial in the mound's centre which to them was most unusual, being the west to east oriented interment of a “man of tall stature” crouched on the right side, deposited in a 71 cm × 170 cm × 30 cm large wooden chamber (JÓNA, 1897, 321). This excavation represents a milestone in archaeological research, too, for the first ribbed Leukas-type lock-ring, probably made of silver, was first reported from this burial. It was later stolen under mysterious circumstances (JÓNA, 1915, 199, Fig. 30; Fig. 5). In 1913, when the mound was levelled during road construction, a Baden-style amphora was recovered from the mound's earth, which was donated by Jenő Liptay to the Nyíregyháza museum (Fig. 6.1, Fig. 7.1). According to Dr. Jóna's hand-written notes, the vessel contained burnt animal bones (and possibly human bones, too, “which were mislaid and lost after their discovery”). The single surviving animal bone



Fig. 4. The monumental kurgan of Hajdúnánás, Fekete-halom (photo: J. Dani)

is a sheep metatarsal burnt to a greyish colour (Fig. 6.2),<sup>5</sup> suggesting that the burial discovered during the construction work was a cremation of the Baden culture predating the kurgan's primary burial. This interpretation is underpinned by the field observations made by Jósa, according to whom "portions of the skeletons of two children mixed with ash and charcoal in two small heaps" lay beside each other near the kurgan's primary burial: "each heap was about a handful large. There were 4 mm long and wide burnt beads made of bone or shell (*Tridacna gigas*) among the bones" (JÓSA, 1915, 199). However, the description of the third inurned cremation burial ("at a height of 60 cm, but in the upper, more compact black earth": JÓSA, 1915, 199; Fig. 7.2) clearly indicates that the kurgan was raised over a cremation cemetery of the Baden culture and that the Yamnaya burial was dug into the burial ground.

(2) The cremation burials of the Coțofeni culture came to light from some kurgans, for example from the Trnava 2 tumulus (Glavcovska mogila) (JOVANOVIĆ, 1992).

(3) The primary grave of the Sprski Krstur (Szerbkeresztúr)-Slatinska humka kurgan was a cremation burial deposited in a Corded Ware amphora, a curious blend of Eastern European (Cord Ware vessel) and local Late Copper Age mortuary practices (GARAŠANIN, 1959, 51–52, Taf. 6,1; GRIČ, 1987, 74; BULATOVIĆ, 2014, 105–121, Fig. 2:20).

(4) Cremation burials of the Baden communities ringed with stones over which a small mound was raised are principally known from the Sajó Valley in southern Slovakia, for example from Gemer (Sajógömör) and Včelince (Méhi) (B. KOVÁCS, 1987; SACHSSE, 2012).

In the light of the above, there were various dimensions to the contacts between the local Late Copper Age populations and the pastoral Yamnaya communities.

The low mounds erected over some burials of the Baden culture can perhaps be seen as the adoption of Eastern European impacts reaching the Great Hungarian Plain at the close of the fourth millennium BC and as a reflection of new mortuary practices appearing among some neighbouring Late Copper Age communities. In these cases, we can probably conceptualise a peaceful process of acculturation.

The Late Copper Age sites over which large kurgans had been raised – and the finds from these sites in the earth of the kurgans – represent the symbolic inscription of the human landscapes created earlier. Viewed from this perspective, the appearance of many hundreds of kurgans across the greater part of the Great Hungarian Plain previously inhabited and used by Baden communities, which were subsequently occupied by pastoral Yamnaya groups, expressed the new political legitimization and imposed new traditions and new ritual practices as well as a new elite. We can but agree with Tünde Horváth that this process does

