

AKADÉMIAI KIADÓ

Acta Archaeologica  
Academiae Scientiarum  
Hungaricae

73 (2022) 2, 143–162

DOI:

10.1556/072.2022.00012

© 2022 The Author(s)

## ORIGINAL RESEARCH PAPER



# The warrior aristocracy of the Late Bronze Age Urnfield Period in County Somogy, south-western Transdanubia. The Lengyeltóti V hoard (County Somogy/Hungary)

Szilvia Honti<sup>1</sup> and Katalin Jankovits<sup>2\*</sup>

<sup>1</sup> Rippl-Rónai Museum, Fő utca 10, H-7400, Kaposvár, Hungary

<sup>2</sup> Pázmány Péter Catholic University, Faculty of Humanities, Mikszáth Kálmán tér 1, H-1088, Budapest, Hungary

Received: February 9, 2022 • Accepted: June 16, 2022

## ABSTRACT

Discussed here is the presence of a warrior aristocracy in south-western Hungary, principally in County Somogy, during the early (and middle) Urnfield period (Br D–Ha A1–A2) based on the archaeological record. The period's offensive and protective weapons wielded by the warrior aristocracy during the Urnfield period (mid-thirteenth to ninth century BC) are exclusively known from hoards in this region; none have been recovered from burials. The Lengyeltóti V hoard contained a greave, a composite cuirass, a cheek-piece indicating the presence of a military aristocracy riding horses and wagons or chariots when going to battle and a realistic wheel model. The swords and spearheads were part of the period's offensive weaponry. The hoard's other articles represented the jewellery of the female aristocracy: a diadem, a torc and an ornamented disc pendant. The hoard contained over seven hundred items. In A. Mozsolics's view, the hoard could be assigned to the period lasting up to the close of the Hallstatt period (Ha A2). The rise of the warrior aristocracy began during the Br D, Br D/Ha A1 period, while its consolidation and heyday fell into the early Urnfield period (Ha A1). The aristocracy lived in hillforts – fortified settlements – which had a flourishing bronze industry. The number of settlements and burials declined drastically in the ensuing Ha B period in south-western Transdanubia.

## KEYWORDS

south-western Transdanubia, Urnfield period, weaponry of the warrior aristocracy, composite cuirass, greave, cheek-piece, spoked wheel, female elite costume

## INTRODUCTION

The explanation and interpretation of armed conflicts as well as the rise of a warrior aristocracy, the reconstruction of their weaponry based on the archaeological record, the study of their manufacturing techniques and how they were used, the prominent role of warriors in their societies and the various rites associated with them (funerary rites and sacrificial rites, the deposition of weapons) are some of the key themes in Bronze Age studies,<sup>1</sup> that have also been addressed in Hungarian archaeological scholarship.<sup>2</sup>

<sup>1</sup>Kristansen (1999) 175–189; Harding (1999) 157–173; Jockenhövel (2006) 101–132; Harding (2007); Uckelmann (2012); Mödinger (2017); Conferences: Warfare and Aristocracy in Bronze Age Italy (2009) Padova; Waffen für die Götter, 2013 Innsbruck; Session of UISPP World Congress: The emergence of warrior societies and its economy, social and environmental consequences, 2016 Burgos; Armas de la Hispania Preromana, 2016 Madrid; Session of UISPP World Congress: Archaeology of warfare in ancient Eurasia. The emergence and consolidation of warrior aristocracies, 2018 Paris; Materialisierungen von Konflikten, 2018 Fulda; Ancient Weapons, New Research perspectives on weapons and warfare, 2019 Mainz.

<sup>2</sup>Jankovits (1997) 1–21; Novák and Váczi (2012) 94–114; F. Petres and Jankovits (2014) 43–71; Tarbay (2015a) 29–70; Honti and Jankovits (2016) 127–142; Jankovits (2016) 57–77; Jankovits (2020) 95–113; V. Szabó (2019a) 61–71; V. Szabó (2019b) 163–189; Tarbay (2021) 91–144.

\*Corresponding author.

E-mail: jankov@btk.ppke.hu



Discussed here is the presence of a warrior aristocracy in south-western Hungary, principally in County Somogy, during the early (and middle) Urnfield period (Br D–Ha A1–A2) based on the archaeological record.<sup>3</sup> The period's offensive and protective weapons wielded by the warrior aristocracy during the Urnfield period (mid-thirteenth to ninth century BC) are exclusively known from hoards in this region; none have been recovered from burials. The presence of a warrior aristocracy is exemplified by various articles in the Lengyeltóti V hoard, which contained swords and spearheads wielded by the male warrior elite as well as a greave and what were probably the discs of a composite cuirass representing defensive weaponry, alongside a cheek-piece and a wheel model most likely symbolising wagons or chariots. The hoard's other articles such as a diadem, a belt plate, a torc and an ornamented pendant signalled high female status during this period.

The bronze hoard was discovered in autumn 1995, in a relatively deep-lying area: it was found in the waterlogged soil below the ploughzone.<sup>4</sup> The hoard lay in a regular round pit with a diameter of 50 cm and a depth of 60 cm, suggesting that it had originally been concealed in a container of organic material, perhaps a wicker basket or a wooden box. The bronze artefacts became uniformly covered with non-active patina under the permanent conditions. The hoard contained some 700 artefacts, including both intact and broken pieces as well as ingots and casting waste. About one-half of the hoard was made up of agricultural implements (sickles and socketed axes), while weapons such as swords and spearheads as well as winged axes that could be used as both implements and weapons accounted for about one-third.<sup>5</sup> In addition to newly-made, unused pieces and artefacts with damaged edges or ones that broke during their use, the hoard also comprised bronze fragments intended for re-melting. The latter include once highly prized articles such as fragments of bronze vessels and the prestige items once possessed by the warrior aristocracy to be discussed here.

The weapons of the warrior, a member of the aristocracy, from the Lengyeltóti V hoard are as follows (see Fig. 3.1 for a reconstruction based on the finds<sup>6</sup>):

## GREAVE (FIGS 1–2)

The undoubtedly most outstanding piece of the hoard is the greave that has already been discussed in detail in a previous study,<sup>7</sup> and we shall here only describe its most important traits. The slightly elongated oval greave was made of 0.3–0.4 mm thick sheet bronze. A wire runs under the rolled-over edge, from which four loops were formed for attachment. One of the loops retains a rivet, possibly to ease attachment after the greave became damaged. Traces of wear and repair could be noted on it (L. 27 cm, W. 21 cm, folded W. ca. 14 cm). The greave was folded and hammered, making it unfit for further use before being deposited in the hoard.<sup>8</sup> Parallel lines of repoussé dots divide the greave into four fields, each containing a four-spoked wheel motif or Sun symbol. In view of the thickness of the sheet and the unevenness of the repoussé work, it is of poorer craftsmanship than the greave found at nearby Rinyaszentkirály,<sup>9</sup> and it seems likely that it had been made in a local Transdanubian workshop. Within the Urnfield distribution, greaves show a definite concentration in the hoards of the formative and early Urnfield period (Br D–Ha A1) in southern Transdanubia (Nadap, Nagyvejeke, Rinyaszentkirály, Lengyeltóti V) and in the region between the Drava and the Sava (Veliko Nabrđe and Slavonski Brod as well as Boljanić south of the Sava).<sup>10</sup> These prestige articles quite certainly signalled the high social status of the warrior aristocracy. They are typically adorned with wheel motifs in delicate repoussé. Greaves are known from more southerly regions too, from northern Italy (Malpensa)<sup>11</sup> and Greece (Athens, Acropolis).<sup>12</sup> They can be regarded as imports or as reflections of the close connections between bronze workshops.

Following our study on the Lengyeltóti greave, several other scholars also discussed this important find.<sup>13</sup> There is a general consensus that the greave can be dated to the Ha A1 period (thirteenth/twelfth century BC). Regrettably, M. Mödinger published an imprecise, inaccurate drawing of the greave, without specifying the source of her illustration.<sup>14</sup> She labelled greaves decorated with wheel motifs

<sup>3</sup>This study was originally submitted to the conference volume of the UISPP conference held in Paris in 2018 ("The emergence and consolidation of warrior aristocracies", 2018 Paris). However, nothing came of this volume and we therefore decided to publish our study here.

<sup>4</sup>The hoard was discovered in György Kisbors's field during ploughing. The artefacts turned up by the plough were presented to the Rippl-Rónai Museum in Kaposvár, after which we inspected the findspot and found that the greater part of the hoard still lay in its original position in the waterlogged soil.

<sup>5</sup>These proportions are based on the number of artefacts. However, the proportions of the artefacts according to their weight indicate a dominance of ingots and casting waste, which account for two-thirds of the hoard's total weight.

<sup>6</sup>The drawings and reconstructions were made by Zsolt Nyári, the photos by Krisztián Balla.

<sup>7</sup>Honti and Jankovits (2016) 71–86.

<sup>8</sup>The greave was restored to its original form by conservator Péter Horváth during the conservation. Horváth (1997) 141–146.

<sup>9</sup>Honti and Jankovits (2016) Figs 6–7.

<sup>10</sup>Honti and Jankovits (2016) 72–81, Figs 2–5, Fig. 9.

<sup>11</sup>Mira Bonomi (1979) 127, Fig. 2.1a–b; Schauer (1982a) 135, 141, Abb.15.2; Hansen (1994) 15, Fig. 4.1; Jankovits (1997) 11, Fig. 7.1; Clausen (2002) 152, Fig. 1.4. De Marinis (2009) 151–152, Fig. 6.1.

<sup>12</sup>Platon (1966) 36, Fig. 1.2, Pl. 59–60; Mountjoy (1984) 135, Figs 2–3; Hansen (1994) 15, Abb. 4.4; Clausen (2002) 152, Figs 1.2–3.

<sup>13</sup>Mödinger (2017) 227–233; V. Szabó (2019a) 102; V. Szabó (2019b) 166, Abb. 5; Tarbay (2021) 94.

<sup>14</sup>Mödinger (2017) 170, No. 173.







Fig. 1. Greave from Lengyeltóti V hoard (County Somogy) after its restoration

“greaves of the Lengyeltóti type”. In the chapter on chronology, she claims that A. Mozsolics and K. Jankovits assigned the Malpensa hoard containing three greaves, one decorated with wheel motifs, to the Ha B1 period.<sup>15</sup> However, both A. Mozsolics<sup>16</sup> and K. Jankovits<sup>17</sup> dated the hoard to the Kurd horizon, to the Ha A1. The erroneous dating to the Ha B1 period was first proposed by A. Mira Bonomi<sup>18</sup> because the hoard was found in a cemetery of the Proto-Golasecca period (tenth century BC) and she failed to note that the hoard represented an earlier assemblage, unassociated with the burials. A date in the Ha A1 is the generally accepted one in Italian scholarship, too.<sup>19</sup> The pair of greaves from Desmontá di Veronella (Verona)<sup>20</sup> similarly came to light in a cemetery used during a later period: it had been placed beside a wooden stele as a votive deposit; the greaves date from the twelfth–eleventh centuries BC and are similarly unassociated with the Proto-Venetan cemetery used during the eleventh–ninth centuries BC.

### BRONZE DISCS, PROBABLY FROM A COMPOSITE CUIRASS (FIG. 3.5–7, FIG. 4.1–3)

The hoard included two larger round discs and a smaller looped disc. The two larger discs have a diameter of 16 cm, the smaller, slightly more oval disc has a diameter of ca. 10–11.5 cm (for the reconstruction in drawing, cf. Figures 3.5–7). All three were made in a similar manner: they were cast in one with the loop on their reverse and then hammered. The two larger discs have a raised centre with a small boss enclosed within four concentric ribs. The smaller disc is domed with three concentric ribs around the central boss. The central part is slightly thicker than the outer respectively.

All three discs are fragmented. The two larger ones were deliberately folded and damaged to prevent their subsequent use. Larger discs cast in one with the attachment loop and decorated with concentric ribs enclosing a boss are known from several hoards with a similar composition found in Transdanubia and northern Croatia: Nadap in north-eastern Transdanubia,<sup>21</sup> Kurd and the Bonyhád area in eastern Transdanubia,<sup>22</sup> Brođski Varoš in Croatia,<sup>23</sup> and Velem I in western Transdanubia.<sup>24</sup> In the larger hoards and among the assemblages from professional excavations that can be regarded as being more complete, the large discs

<sup>15</sup>Mödlinger (2017) 229.

<sup>16</sup>Mozsolics (1985) 80: „Die drei Beinschienen von Malpensa, denen von Rinyaszentkirály und Nadap des Kurd-Horizontes ähnlich“.

<sup>17</sup>Jankovits (1997) 12, 14: „L’associazione del ripostiglio di Malpensa è conforme all’associazione degli oggetti dei depositi in Croazia e in Ungheria riferibili all’orizzonte di Kurd“; Honti and Jankovits (2016) 71; Jankovits (2020) 100.

<sup>18</sup>Mira Bonomi (1979) 117–144.

<sup>19</sup>De Marinis (1988) 161–175; De Marinis (2009) 148–154.

<sup>20</sup>Salzani (1986) 386–391; Salzani (1990) 41–44.

<sup>21</sup>Makkay (2006) Pls. XXVIII–XXIX.

<sup>22</sup>Mozsolics (1985), Kurd: Taf. 24.2, the largest exemplar, measuring 18 cm; Bonyhád area: Taf. 40.7, a strongly fragmentary piece.

<sup>23</sup>Vinski-Gasparini (1973) Taf. 53.26, Taf. 58.34, 37.

<sup>24</sup>Mozsolics (1985) Taf. 228.12, a small phalera with two loops.



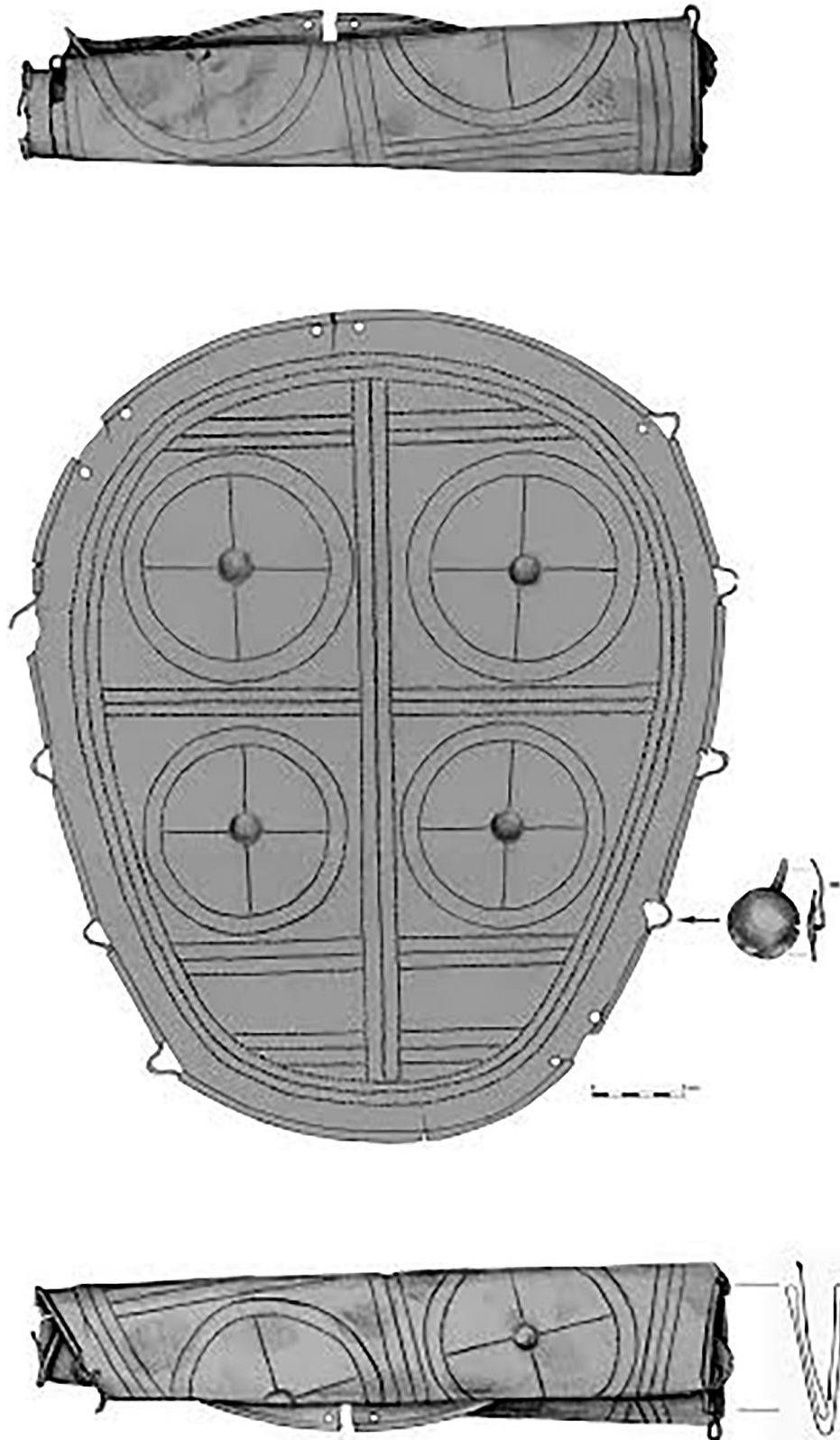
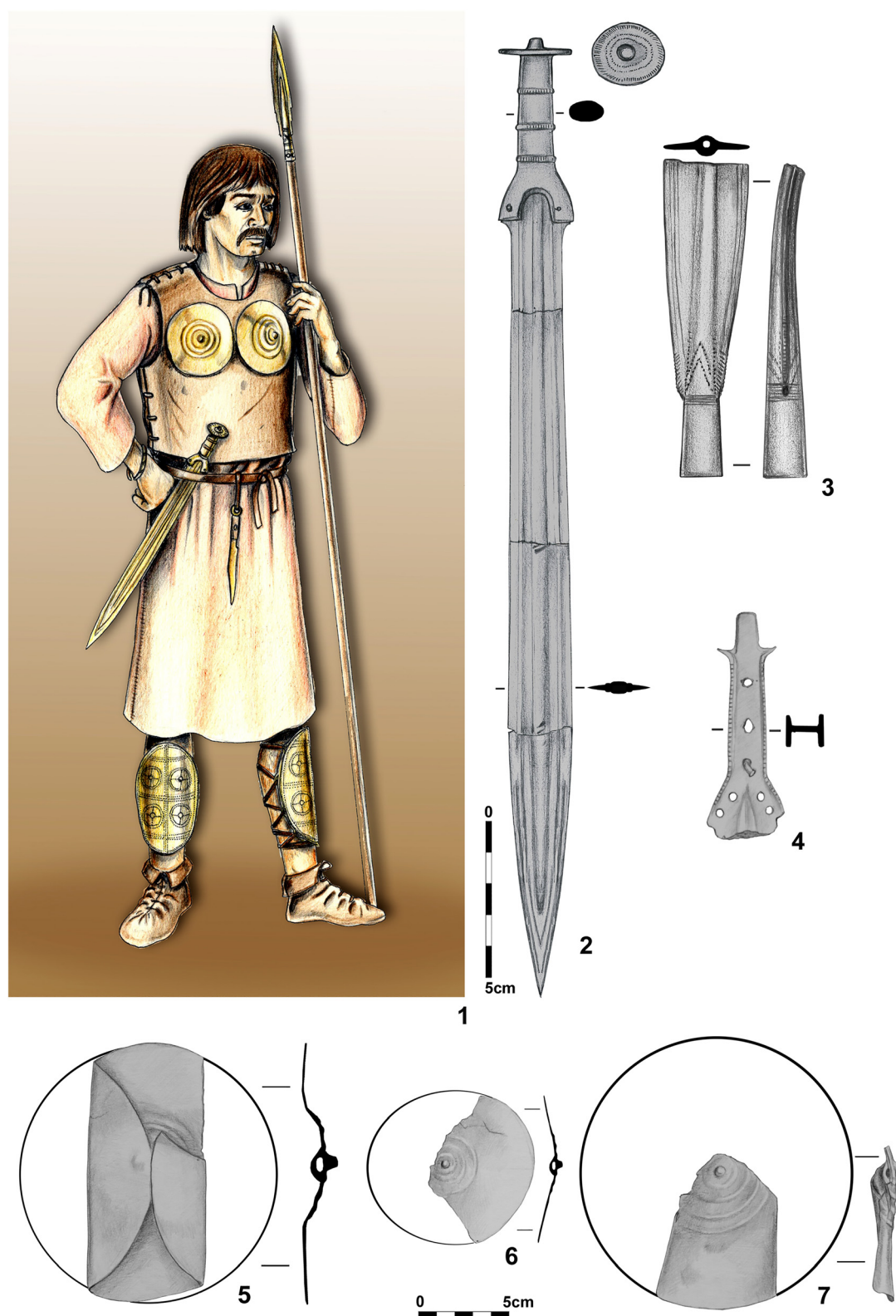