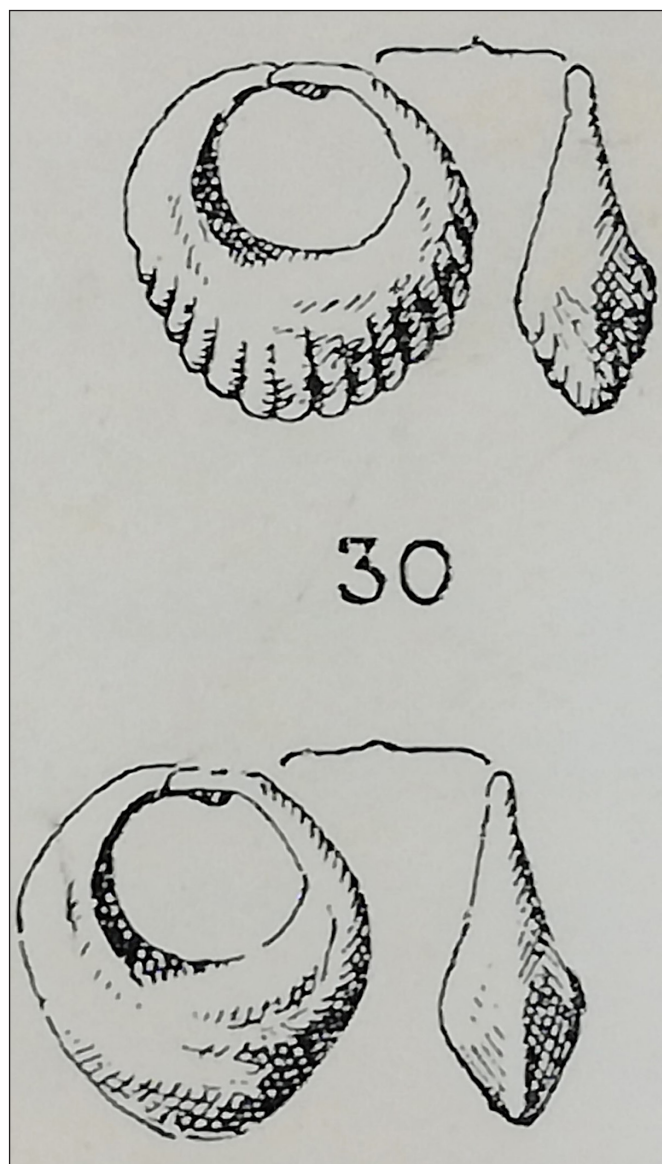


Fig. 5. The ribbed silver lock-ring from the Tiszaeszlár-Potyhalom kurgan and the plain silver lock-ring from the Buj-Feketehalom kurgan (drawing: A. Jósa)

<sup>5</sup> I would here like to thank Márta Daróczi-Szabó for the species identification.





Fig. 6. Tiszaeszlár-Potyhalom: the Baden vessel (1) and the burnt sheep metatarsal inside it (2) (photo: A. Linzenbold)

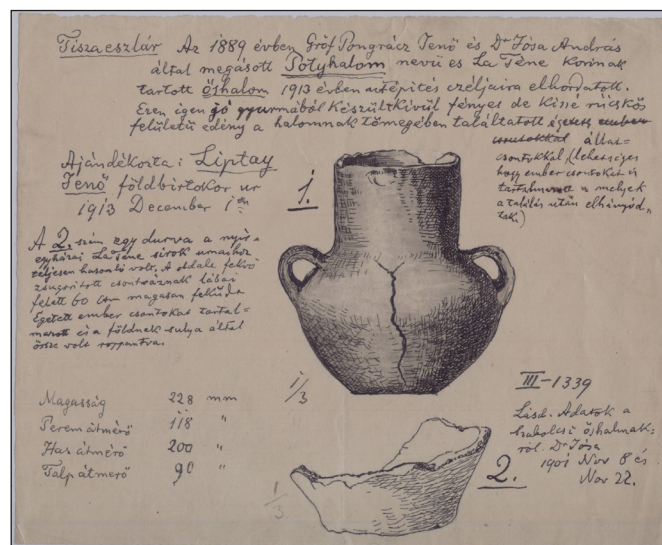


Fig. 7. Tiszaeszlár-Potyhalom: documentation of the cremation burial of the Baden culture found in the prehistoric humus layer dug by the kurgan's primary burial on the museum index card (drawing: A. Jóna)

not appear to have been particularly peaceful (HORVÁTH, 2006, 112–116).

No matter how attractive or straightforward it might seem, the significant demographic decline during the Copper Age–Bronze Age transition in the eastern half of the Carpathian Basin cannot be simply explained by aggression and armed conflicts, given the conditions of the Copper Age (BARRAS, 2019). In other words, it seems most unlikely that the well-organised Baden population of the Great Hungarian Plain, living in larger communities, would have been completely wiped out or driven away by the pastoral groups arriving from Eastern Europe.

We can hardly leave out of consideration the new findings of pathogenic research, meaning that one hitherto unconsidered “variable” explaining the drastic population decline is that the population was decimated by epidemics caused by infectious diseases, in this case the spread of a plague caused by an early form of Yersinia pestis from Eastern Europe

and Central Asia (RASMUSSEN et al., 2015; VALTUEÑA et al. 2017; RASCOVAN et al., 2019).

According to our current knowledge, the Yamnaya communities migrated to the Great Hungarian Plain from the Lower Danube region and they advanced along the Tisza to the Upper Tisza region. The general scholarly consensus is that they occupied the trans-Tisza region; however, the excavation of the kurgan at Dusnok by Andrea Lantos and Réka András, and the investigations targeting the kurgans in the Kiskunság region by Rozália Kustár, Réka Balázs and Pál Sümegi (BALÁZS, 2006; KUSTÁR et al., 2014; BALÁZS & KUSTÁR, 2015, 30–32; 2016) have revealed that the Yamnaya pastoralists moved across the entire Hungarian Plain with their flocks and herds, and the archaeological record from Transylvania indicates that they also reached the Transylvanian Basin as shown by the sites of Câmpia Turzii (Aranyosgyéres), Cipău (Maroscsapó), Răscruți (Válaszút) and other sites (CIUGUDEAN, 2011, 27–29, Appendix 1: earthen tumuli, Fig.



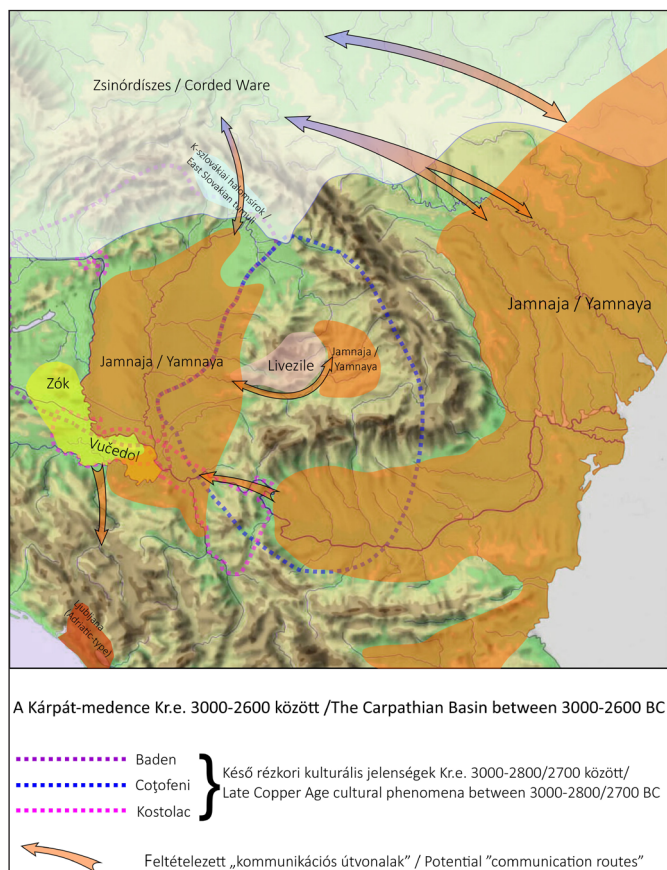


Fig. 8. Distribution of the Yamnaya culture in the Carpathian Basin and its connections (map: Z. Faur, after Włodarczak, 2014, Fig. 2, with some modifications)

1; HEYD, 2012, 538, Fig. 1; FRÎNCULEASA et al., 2015, 77; GOGÂLTAN, 2016, 422–424, Abb. 3; SZÁSZ, 2017, 8) (Fig. 8). Ádám Bede's landscape archaeological studies in the Middle Trans-Tisza region based on topographic work and field surveys combined with the meticulous assessment of the relevant archival records (e.g. BEDE, 2016; 2017, for the methodology) have convincingly demonstrated that the number of kurgans recorded in various registers (Agricultural Parcel Identification System / Mezőgazdasági Parcella Azonosító Rendszer (MePAR), Landscape Value Cadastre / TájÉrték Kataszter (TÉKA), register of Cumanian mounds in national parks, register of authenticated archaeological sites) is exceeded by far by the mounds that had once dotted the landscape, but had perished during the past 2–300 years, mostly owing to human activities.

The maps showing the reconstructed kurgan fields in the area between Tiszavasvári and Hajdúnánás, and the kurgan fields along the eastern bank of the Dusnok Stream on the north-eastern outskirts of Dusnok capture the transformation of the landscape that can best be described as “kurganisation”, when between 3100/3000 and 2600 BC, the appearance of enormous numbers of Yamnaya burial mounds led