Fig. 2. Greave from the Lengyeltóti V hoard (County Somogy) before and after its restoration





**Fig. 3.** 1: Reconstruction of the panoply of a member of the warrior elite based on the Lengyeltóti V hoard; 2: sword; 3: spearhead; 4: sword; 5–7: phaleras, probably part of a composite cuirass





Fig. 4. Phaleras from the Lengyeltóti V hoard (County Somogy)

with an attachment loop with a diameter of 12–17 cm are usually found together with smaller ones with a diameter of 9–12 cm, as for example in the hoards from Nadap<sup>25</sup> and Brodski Varoš.<sup>26</sup>

These discs were most often interpreted as phaleras, harness ornaments, because several hoards contained various elements of horse gear; for example, the articles of the Nadap hoard included strap distributors and a bit.<sup>27</sup> The possible function of the phaleras deposited in burials was first discussed in detail by P. Schauer, who noted that they could have been used for various purposes, ranging from shield and harness adornments to elements of composite cuirasses of leather or sturdier textile.<sup>28</sup> W. Ridgeway was the first to call attention to leather cuirasses adorned with phaleras.<sup>29</sup> The bronze plate cuirass from Čaka is one of the earliest pieces, dating from the Br D or the Br D–Ha A1 transition. Discs recalling the phaleras of composite cuirasses were riveted to

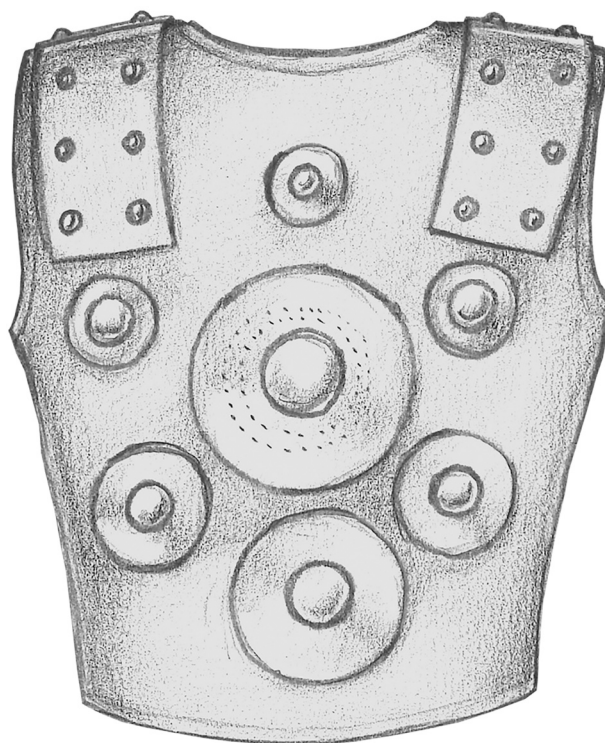


Fig. 5. Bronze discs and shoulder guards of a corselet made of organic material, probably leather, from Liatovouni, Tomb 59 (Epirus), as reconstructed in the Ioannina Museum (after Douzougli and Papadopoulos, 2010, 31, Fig. 8)

<sup>25</sup>Makkay (2006). The Nadap hoard: large phaleras with three or four raised concentric ribs and a diameter of between 11 and 15 cm: Pl. XXVIII.294, 297–298, Pl. XXIX.299; medium-sized looped discs with a diameter of between 8 and 10 cm: Pls XXVIII–XXIX.293, 295, 300, 309, 310, No. 299 of the Nadap hoard, a fragmentary piece, stands closest to the large phaleras from Lengyeltóti.

<sup>26</sup>Vinski-Gasparini (1973) Taf. 53.26, Taf. 58.34, 37.

<sup>27</sup>Makkay (2006) Pl. XXXVI. 328, 329.

<sup>28</sup>Schauer (1982b) 335–349 Abb.1.

<sup>29</sup>Ridgeway (1901) 309, 421.



the breastplate.<sup>30</sup> Another good example of a composite cuirass adorned with bronze discs comes from Liatovouni in Macedonian Epirus: the discs were found *in situ* as part of a cuirass deposited in a Late Bronze Age inhumation burial (Grave 59) uncovered during a professional excavation.<sup>31</sup> The reconstruction (Fig. 5) shows that the small, medium-sized and large discs with attachment loops covered the upper body and that the two shoulder guards have looped buttons along the edges (the drawing is based on the reconstruction displayed in the Ioannina museum).<sup>32</sup>

The burial is dated to the thirteenth–twelfth century BC on the testimony of the grave goods,<sup>33</sup> which roughly corresponds to the date of the Lengyeltóti V hoard. In addition to protecting the body, composite cuirasses decorated with discs signalled their wearer's high social status.

In a recent study on similar discs, J. G. Tarbay suggested that these ornaments had been part of the period's female costume.<sup>34</sup> In his discussion of the Zalaszentmihály-Pötréte hoard containing various articles of female costume, R. Müller similarly raised the possibility that the discs had not been phalerae, but adornments worn by women.<sup>35</sup>

The hoards contain various types of discs, which probably served different purposes. Yet, it must be borne in mind that the discs from the Liatovouni burial had quite obviously adorned a composite cuirass,<sup>36</sup> suggesting that a similar function can be ascribed to some of the discs found in hoards containing weapons.

## SWORDS (FIG. 3.2, 4, FIG. 6)

Similarly to the greave and the discs, the elite warrior's sword, his offensive weapon, was deliberately broken, making it unfit for use. The sword can be assigned to the solid-hilted type with three raised ribs on the hilt (*Dreiwulstschwert*): there are three slender ribs on the oval-sectioned hilt and a knob on the disc pommel (Fig. 3.2, Fig. 6). The disc is decorated with concentric circles of repoussé, of which the outermost is hatched. The ribs on the hilt are grooved with an incised line underneath. The double row of dots on the lower edge of the hilt is worn and has only survived in some spots. The sword's balance point is in the lower third, its widest part; the blade is stepped lozenge-shaped in cross-section. The hilt and the disc are decorated, although the design is strongly worn. Curiously enough, there are no indications of intense use on the blade. It remains uncertain



Fig. 6. Sword from the Lengyeltóti V hoard (County Somogy)

whether the edge damage was caused by corrosion or by the sword's use. Total L. 61.8 cm, L. of hilt 10 cm, W. of hilt 2.4–2.6 cm, Th. of blade 0.6–0.7 cm, greatest W. of blade 4.2 cm, W. of blade under the hilt 3.3 cm. The swords of the *Dreiwulstschwert* type are characterised by a wide range of individual variants, and they can be found in the hoards of both

<sup>30</sup>Točík and Paulík (1960) 75, Abb. 15–17, Taf. 8.7–10, Taf. 14.1–4; Paulík (1968) 50, Abb. 7.C; Müller-Karpe (1962) 279, 282 Abb. 9.1; Schauer (1978) 115–125, Abb. 3–4; Hansen (1994) 11–12; Mödler (2017) 211, Cat.no. 128.

<sup>31</sup>Douzougli and Papadopoulos (2010) 23–35, Figs 5.8–9.

<sup>32</sup>Douzougli and Papadopoulos (2010) 24, Fig. 5, 30–31, Figs 8–9.

<sup>33</sup>Douzougli and Papadopoulos (2010) 23–35.

<sup>34</sup>Tarbay (2019) 367–384.

<sup>35</sup>Müller (1972) 59–71.

<sup>36</sup>Douzougli and Papadopoulos (2010) 23–35, Figs 5.8–9.





Fig. 7. Spearhead from the Lengyeltóti V hoard (County Somogy)

the Kurd (Ha A1) and Gyermely (Ha A2) horizon in north-eastern Hungary, but are less frequent in Transdanubia.<sup>37</sup>

The Lengyeltóti V hoard contained also flange-hilted swords (*Griffzungenschwerter*; Fig. 3.4), which have been classified under various names in Bronze Age studies.<sup>38</sup> These swords provide important evidence for the interactions between Northern Europe, Central Europe, northern Italy, the Balkans and Greece.<sup>39</sup> A similar Naue II sword was found in the already-cited burial from Liatovouni (Tomb 59), which

lay beside the cuirass, providing additional evidence for dating the burial to the thirteenth–twelfth century BC.