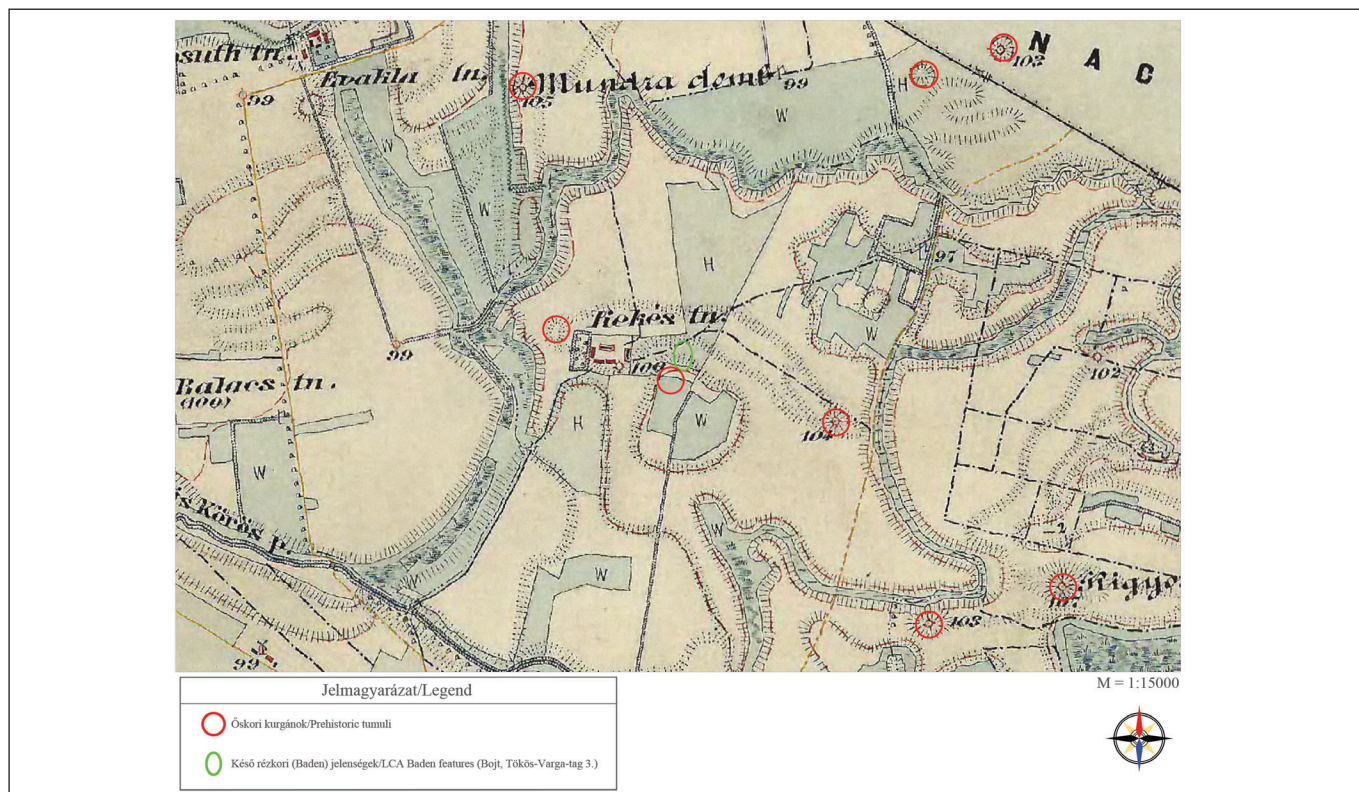


Fig. 9. The north-eastern outskirts of Bojt and the kurgans and Baden site along the Dusnok Stream on the map of the Third Military Ordnance Survey (map: T. Czibik-Gulyás)