### SPEARHEAD (FIG. 3.3, FIG. 7)

On the testimony of the grave goods deposited beside the high-status warrior interred at Liatovouni, it seems likely that the warrior whose weaponry ended up in the Lengyeltóti V hoard had also wielded a spear. The hoard contains a wide array of spearheads, from which we chose an exemplar with a willow leaf-shaped blade and short socket that is highly similar to one of the spearheads from Liatovouni.<sup>40</sup> One minor divergence from the Liatovouni spearhead is that the blade back is rounded and that the two perforations for attachment to the shaft are immediately underneath the blade and not at the base of the socket. Both sides of the spearhead are decorated with a similar design of fine grooving on the blade's lower half and a row of dots

<sup>37</sup>Mozsolics (1985) 12–13. Two fragments are known from hoards dated to the Ha A1 period found in County Somogy: Szentgáloskér and Rinyaszentkirály: Taf. 113.4. and Taf. 96.6, the rest are stray finds, mostly recovered from rivers; Kemenczei (1991) 28, Nr. 78, 29, Nr. 84.

<sup>38</sup>Naue (1903): Naue II Type; Sprockhoff (1931) 21–23: „Griffzungenschwert mit Zungenfortsatz“ or „Schwert mit Knaufzunge“; Schauer (1971): Stätzling; Bianco Peroni (1970): Allerona; Kemenczei (1988): D; Kilian-Dirlmeier (1993): Naue IIC.

<sup>39</sup>Snodgrass (1967) 28; Bianco Peroni (1970) 66; Kilian-Dirlmeier (1993) 102–105; Harding (1995) 52; Pabst (2015) 105–116, Abb. 2–3; Tarbay (2015a) 30–34, Fig. 1: distribution of flange-hilted swords with extended tang.

<sup>40</sup>Douzougli and Papadopoulos (2010) Fig. 7b.



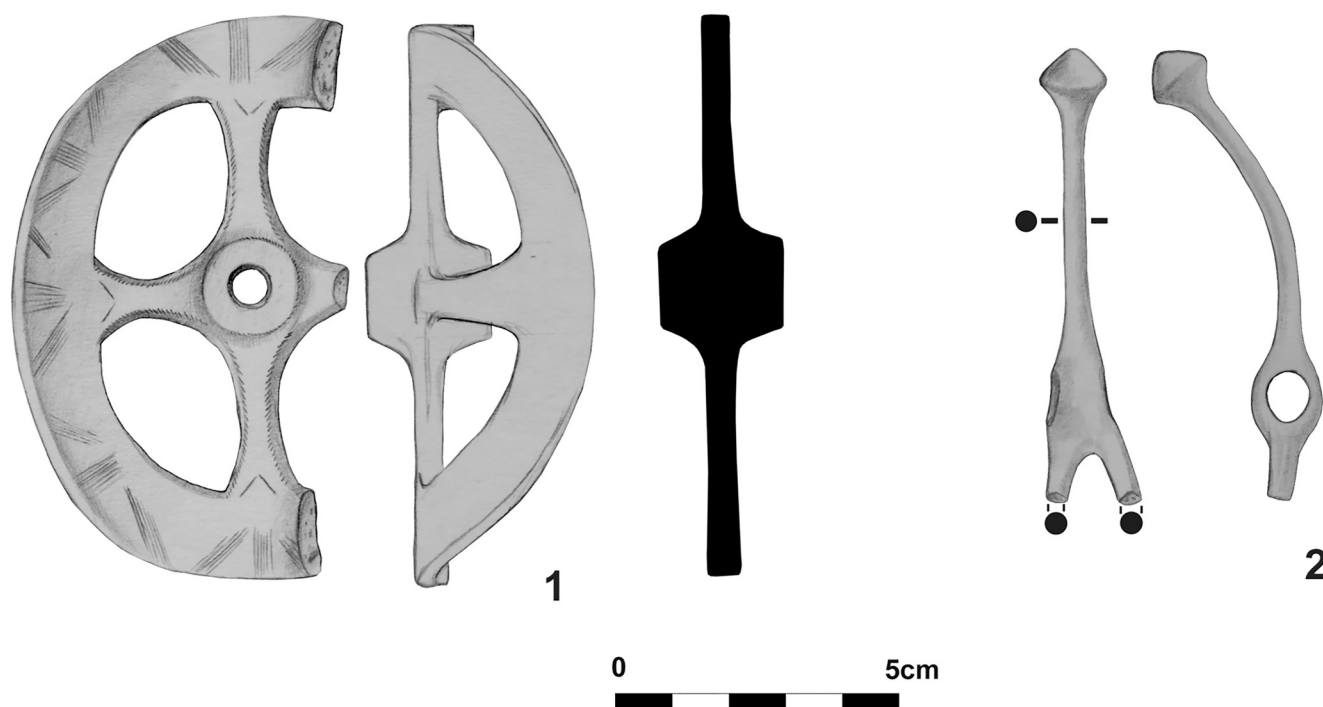


Fig. 8. 1: Wheel model; 2: cheek-piece from the Lengyeltóti V hoard (County Somogy)

combined with parallel chevrons of dots at the base of the blade back (there was a pair of lines between the two rows of dots originally). A pair of finely incised lines runs along the two edges of the spearhead. Fragmentary L. 17 cm; its original length was probably least 28 cm.

P. Turk also discussed the distribution and the chronology of this spearhead type, noting that they are mostly known from Transdanubia, Austria, southern Germany, Serbia, Slovenia and northern Italy, alongside a few pieces from Greece.<sup>41</sup> He assumed that spearheads of this type were used during various rituals.<sup>42</sup>

As far as can be established from the surviving fragment, the blade attained its greatest width in the middle, differing in this respect from the Late Bronze Age spearheads of the Carpathian Basin, which had a wider lower third. A few similar pieces can nevertheless be cited, principally from Transdanubian and northern Croatian hoards in which spearheads occur frequently. Comparable spearheads occur in the Donja Bebrina hoard of similar composition<sup>43</sup> and a similar spearhead with a somewhat wider blade is known from the Brodski Varoš hoard.<sup>44</sup> K. Vinski Gasparini dated the former to Phase III (Ha A2),<sup>45</sup> while the Brodski Varoš hoard was assigned the classical hoards of Phase II (Ha A1). The hoards from Szentgáloskér and Tab (both in County Somogy)<sup>46</sup> and

Keszőhidegkút (County Tolna)<sup>47</sup> can be cited from Transdanubia. In view of the analogous finds, this spearhead type occurs in the hoards of the Ha A1-A2 period in Transdanubia.

They are also attested in two major hoards from northern Italy, namely Malpensa (Lombardy)<sup>48</sup> and Pila del Brancón (Nogara).<sup>49</sup>

Two other artefacts in the Lengyeltóti V hoard can perhaps be seen as reflections of the battle tactics of the Late Bronze Age warrior elite. A wheel model and a cheek-piece suggest that horse-drawn wagons or carts were current in Transdanubia too during the formative and early Urnfield period. Obviously, we have no way of telling whether the vehicle in question served as a chariot or as a wagon for transportation. The wheel model was no doubt part of a vehicle model, which can be regarded as a votive find and thus as an indirect reflection of the wheeled conveyance it was modelled on.

## CHEEK-PIECE (FIG. 8.2, FIG. 9)

The Lengyeltóti V hoard comprised also a curved, cast cheek-piece. The slender, round-sectioned upper part terminates in a knob, the thickening section lower down is pierced by an opening perpendicular to the curve. The cheek-piece broke at the upper section of the next opening. The lower half is missing. L. of fragment 8.7 cm, diam. 0.4 cm.

<sup>41</sup>Turk (1996) 80–84, with distribution area.

<sup>42</sup>Turk (1996) 82.

<sup>43</sup>Vinski-Gasparini (1973) Taf. 94.6–7.

<sup>44</sup>Vinski-Gasparini (1973) Taf. 61.24.

<sup>45</sup>Vinski-Gasparini (1973) 137.

<sup>46</sup>Mozsolics (1985) Taf. 113.12, Taf. 117.9.

<sup>47</sup>Tarbay (2021) 103, Figs 8.7–9.

<sup>48</sup>De Marinis (2009) 150, Figs 5.1–2.

<sup>49</sup>Salzani (1994) 93, 85, Fig. 1.10–15, 87, Fig.3.16, 19, 88, Fig. 4.31, 33.





Fig. 9. Cheek-piece from the Lengyeltóti V hoard (County Somogy)

Cheek-pieces of bone, particularly of antler, appear as early as the Middle Bronze Age on the period's tell settlements (Tószeg-Laposhalom, Füzesabony-Öregdomb)<sup>50</sup> conforming to the R Br A2/A3 phase. Very few elements of horse gear have been recovered from burials: a bone bit is known from Grave 512 of the Tápé cemetery (Tumulus culture, Br C).<sup>51</sup> Bronze cheek-pieces, most likely modelled on the earlier bone pieces, first appear during the formative and early Urnfield period. They are fairly rare finds in the Urnfield period.

The Lengyeltóti cheek-piece can be assigned to the Mengen-Kaisten type in H.-G. Hüttel's classification,<sup>52</sup> although owing to its fragmentary condition, it cannot be established whether it was socketed or tanged. The cheek-pieces assigned to this group have two perforations (or tubes) offset at a right-angle, with the lower one being the larger, more prominent one. These also indicate the mode of harnessing: one strap was threaded through the upper perforation, while two running in opposite directions through the lower one. The two perforations are only typical for early bronze cheek-pieces since both the antler cheek-pieces on which they were modelled and the other contemporaneous semi-circular bronze exemplars (*Bügelknebel*) have three pairs of perforations. The middle perforation was usually offset at a right-angle on the bone cheek-pieces.<sup>53</sup> The best formal analogies to the Lengyeltóti cheek-piece can be cited from Kaisten and St. Sulpice – however, neither of these comes from a professionally

excavated burial or hoard.<sup>54</sup> The biconical button topping the cheek-piece best resembles the exemplar from St. Sulpice (Switzerland),<sup>55</sup> and similar knobs appear on the pins of the formative and early Urnfield period.<sup>56</sup> A pair of similar socketed cheek-pieces was brought to light from the wagon burial at Königsbrunn (possibly part of a hoard deposited in the grave) in association with well datable finds, indicating a date in the Br D (turn of the fourteenth–thirteenth centuries BC), corresponding to the formative and early Urnfield period.<sup>57</sup>

Geographically and chronologically closer analogies to the Lengyeltóti cheek-piece include the socketed cheek-piece from the Gyöngyössolymos-Kishegy I hoard (north-eastern Hungary):<sup>58</sup> the only difference between the two is the position of the two perforations (they are set somewhat further apart) and the form of the knob. The hoard was assigned to the Kurd horizon (Ha A1) by A. Mozsolics,<sup>59</sup> and to Hoard horizon III, i.e. to the Ha A2 by T. Kemenczei,<sup>60</sup> which corresponds to the middle Urnfield period. In Mozsolics's periodisation, this falls into the Gyermely horizon,<sup>61</sup> which corresponds to v. Brunn's Jászkarajenő-Uzsavölgy circle.<sup>62</sup> Hoard IV from Gyöngyössolymos-Kishegy also contained a fragmentary cheek-piece,<sup>63</sup> which broadly resembles the piece from Hoard I in terms of its type and form, but differs regarding its finer details. The parallels to this cheek-piece can be found among the finds from Staré Sedlo u Milevska in Bohemia<sup>64</sup> and from Transylvania,<sup>65</sup> providing additional evidence for the connections between southern Transdanubia and north-eastern Hungary during the early Urnfield period.

A comparable, although somewhat differently crafted cheek-piece can be found in the Fleissig Collection, a hoard from southern Transdanubia, most likely from the Keszthely area.<sup>66</sup> The articles of the hoard – a cheek-piece, a knife hilt, a spearhead, a ring-hilted knife fragment and a pin fragment – suggest a date in the early Urnfield period,<sup>67</sup> in the Kurd horizon (Ha A1) as defined by Mozsolics. Various articles of horse gear can be cited from the period's other hoards brought to light in Transdanubia: a strap distributor from Nagyvejke,<sup>68</sup>

<sup>54</sup>Hüttel (1981) 128, Nr. 175–181.

<sup>55</sup>Hüttel (1981) 28, Nr. 178.

<sup>56</sup>Patek (1968) Taf. II,7; Říhový (1979) Taf. 19, Nr. 341, 348, 351; Říhový (1983) Taf. 7, Nr. 112–116; Jankovits (1992) Abb. 6.1, 3; Makkay (2006) Pl. XXIII.204, 207; Jankovits and Vácz (2013) Abb. 6.7.

<sup>57</sup>Pankau (2015) 44–46, 62; Pankau (2018) 182.

<sup>58</sup>Kemenczei (1971) 145.

<sup>59</sup>Mozsolics (1985) 32–33, 123, Pl. 144.14.

<sup>60</sup>Kemenczei (1971) 145.

<sup>61</sup>Mozsolics (1985) 82–84.

<sup>62</sup>v. Brunn (1968).

<sup>63</sup>Kemenczei (1979) 153, Taf. V.7.

<sup>64</sup>Kytlicová (1955) 64, Abb. 7.3; Kytlicová (2007) 304–305, Nr. 219.

<sup>65</sup>Roska (1944) 43; Petrescu-Dimbovița (1978) Taf. 226.6–7; Kacsó (2003) 275–277, Taf. IV.3–6.

<sup>66</sup>Gallus and Horváth (1939) 101, Taf. 4.9; Hüttel (1981) 130, Nr. 187.

<sup>67</sup>Gallus and Horváth (1939) 101, Taf. 4.9; Hüttel (1981) 130, Nr. 187.

<sup>68</sup>Mészáros (1972) 44, Abb. 14.1.

<sup>50</sup>Mozsolics (1953) 69–111; Mozsolics (1960) 125–135; Kytlicová (1955) 64–65, Taf. 7.1–2; Hüttel (1981) Nr. 27–28, 35–36, 40–41, 49, 49A, 51; Sz. Máthé (1988) 27–122; Bóna (1992) 73–75.

<sup>51</sup>Trogmayer (1975) 113, Taf. 45.512/1.

<sup>52</sup>Hüttel (1981) 129–130, Nr. 184–197.

<sup>53</sup>Hüttel (1981).



two cheek-piece fragments from Nadap,<sup>69</sup> a *Brillenkebel*-type cheek-piece<sup>70</sup> from Keszőhidegkút,<sup>71</sup> whose counterpart is known from the Pričac hoard from Croatia.<sup>72</sup>

Mengen-Kaisten-type cheek-pieces appear in various regions of Europe during the formative and early Urnfield period, principally in southern Germany and Switzerland; its most typical representatives are the exemplars from the Mengen and Königsbronn burials.<sup>73</sup> The Lengyeltóti V hoard and the Gyöngyössolymos I and IV hoards from northern Hungary can be dated to the same period. Another major distribution area can be noted in Transylvania,<sup>74</sup> and a few scattered occurrences of this cheek-piece type have been reported from Nymö in Sweden<sup>75</sup> and Kjuželi-Gyr in Turkmenistan.<sup>76</sup>

The cheek-pieces from southern Germany and Switzerland as well as the pieces from Hungary can be assigned to the same group, even though there are major differences in terms of craftsmanship and style. Their distribution in various regions of Europe (southern Germany, Switzerland, Moravia, Hungary, Transylvania) reflect the interactions between these regions. However, it remains unclear where these cheek-pieces were first used. The date of the Königsbronn burial (Br D)<sup>77</sup> is perhaps an indication of this region's primacy in this respect.

We have no way of knowing whether the cheek-pieces of the Mengen-Kaisten type were part of the horse gear used for riding horses or part of the harness for traction. Aside from the cheek-piece, the Lengyeltóti V hoard also contained a bronze wheel model, suggesting that the cheek-piece had been part of a harness for a horse pulling a wheeled vehicle. The latter possibility is underpinned by the finds from the Königsbronn burial, which included wagon fittings.<sup>78</sup>

## WHEEL MODEL (FIG. 8.1, FIG. 10)

Miniature model of a four-spoked wheel with prominent naves on both sides cast in one. The wide spokes are waisted. Although the wheel model is a visibly carefully made piece, only one side is decorated with a finely incised pattern of evenly spaced vertical and oblique bundles of lines along the edge and small chevrons pointing towards the spokes. The wheel model was folded and broken along the naves and thus one of the spokes and a portion of the felloe are missing. Diam. 10.7 cm, Th. at the rim 0.3 cm, Th. at the nave 2 cm.



Fig. 10. Wheel model from Lengyeltóti V (County Somogy)

On the testimony of clay wagon models and wheel models, the important innovation of four-wheeled vehicles first appeared in the Carpathian Basin during the Copper Age.<sup>79</sup> Similar models continued to be made during the Early and the Middle Bronze Age too.<sup>80</sup> In the Aegean, depictions of war chariots appear on the wall frescoes (Tiryns)<sup>81</sup> and the pottery<sup>82</sup> of Mycenaean culture as well as on tablets inscribed with the Linear B script.<sup>83</sup> In the Carpathian Basin, the funerary urn from Velké Raškovce/Nagyráska (Slovakia) is decorated with four symmetrically arranged incised depictions of two-wheeled carts, each drawn by a pair of horses, and a schematic human figure probably holding a sword behind each cart (Fig. 11. 1). The vehicle on the urn could equally well symbolise the funerary cart taking the deceased on the last journey or a war chariot. The burial can be assigned to the Piliny culture, to the Br C period (fourteenth century BC).<sup>84</sup>

Bronze cart and wagon fittings appear during the early Urnfield period in the male burials of the warrior aristocracy,

<sup>69</sup>Makkay (2006) 12–13, Pl. XXXVI.328–329.

<sup>70</sup>Hüttel (1981) Nr. 227–230.

<sup>71</sup>Mozsolics (1985) Taf. 35.2.

<sup>72</sup>Vinski-Gasparini (1973) Taf. 72.10.

<sup>73</sup>Hüttel (1981) 130, Nr. 170–174, 182–183; Pankau (2015) 44–46, 62.

<sup>74</sup>Roska (1944) 47, Abb. 5.1–4; Hüttel (1981) 131, Nr. 188–191.

<sup>75</sup>Hüttel (1981) 129, Nr. 184–185.

<sup>76</sup>Hüttel (1981) 132, Nr. 197.

<sup>77</sup>Pankau (2015) 62.

<sup>78</sup>Pankau (2015) 44–46, 62.

<sup>79</sup>Soproni (1954) 29–36, 198–199; Foltiny (1959) 53–58; Kalicz (1980) 69, 84, Fig. 72; Burgmeister (2004) 429–442; Maran (2004) 429–442; Sherratt (2004) 409–428; Bondár (2012).

<sup>80</sup>Bóna (1960) 83–111; Bóna (1975) Karte 10; Bóna (1992) 73–75; Kovács (1992) 76–77; Bondár (2012).

<sup>81</sup>Papachatzis (1978) 14, Fig. 3.