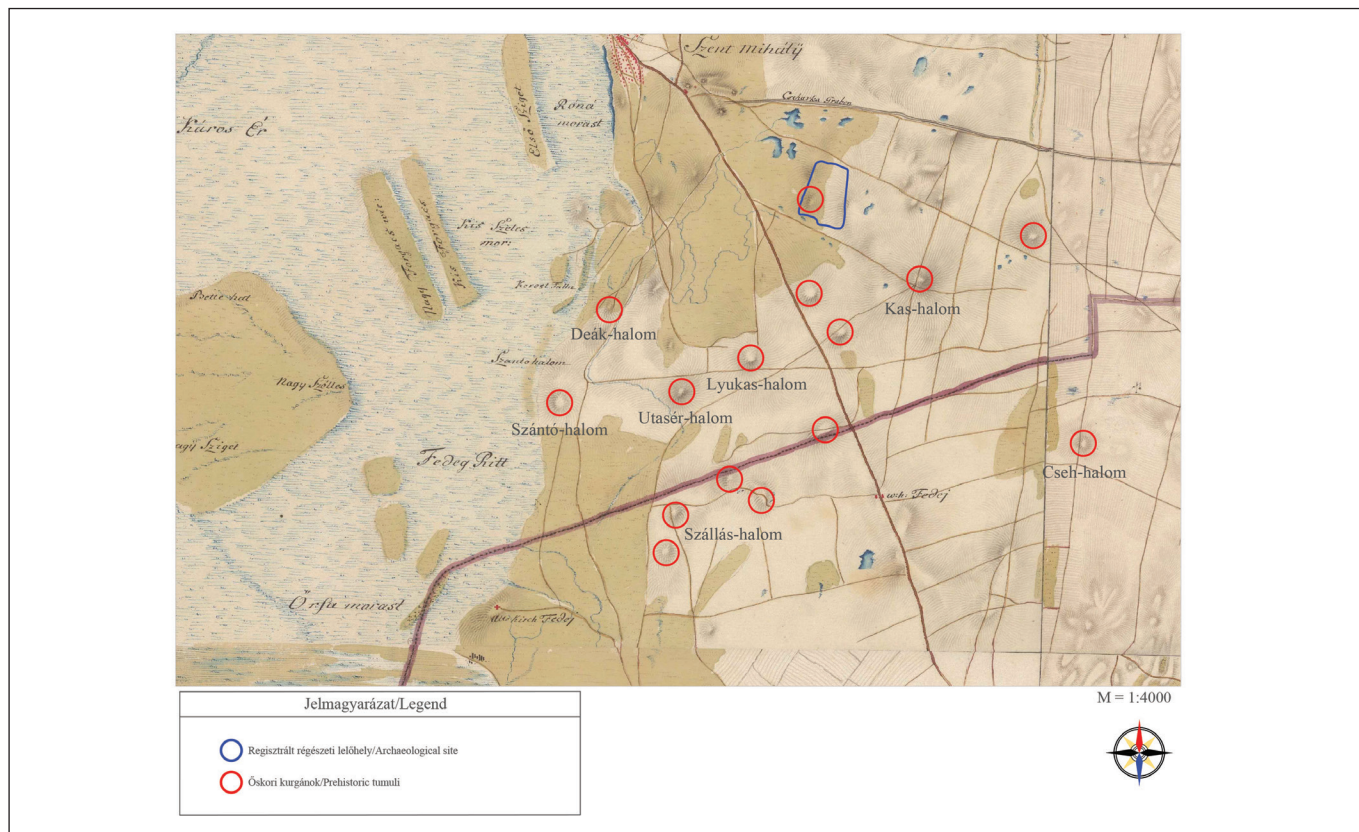


Fig. 10. The kurgans in the area between Tiszavasvári and Hajdúnánás and the Baden settlement in the Kas-halom-dűlő area on the map of the First Military Ordnance Survey (map: T. Czibik-Gulyás)

to a profound change in the landscape of the trans-Tisza region of the Great Hungarian Plain compared to how it was used during the earlier Late Copper Age Baden period (Figs 9–10).

### LATE YAMNAYA IMPACTS, SURVIVAL IN THE BRONZE AGE

In the lack of sufficient and reliable data (sites and finds), it is virtually almost impossible to capture and describe in adequate detail the transition from the Late Copper Age to the Early Bronze Age in the Carpathian Basin; nevertheless, we are able to fit increasingly more pieces into the overall picture of this complex process known as the Transitional Period (KULCSÁR, 2013; KULCSÁR & SZEVEÉNYI, 2013; HEYD, 2016, 62–79; HORVÁTH., 2016; SZABÓ 2017, 100–102, 108–104–105, 108, Fig. 5; REMÉNYI, 2018, 48–50). A freshly published find assemblage from Cegléd (PATAY, 2020), reflecting a unique blend of the slowly disappearing Eastern European Yamnaya and local Late Copper Age Baden traditions and of the Vučedol impacts from the south (from the Srem region), heralds the gradual emergence of the Bronze Age (PATAY, 2020). While the Yamnaya period is followed by the Catacomb period – so named after its distinctive burials – in the northern Pontic, not one single burial of this type has yet been uncovered in Hungary, even though a handful of finds in the local Early Bronze Age material does reflect connections with the Catacomb culture. The best known among these is a stray find, the fragment of a lavishly ornamented polished stone axe from Tiszaeszlár-Temető (KALICZ, 1968, 46, Taf. I/6; Fig. 11).



Fig. 11. Tiszaeszlár-Temető: fragment of a lavishly ornamented polished stone axe (photo: A. Linzenbold)



The Eastern European connections of the Early Bronze Age in the Upper Tisza region are illustrated by the finds from the kurgan excavated at Lohovo-Skorababka-dűlő (Beregszőlős, Transcarpathia, Ukraine). Of the five mounds registered at this site, Fedor M. Potushniak investigated the strongly eroded largest kurgan (base diam. 28 m, H. 2 m; (POTUSHNIAK, 1958, 74–77, Tabl. XLV/1a-b, 8; Fig. 12). A Catacomb-type censer set on four small legs and decorated with cord impressions came to light from the kurgan's central area (KAISER, 2019, 251, Abb. 141.a; Fig. 13.1), beside which lay greyish remains, which the excavator believed to be of human origin, possible the remnants of a cremation burial. Lying some 1 m south of the censer was a funnel-necked globular vessel (Fig. 13.2) recalling the vessels of the Corded Ware culture, whose main distribution lies beyond the Carpathians. A 20 cm deep pit with a diameter of 2 m containing charcoal was uncovered in the kurgan's south-eastern part, north of which there was a feature with red-burnt walls having a diameter of  $1 \times 0.7$  m, first noted at a depth of 4 cm from the mound's surface, that extended to the base of the kurgan (where it narrowed to 45 cm). Aside from charcoal, this feature yielded a broken obsidian blade. The formal and decorative traits of the vessels from what was probably a scattered cremation burial attest to cultural contacts resulting in a blend of the traditions of the Catacomb and Corded Ware cultures.

As shown by the above examples, the territory between the Tisza and the north-eastern Carpathian range, i.e. the river valleys of the northern Tisza catchment in south-eastern Slovakia (the Tarca / Torysa, Ondava, Tapoly / Topľa, Laborc / Laborec and Latorca/ Latorica valleys) and the hill regions dissected by the valleys, appear to have been one potential contact zone between the Yamnaya and the Corded Ware cultural complexes. Vojtech Budinský-Krička mapped and excavated countless kurgans attributed to the group of East Slovakian tumuli of various sizes raised over inhumation or cremation burials dating from the earlier third millennium between 1940 and 1960 (JAROSZ, 2010).