<sup>82</sup>Pare (1987) 21, Fig. 25, 1–2: Kition, Tiryns.

<sup>83</sup>Pare (1987) 21; Pare (1992) 21, Figs. 25, 26.

<sup>84</sup>Vizdal (1972) 223–231, Abb. 1.1–3; Furmánek et al. (1991) 45, Nr. 47; Furmánek (1999) 29–30, Abb. 3, Kat. Nr. 124.





**Fig. 11.** 1: Wagon depiction on an amphora from Veľké Raškovce/Nagyrácska (Slovakia); 2: wheeled urn from Kánya (Hungary, County Somogy) (1. after [Furmánek, 1999, 30, Fig. 3](#); 2. after [Vágó, 2015, 191](#))

as at Hart an. der Alz (*Dreiwulstschwert*, arrowhead),<sup>85</sup> Poing (burnt sword)<sup>86</sup> and Königsbrunn (spearhead, dagger fragment).<sup>87</sup> The use of wheeled vehicles is also apparent from the wagon depictions on belt plates<sup>88</sup> and the four-spoked wheel models of bronze from Obišovce/Obos (Slovakia)<sup>89</sup> and Arcalie/Ároklja/Kallesdorf (Romania).<sup>90</sup> Wheeled cauldrons of bronze (*Kesselwagen*)<sup>91</sup> reflecting the prominence of wheel and bird depictions in symbolic imagery likewise make their first appearance during this period.

The form of the wheels of the two ceremonial clay wagons from Dupljaja (Dubovac culture, Serbia, *ca.* 1400 BC) resembles the Lengyeltóti wheel model.<sup>92</sup> The bird-faced goddess riding the two-wheeled cart drawn by water fowl (whose stability is ensured by the third wheel under the pole) is generally linked to the Mycenaean Phi-type figurines, which are dated to the LH IIIA.<sup>93</sup> The other similar wagon model is

simpler: the deity stands in a bowl-like wagon-box set on the axle. Wheels with waisted spokes are typical for southern Transdanubia: a similar clay wheel model came to light on the Urnfield settlement at Lengyel,<sup>94</sup> while a wheeled cauldron of clay was found in the tumulus burial at nearby Kánya ([Fig. 11.2](#)).<sup>95</sup> The form and the ornamentation of the large, deep bowl used as an urn can be dated to the middle Urnfield period (Ha A2). The vessel base has two perforated projections: the axles pass through these perforations and the clay wheels are positioned at the ends of the axles. The wheels resemble the exemplar from Lengyeltóti. The spokes are similarly waisted and the spokes and the felloe were similarly made in one and not assembled from several elements. However, these wheels lack the prominent nave. It cannot be established whether the wheel model from the Lengyeltóti V hoard had once been part of a wagon model or a wheeled urn.

## ELITE FEMALE JEWELLERY IN THE LENGYELTÓTI V HOARD

In addition to the weaponry of the elite warrior aristocracy, the hoard's items included articles of elite female jewellery and costume adornments such as the fragment of a diadem or belt plate, a relatively intact torc and an openwork disc pendant. Our reconstruction of how these pieces had been worn ([Fig. 12.1](#)) is based on the burial of the aristocratic girl interred in the tumulus at Dedinka/Fajkürt (Slovakia) containing similar prestige articles – a diadem, pendants and a torc – whose costume was reconstructed on the basis of their position in the grave and displayed at an exhibition in Bratislava/Pozsony.<sup>96</sup>

<sup>85</sup>Müller-Karpe (1956) 46–75, Taf. 3–9; Schauer (1987) 13, Abb. 11; Pare (1992) 177.

<sup>86</sup>Winghart (1993) 88–93; Winghart (1999) 515–532; Clausen (2001) 555; Clausen (2005).

<sup>87</sup>Seidl (1995) 103; Pankau (2015) 1–103.

<sup>88</sup>Petrescu-Dimbovița (1978) Taf. 117.326: Gusterița (Szenterzsébet); Taf. 200. Nr. 1070–1073: Uiora de Sus (Felsőújvár); Pare (1992) 20, Fig. 24.1–2, 4; Mozsolics (1985) Taf. 207.1–2.

<sup>89</sup>Hampel (1886) Taf. LIX.1a–b; Mozsolics (1985) 56; Pare (1992) 20, Fig. 23.

<sup>90</sup>Hampel (1886) Taf. LIX. 2a–b; Mozsolics (1985) 56; Pare (1992) 20, Fig. 27.

<sup>91</sup>Schauer (1987) 8; Pare (1992) 179.

<sup>92</sup>Milleker (1930) 29, Fig. 7, Pl. 8; Garašanin (1951) 270–272; Sprockhoff (1954) 67, Taf. 7; Kossack (1954) 11, Taf. 1; Garašanin (1972) Abb. 135–135; Garašanin (1983) 531, Taf. 84. 85; Pare (1987) 33; Pare (1989) 84–85, Fig. 5; Pare (1992) 179–181, Fig. 121; Pare (2004) 355–372; Vasić (2004) 155–162, Fig. 2.

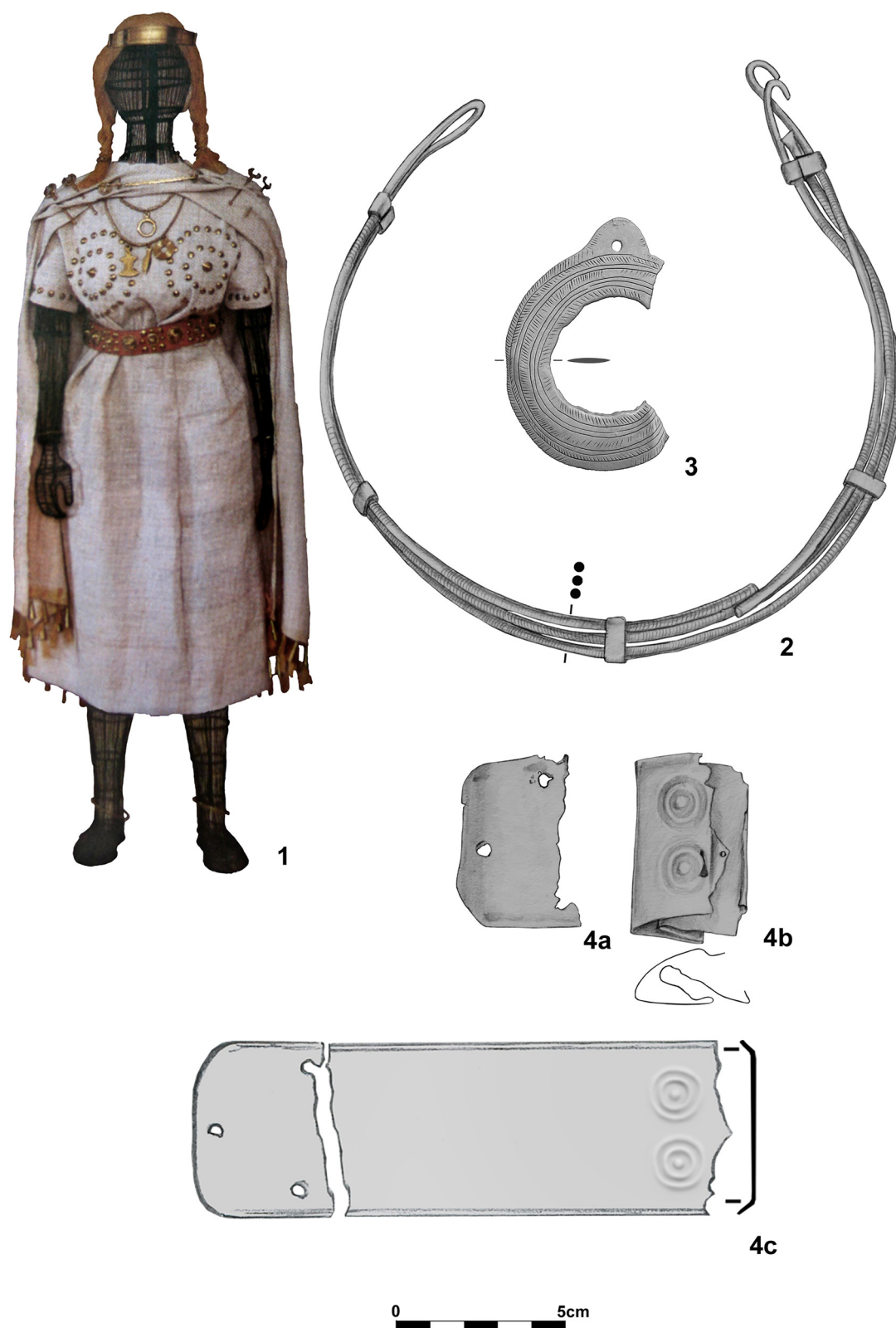
<sup>93</sup>Buchholz (1987) 533, Fig. 126; Pare (1989) 84–85, Fig. 5; Pare (1992) 179–180, Fig. 121.

<sup>94</sup>Wosinsky (1896) 163, Taf. XLVIII.1; Patek (1968) Taf. LXXVI.14.

<sup>95</sup>Csalogovits (1936) 22–30; Pare (1992) 179; Vágó (2015) 191.

<sup>96</sup>Paulík (1990) Fig. 7C, Fig. 8A.