Similarly, rivers valleys – principally the Maros and Körös valleys – were the main arteries of communication towards the heartland of Transylvania: it is hardly mere chance that the Yamnaya burials currently known from Transylvania lie along the Maros and that the southern and eastern regions of the Transylvanian Apuseni Mountains bordering on the Maros valley were occupied by Livezile groups, whose mortuary practices involved raising stone-packed mounds over their dead. The Livezile sites often overlie those of the local Late Copper Age Coțofeni culture (CIUGUDEAN, 2011, 23–27, Fig. 1).

Aside from the “genetic imprint” of the Yamnaya groups settling in the Carpathian Basin, the perhaps most striking impact is the appearance and spread of the custom of raising mounds over burials among the

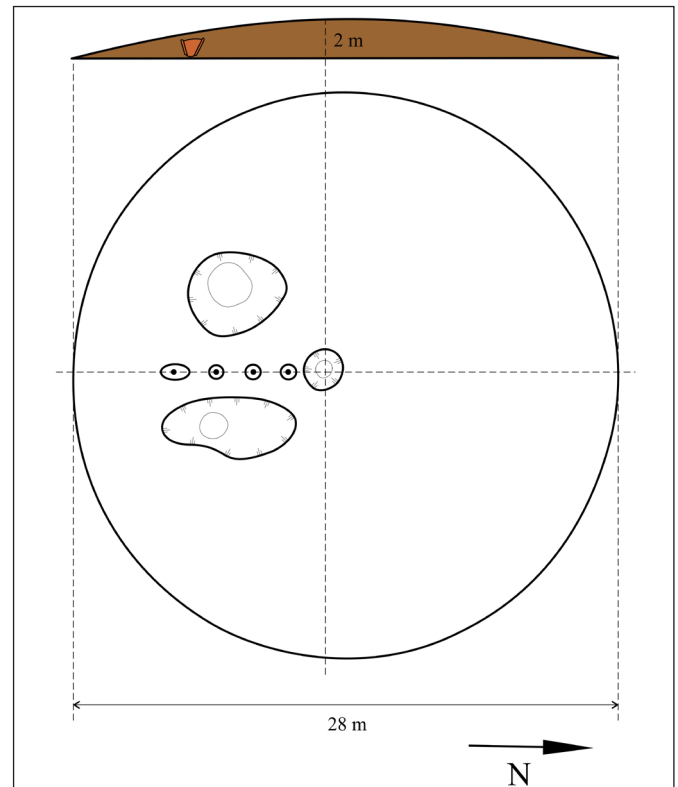


Fig. 12. Lohovo (Beregszőlős, Ukraine), Skorababka-dűlő: plan and section of the excavated kurgan (drawing: Z. Faur, based on Potushniak 1958, Tabl. XLV/8)



Fig. 13. Lohovo (Beregszőlős, Ukraine), Skorababka-dűlő: the small censer (1) and the funnel-necked vessel (2) from the excavated kurgan (photo: J. Dani)

contemporaneous cultures and those of the ensuing Early Bronze Age. A distinctive syncretism has been documented in the kurgan burials of the Vučedol culture at Batajnica-Velika humka and Vojka-Humka in the Belgrade area, where the primary burial was an inurned cremation grave with Vučedol vessels (TASIĆ, 1995, 16, 72–73, 74, 79, Pl. XXXI/6; MILOGLAV, 2018, 131), similarly as at Moldova Veche on the Romanian bank of the Danube (ROMAN, 1976, 17, 32, Pl. 19/a-d; 1980, 224, note 35). In the Kotor area on the Adriatic coast, we find a series of “royal” kurgans such as the ones investigated at Gruda Boljevića, Mogila na Rake, Kujava, Rubeža, Mala Gruda and Velika Gruda dating from 2900–2700 BC, all richly furnished burials of the Adriatic type known for its sophisticated and lavishly ornamented vessels, the local variant of the Ljubljana culture, which was related to Vučedol (GOVEDARICA, 2018). The next period, hallmarked by the communities of the Somogyvár-Vinkovci, Livezile (western Transylvanian tumular group) and Șoimuș and of the East Slovakian tumuli, saw the internment of the dead under burial mounds (BÁTORA, 2012; HEYD, 2012; Fig. 8).

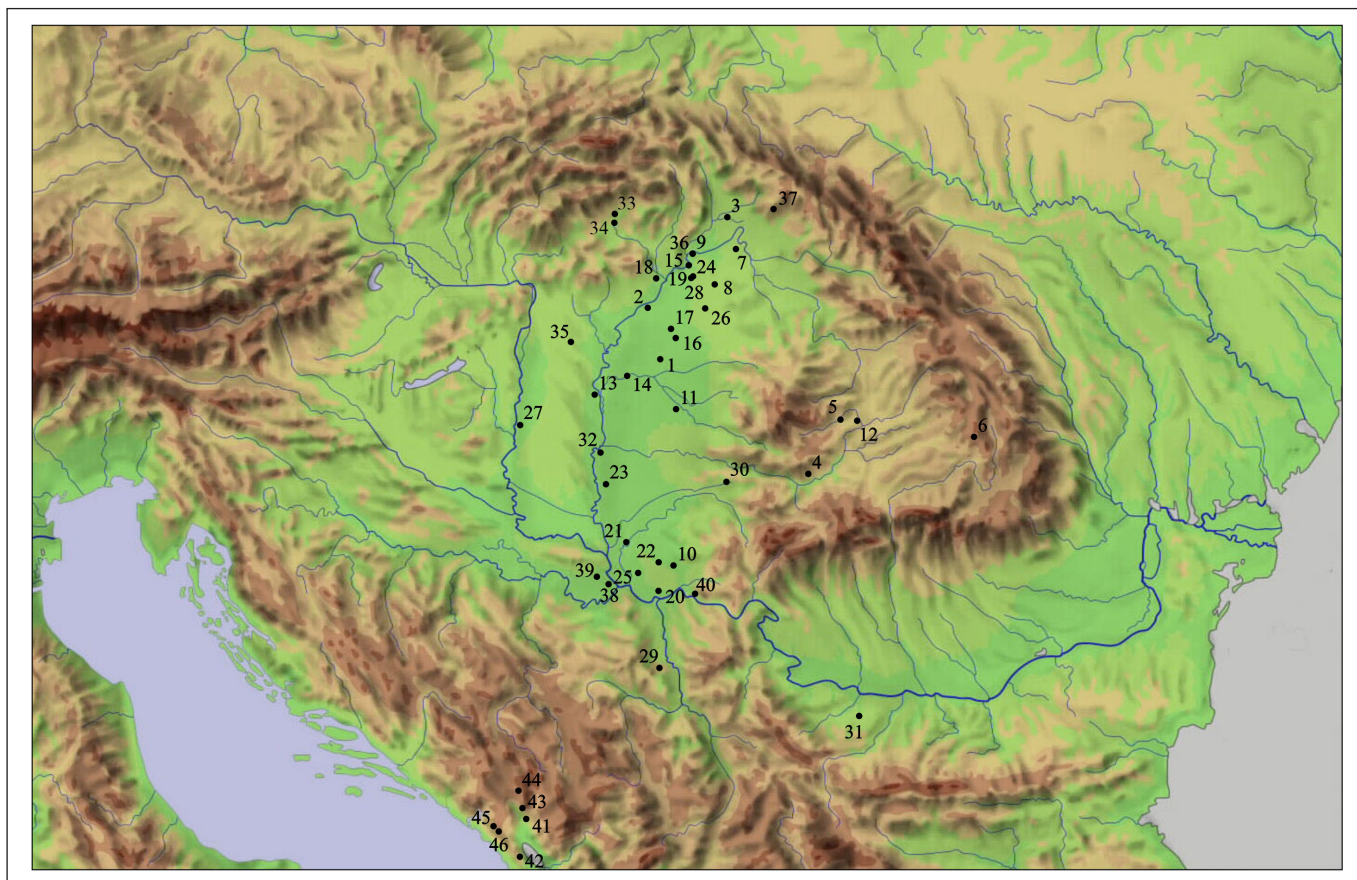


Fig. 14. Kurgan sites. Research history / Early kurgan excavations: 1 - Dévaványa-Templomdombon; 2 - Tiszaigar-Kettőshalom; 3 - Kráľovský Chlmec (Királyhelmece), Erős erdő (Slovakia); 4 - Carpenii de Sus (Gyertyános) (Romania); 5 - Izvoarele (Bedellő) (Romania); 6 - Ocland (Oklánd) (Romania); 7 - Nyírkársz-Garahalom; 8 - Geszteréd, Kurgan A; 9 - Tiszaeszlár-Potyhalom and Bashalom; 10 - Ulma (Homokszil) (Serbia); 11 - Kétegyháza, Kígyós-pusztá kurgan field (between Kétegyháza and Békéscsaba). First Eastern European impacts: 12 - Decea Mureșului (Marosdécse) (Romania); 13 - Csongrád-Kettőshalom, Bárdos-tanya. Pre-Yamnaya period in Hungary: 14 - Békésszentandrás, Nádas-halom; 15 - Tiszavasvári-Deákhalm; 16 - Sárrétudvari-Őrhalom; 17 - Püspökladány-Kincsesdomb. Yamnaya vs. Baden/Coțofeni: 18 - Mezőcsát-Hörcsögös; 19 - Tiszavasvári-Gyepáros; 20 - Skorenovac (Serbia); 21 - Perlez (Perlesz) - Batka C (Serbia); 22 - Pašića Humka (Serbia); 23 - Padej (Padé)-Barnahát (Serbia); 24 - Hajdúnánás-Zagolya; 25 - Jabuka (Torontálalmás) - Tri Humke (Serbia); 26 - Debrecen-Ohat, Dunahalom; 27 - Dusnok, Garáb-halom; 28 - Hajdúnánás-Tedej, Lyukas-halom; 29 - Kragujevac, Bare kurgan (Serbia); 30 - Bodo (Banat, Romania); 31 - Trnava (Търнава), Kurgan 2 (Glavcovska mogila) (Vratsa region, Bulgaria); 32 - Sprski Krstur (Ókeresztúr/Szerbkeresztúr), Slatinska humka (Serbia). Tumulus burials of the Baden culture: 33 - Gemer (Sajógömör) (Slovakia); 34 - Včelince (Méhi) (Slovakia). Late Yamnaya and Catacomb period: 35 - Cegléd, Site 4/4; 36 - Tiszaeszlár-Temető; 37 - Lohovo (Beregszőlős, Transcarpathian region, Ukraine), Skorababka-dűlő. Kurgan burials of the Vučedol culture: 38 - Batajnica-Velika humka (Serbia); 39 - Vojka-Humka (Serbia); 40 - Moldova Veche (Romania). “Royal” kurgans of the Ljubljana culture (Adriatic type): 41 - Gruda Boljevića (Montenegro); 42 - Mogila na Rake (Montenegro); 43 - Kujava (Montenegro); 44 - Rubeža (Montenegro); 45 - Mala Gruda (Montenegro); 46 - Velika Gruda (Montenegro)