**Fig. 12.** 1: Reconstruction based on the high-status female burial of Grave I/74 of the Čaka culture (Br D/Ha A1) uncovered at Dedinka/Fajkürt (Slovakia); 2–4: jewellery worn by the female elite from the Lengyeltóti V hoard, 2. torc, 3. pendant, 4. a–c diadem (1: after Paulík, 1990, Fig. 7c, Fig. 8)





Fig. 13. Jewellery worn by the female elite from the Lengyeltóti V hoard: torc, pendant and diadem

### DIADEM (FIG. 12.4A–C, FIG. 13.3)

Delicate sheet bronze with slightly upcurving long sides. The centre is decorated with a pair of tiny bosses (*buckelo*) ringed by two concentric ribs. The diadem broke at this part and thus the possible continuation of its decorative design remains unknown. The reverse is plain. The plate has a rounded end with one perforation at the end and one by the edge on each side. The perforations were made from the front side, while the ornamental motifs were hammered from the reverse. Two fragments. Surviving L. ca. 10–11 cm, W. 4.9 cm, Th. 0.01 cm, or less in some spots.

Judging from the fragments, they most probably come from a diadem or from a slender belt plate, both of which are an indication of the presence of a social elite. Repoussé-decorated diadems of sheet gold were recovered from the lavishly furnished female burials of Grave Circle A at Mycenae in the Aegean.<sup>97</sup> In the Carpathian Basin, the fashion of elaborately decorated diadems began during the Middle Bronze Age (Br A2–Br B2)<sup>98</sup> and continued into the Urnfield period, as shown by the wide array of different sheet metal diadems decorated

with incised or repoussé motifs.<sup>99</sup> Diadems were rarely deposited in burials, one exception being the exemplar found in the richly furnished tumulus burial of the young girl at Dedinka/Fajkürt (Slovakia),<sup>100</sup> dated to the Br D, Br D–Ha A1 period (Fig. 12.1). The ends of the diadem are rolled inward. The diadem bears an incised design and thus represents a different type than the exemplar from Lengyeltóti. Comparable pieces are known from Esztergom-Szentgyörgymező (Transdanubia)<sup>101</sup> and the Drslavice I and II hoards (Moravia),<sup>102</sup> both dating from the early Urnfield period (Ha A1).

The Kurd- and Gyermely-type hoards (Ha A1–A2) from north-eastern Hungary usually contain the fragments of wide belt plates, either decorated with patterns created from engraved lines and rows of punctates, or left unadorned (Kék,<sup>103</sup> Vajdáciska<sup>104</sup>), while the Transdanubian hoards typically have more slender bands of sheet metal that could

<sup>97</sup>Schliemann (1878) 155–56, 291; Demakopoulou (1990) 264/204 Shaft grave I (sixteenth century BC); 271/211 Shaft grave II (sixteenth century BC).

<sup>98</sup>Bóna (1959) 55–56; Kovács (1977) 95; Novotná (1984) 67; David (2002) 405–406.

<sup>99</sup>Vinski-Gasparini (1973) 112, Taf. 3.17, Taf. 28.1; Paulík (1975) 57, Abb. 1.14; Novotná (1984) Nr. 377; Mozsolics (1985) 58–59; Ilon (2002) 125, Taf. 1; Honti (2007) 179–180.

<sup>100</sup>Paulík (1975) 57, Abb. 1.14; Paulík (1986) 87, 97, Abb. 5, Abb. 8; Novotná (1984) Nr. 377.

<sup>101</sup>Mozsolics (1985) Taf. 137.6, 7, 11.

<sup>102</sup>Salaš (2005) 135, Taf. 131.428; 168, Taf. 164.268.

<sup>103</sup>Mozsolics (1985) Taf. 192.1.

<sup>104</sup>Mozsolics (1985) Taf. 207.1–2.



equally well have adorned belts or been worn as diadems, the latter possibly represented by the sheet metal bands with slightly upturned edges (Nadap)<sup>105</sup> or inward-rolled ends (Regöly-Veravár,<sup>106</sup> Esztergom-Szentgyörgymező<sup>107</sup>). The Nadap hoard contains both belt plates and sheet metal diadems.<sup>108</sup> The small, 3.5–5.0 cm wide bands with upturned edges are decorated with tiny bosses arranged into various designs (a cross motif on the Nadap fragments<sup>109</sup> and groups of three and six bosses on the Márok fragments.<sup>110</sup>) On some pieces, the small bosses are enclosed within a circle of repoussé dots, as on the Lengyeltóti diadem. A similar design can be seen on the fragment from Keszőhidegkút,<sup>111</sup> on two fragments from the Márok hoard,<sup>112</sup> on the plate fragment from Gyermely<sup>113</sup> and the plate from Pamuk,<sup>114</sup> which best matches the exemplar from Lengyeltóti. In his new publication of the Gyermely hoard, G. Tarbay assembled a map of the repoussé-decorated diadems of sheet bronze<sup>115</sup> to which the Lengyeltóti diadem can be assigned. The distribution map clearly shows that these were highly popular in Central Europe, particularly in the Ha A1 period, but were often deposited in later hoards of the Gyermely horizon too. Very often, it is impossible to tell whether the fragments had been part of a diadem or a belt plate.

## TORC (FIG. 12.2, FIG. 13.1)

The torc created from three strands of bronze is reinforced with slender bronze ribbons in five spots. The two outer strands are made of a single wire bent into a loop at one end and into two hooks at the other to create a hook and eye closure. The middle strand ends at the ribbons set before the closure mechanism. The round-sectioned wires are decorated with delicate grooving, with the exception of the loop and the hooks. Diam. 15.0–15.5 cm, Th. 0.15–0.2 cm.

The torc of the Lengyeltóti V hoard can be assigned to the *Posamenteriekolliers* type in M. Novotná's classification.<sup>116</sup> While no similar torcs are known from Transdanubia, four comparable pieces occur in Hoard IV (?) from Szécsény-Benczúrfalva in north-eastern Hungary: two have a similar hook and eye closure,<sup>117</sup> while a third has similar

small ribbons for holding the wires together.<sup>118</sup> Torcs are known from bronze hoards in Slovakia. Most are twisted; among them, the decoration of the torcs created from four strands of the Zilina/Zsolna hoard best resembles the ornamentation of the Lengyeltóti one.<sup>119</sup> M. Novotná dated this hoard to the Tumulus period on the strength of the arm spirals, while Mozsolics assigned it to the Ópályi horizon (Br C).<sup>120</sup> North of the Carpathians, torcs made from two or three wire strands have been published from Poland, where they were brought to light from burials and hoards dated to the late period of the Polish Phase III or the first half of Phase IV, which corresponds to the Hungarian Kurd-Gyermely horizon. In Poland, torcs of this type were worn as late as Phase V,<sup>121</sup> reflecting the long currency of this type. In view of its distinctive ornamentation, the Lengyeltóti torc could be regarded as a locally made piece, a copy. The so-called *passementerie* ornamentation created from bent bronze or gold wire appeared in the Carpathian Basin, whence it spread to the neighbouring regions.<sup>122</sup> In Transdanubia, this technique is attested on the fragment from what was probably a lock-ring in the Velem I hoard<sup>123</sup> and on various gold articles of the Várvölgy-Felsőzsid I<sup>124</sup> and II hoards.<sup>125</sup> The Várvölgy hoards can be dated to the same period as the settlement's occupation, i.e. the Ha A2-Ha B1 period.<sup>126</sup> *Passementerie* decoration was employed on various jewellery items for a fairly long time, most typically during the period marked by the Kurd and Gyermely hoards. H. Gruber dates the popularity of this jewellery technique to the formative and early Urnfield period,<sup>127</sup> while S. Pabst to the Ha A2-Ha B1 period.<sup>128</sup>

## PENDANT (FIG. 12.3, FIG. 13.2)

Round pendant with a central perforation hammered and cut out from sheet metal in one with the suspension tab. Its obverse is decorated with delicate oblique hatching between double concentric circles. About one-third of the pendant is missing. Diam. 6.1 cm, greatest W. 7.0 cm, greatest Th. 0.05 cm.

The pendant can be assigned to the ring pendant type (*Ringanhänger*),<sup>129</sup> which probably symbolised the Sun. Its

<sup>105</sup>Makkay (2006) 38, Pl. XXII.201.

<sup>106</sup>Szabó (1993) 222, Taf. 16.7.

<sup>107</sup>Mozsolics (1985) Taf. 137.6, 7, 11.

<sup>108</sup>Makkay (2006), 38, Pl. XXII.199–200: belt plate; Pl. XXII.201: diadem.

<sup>109</sup>Makkay (2006) 38, Pl. XXII.201.

<sup>110</sup>Mozsolics (1985) Taf. 92.33–34.

<sup>111</sup>Mozsolics (1985) Taf. 35.25.

<sup>112</sup>Mozsolics (1985) Taf. 92.28, 32.

<sup>113</sup>Mozsolics (1985) Taf. 241.9; Tarbay (2015a) 325 cat. Nr. 74, Pl. 6.74.

<sup>114</sup>Mozsolics (1985) Taf. 106.20.

<sup>115</sup>Tarbay (2015b) 325, Fig. 14.343, List 12 – where the Gyermely hoard is dated to HaB1 by him.

<sup>116</sup>Novotná (1984) 49, Nr. 338–341.

<sup>117</sup>Tompa (1936) Taf. L.23, 25; Kemenczei (1984) 120, Taf. LIIIB.3, 5.

<sup>118</sup>Tompa (1936) Taf. L.24; Kemenczei (1984) 120, Taf. LIIIB.6.

<sup>119</sup>Novotná (1984) 48–49, Nr. 338–340.

<sup>120</sup>Novotná (1984) 49.

<sup>121</sup>Gedl (2002) 39.

<sup>122</sup>Mozsolics (1950) 14; Mozsolics (1981) 289; Mozsolics (1985) 211; Novotná (1984) 49; Kemenczei (1990) 74–75, Abb. 41; Gedl (2002) 51–52; Gruber (2008) 76; Pabst (2011) 209; Müller (2013) 99.

<sup>123</sup>Hampel (1896) Taf. CCXLI.4; Mozsolics (1985) 60, Taf. 231A.4, Taf. 231B.4.