## THE HUMAN FACTOR

It is less known that in their study on the human remains from the Csongrád-Kettőshalom and other kurgans, Antónia Marcsik and Zsuzsanna K. Zoffmann had pointed out over fifty years ago that a “new” anthropological type of Eastern European stock (the tall Cromagnoid A type with high robusticity) appeared in the Carpathian Basin during the Copper Age (MARCSIK, 1974; 1979; K. ZOFFMANN, 1978; 2006; 2011). The growing number of archaeogenetic analyses performed during the past ten years wholly confirmed the findings of earlier physical anthropological studies and highlighted the appearance and rapid diffusion of the steppean Yamnaya ethnic groups across the greater part of Europe (ALLENTOF et al., 2015; HAAK et al., 2015; OLALDE et al., 2018). As a global process, the Yamnaya migration most likely lasted for a longer period of time and not only towards western Europe, but also towards southern Siberia (the northern foreground of the Altai), leading to the formation of the Afanasyevo culture (BOWER, 2017, “Big moves” map, 6–7; cf. also BARROS DAMGAARD et al., 2018). It would appear that this migration was made up of several successive waves: communities of various sizes split off from the pastoral Yamnaya groups of the Eurasian steppe belt and advanced towards the Balkans and the Carpathian Basin as well as towards Inner Asia. Besides genetic studies, stable isotope analyses ( $^{87}\text{Sr}/^{86}\text{Sr}$ ;  $\delta^{18}\text{O}$ ) are another important source of information regarding the mobility of pastoral groups: the light isotope analyses of the secondary burials of the Sárretudvari-Órhalom kurgan shed light on a traditional transhumance route – also underpinned by the archaeological and ethnographic record – between the westerly regions of the Apuseni Mountains and the Bihar Sárret region (GERLING et al., 2012a; 2012b; DANI 2014).

In addition to the assessment of the genetic samples of the Yamnaya communities of the Carpathian Basin, currently still in progress, the  $^{15}\text{N}$  and  $^{13}\text{C}$  light isotope analyses also reveal much about the lifeways and diet of these communities. While stable isotope analyses provide information on more general tendencies, the study of dental calculus, a new research direction introduced by Zsuzsa Lisztes-Szabó in the Hertelendi Laboratory of Environmental Studies of Debrecen, provides exciting new data on the dietary habits of pastoralists based on phytoliths and micro-remains conserved in dental calculus.

The goal of a new ERC-funded project led by Prof. Volker Heyd, “The Yamnaya Impact on Prehistoric Europe (YMPACT)” launched in 2019, is to gain a better understanding of the connections and lifeways of the westernmost Yamnaya communities as well as of the local and global impact of their appearance. The novel directions and many new approaches in this field of research is illustrated by the case study on a young woman interred in the primary burial of a destroyed kurgan investigated at the site Bojt-Tökös-Varga-tag 3 (HEYD et al., 2020).

## EPILOGUE

The impact of the nomadic Yamnaya communities of Eastern European stock on other European regions is strongly intertwined with the many still unresolved issues of Indo-European migrations and the origins of the currently spoken Indo-European tongues that have always commanded scholarly attention and have repeatedly sparked heated debates (ANTHONY & RINGE, 2015; HEYD, 2017; ANTHONY & BROWN, 2017; KLEJN, 2017; KLEJN et al., 2017; KRISTIANSEN et al., 2017; LAZIRIDIS, 2018). This controversial issue can hardly be resolved by archaeology, linguistics or genetic studies alone – only complex interdisciplinary studies will be able to provide meaningful answers to the question of the Indo-Europeanisation of the European continent (ANTHONY, 2019; KOCH, 2019; KOZINTSEV, 2019).

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