<sup>124</sup>Tompa (1928) 207; Mozsolics (1950) 14, Taf. VII.2–7; Mozsolics (1981) Taf. 13.1–4, 6.

<sup>125</sup>Müller (2013) 81–103, Abb. 1.8–8a, 9–9a, Abb. 5.

<sup>126</sup>Müller (2013) 99.

<sup>127</sup>Gruber (2008) 75.

<sup>128</sup>Pabst (2011) 207; Pabst (2012) 33–36.

<sup>129</sup>Wels-Weyrauch (1978) 59–62, Nr. 291–320; Furmánek (1980) 12–13; Jankovits (2017) 179–181.





simple cast variants lacking any incised ornamentation are known from the hoards and burials of the Kurd and Gyermely horizon (Ha A1–A2).<sup>130</sup> Ring pendants are attested in the Carpathian Basin<sup>131</sup> and in Croatia<sup>132</sup> neighbouring on southern Transdanubia. The delicate incised ornamentation of the Lengyeltóti pendant is unparalleled in Transdanubia. A good counterpart in terms of form and size (diam. 6.5 cm) as well as ornamentation is known from the Ostava III hoard (Serbia) dated to the Br D–Ha A1 period.<sup>133</sup> The pendant is an indication of the southern contacts of Transdanubia.

## CONCLUSION

With its over seven hundred articles, the Lengyeltóti V hoard offers an excellent cross-section of the rich and sophisticated bronze industry of the Kurd horizon of the Transdanubian Urnfield period (thirteenth–twelfth century BC), with a few types dating from the ensuing period, the middle Urnfield period and the Gyermely horizon (twelfth–eleventh century BC). This period saw the flourishing of the Urnfield culture in the Balaton region and to its south, as far as northern Croatia. The settlements and cemeteries were established during the formative and early Urnfield period (thirteenth century BC, Br D, Br D/Ha A1); the culture's distribution attained its greatest extent during the early Urnfield period (Ha A1), while the middle Urnfield period (Ha A2) was marked by the abandonment of the culture's settlements and cemeteries. A similar tendency can be noted in County Somogy: the number of sites dating from the Ha A2 and the ensuing Ha B period is significantly lower.

The rise of the warrior aristocracy began in the Br D, Br D/Ha A1 period, followed by its consolidation and heyday in the early Urnfield period (Ha A1). The three hoards from Pázmándfalu that can similarly be linked to a warrior aristocracy reflect a similar situation in western Transdanubia.<sup>134</sup> The elite lived in hilltop, fortified settlements such as the one at Lengyeltóti-Tatárvár,<sup>135</sup> which had a flourishing bronze industry, as shown by the many hoards (Lengyeltóti II, III and IV hoards)<sup>136</sup> and the Öreglak hoard found nearby,<sup>137</sup> dating from the Ha A1. The Lengyeltóti V hoard dates from the Ha A1–A2 transition. This period saw the emergence of a warrior aristocracy, which gained control over the metalworking centres and the trade contacts. This system disintegrated and declined south of Lake Balaton and in northern Croatia during the Ha B period, when the number of settlements and burials declined and the power

and economic centres were relocated elsewhere, to the regions along the Danube and north-eastern Transdanubia.

## ACKNOWLEDGEMENTS

We are most grateful to Zsolt Nyáry for the drawings, to Krisztián Balla for the photos and to Magdalena Seleanu for the translation of the text.

## REFERENCES

- Bianco Peroni, V. (1970). *Die Schwerter in Italien (Le spade in Italia continentale)*. Prähistorische Bronzefunde IV/1. München.
- Bóna, I. (1959). Bronzkori övkapcsok és diadémák (Adatok a közép-duna-medencei bronzkori viselethez) (Bronze Age girdle-clasps and diadems. Data to the costumes of the Bronze Age in the Middle Danube Basin). *Archaeologiai Értesítő*, 86: 49–59.
- Bóna, I. (1960). Clay models of Bronze Age wagons and wheels in the Middle Danube Basin. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 12: 83–111.
- Bóna, I. (1975). *Die mittlere Bronzezeit Ungarns und ihre südöstlichen Beziehungen*. Archaeologia Hungarica, 49. Budapest.
- Bóna, I. (1992). Wagen und Wagenmodelle in den Tell-Kulturen. In: Meier Arendt, W. (Hrsg.), *Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiss*. Frankfurt am Main, pp. 73–75.
- Bondár, M. (2012). *Agyag kocsimodellek a Kárpát-medencében (Kr. e. 3500–1500)* [Clay wagon models from the Carpathian Basin (3500–1500 BC)]. Archaeolingua, Series minor, 12. Budapest.
- v. Brunn, W.A. (1968). *Mitteldeutsche Hortfunde der jüngeren Bronzezeit*. Römisch-Germanische Forschungen, 29. Berlin.
- Buchholz, H.-G. (1987). *Ägäische Bronzezeit*. Darmstadt.
- Burgmeister, S. (2004). Der Wagen im Neolithikum und in der Bronzezeit: Erfindung, Ausbreitung und Funktion der ersten Fahrzeuge. In: Fansa, M., Burgmeister, S. (Eds.), *Rad und Wagen. Der Ursprung einer Innovation: Wagen im Vorderen Orient und Europa. Ausstellung im Landesmuseum für Natur und Mensch, Oldenburg, vom 28. März bis 11. Juli 2004*. Beiheft der Archäologische Mitteilungen aus Nordwestdeutschland, 40. Mainz am Rhein, pp. 13–40.
- Clausing, Chr. (2001). Ein neuer Achsnagel der Urnenfelderzeit. *Archäologisches Korrespondenzblatt*, 31: 543–559.
- Clausing, Chr. (2002). Geschnürte Beinschienen der späten Bronze- und älteren Eisenzeit. *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 49: 149–187.
- Clausing, Chr. (2005). *Untersuchungen zu den urnenfelderzeitlichen Gräbern mit Waffenbeigaben vom Alpenkamm bis zur Südzone des Nordischen Kreises. Eine Analyse ihrer Grabinventare und Grabformen*. British archaeological reports, International series, 1375. Oxford.
- Csalogovits, J. (1936). Tolna vármegye múzeumának újabb szerzeményei, 3.: Hallstattkori kocsiurna Kányáról – Neuerwerbungen im Museum des Komitates Tolna, 3.: Hallstattzeitliche Wagenurne aus Kánya, Kom. Tolna. In: Holub, J. (Ed.), *Tolna vármegye múltjából*, 2. Szekszárd, pp. 22–30, 35–41.

<sup>130</sup>Mozsolics (1985) 61–62; Jankovits (2017) 181.

<sup>131</sup>Furmánék (1980) 12–13; Jankovits (2017) 181.

<sup>132</sup>Vinski-Gasparini (1973) Taf. 54.35, Taf. 71.1.

<sup>133</sup>Garašanin (1975) 10–13, Taf. XIV.8.

<sup>134</sup>V. Szabó (2019) 174–183.

<sup>135</sup>Kuzsinszky (1920) 26, Fig. 34; Mozsolics (1975) 5, Pl. 2–3.

<sup>136</sup>Mozsolics (1985) 142–144.

<sup>137</sup>Mozsolics (1985) 163–165.





- David, W. (2002). *Studien zu Ornamentik und Datierung der bronzezeitlichen Depotfundgruppe Hajdúsámson-Apa-Ighiel-Zajta, I–II*. Bibliotheca Musei Apulensis, 18. Alba Iulia.
- De Marinis, R. (1988). Il periodo formativo della cultura di Gola-secca. In: Chieco Bianchi, A.M., et al. *Italia, omnium terrarum alumna. La civiltà dei Veneti, Reti, Liguri, Celti, Piceni, Umbri, Latini, Campani e Iapigi*. Antica madre, Collana di studi sull'Italia antica. Milano, pp. 161–175.
- De Marinis, R. (2009). Il ripostiglio della Malpensa (Somma Lombardo, VA). In: De Marinis, R., Massa, S., and Pizzo, M. (a cura di), *Alle origini di Varese e del suo territorio. Le collezioni del sistema archeologico provinciale*. Bibliotheca archaeologica, 44. Roma, pp. 146–154.
- Demakopoulou, K. (Ed.) (1990). *Troy, Mycenae, Tiryns, Orchomenos, Heinrich Schliemann: the 100th anniversary of his death. Athens, National Archaeological Museum, 15th June – 2nd September 1990, Berlin, Altes Museum, 4th October 1990 – 15th January 1991*. Athens.
- Douzougli, A., and Papadopoulos, J.K. (2010). Liatovouni: a Molossian cemetery and settlement in Epirus. *Jahrbuch des Deutschen Archäologischen Instituts*, 125: 1–87.
- Foltiny, S. (1959). The oldest representations of wheeled vehicles in Central and Southeastern Europe. *American Journal of Archaeology*, 63: 53–58.
- Furmánek, V. (1980). *Bronzezeitliche Anhänger in der Slowakei*. Prähistorische Bronzefunde, XI/3. München.
- Furmánek, V. (1999). Interaktionen des Karpatenbeckens und des östlichen Mittelmeerraums Mitte des 2. Jahrtausends v. Chr. In: Kruse, P. (Koord.), *Götter und Helden der Bronzezeit. Europa im Zeitalter des Odysseus*, 25. Ausstellung des Europarats. Bonn and Athen, pp. 29–30.
- Furmánek, V., Ruttkay, A., and Siska, S. (1991). *Dejiny dávnovedkého Slovenska* [Geschichte der urzeitlichen Slowakei]. Bratislava.
- Gallus, S. and Horváth, T. (1939). *Un peuple cavalier préscythique en Hongrie – A legrégebbi lovasnép Magyarországon*. Dissertationes Pannonicae ex Instituto numismatico et archaeologico Universitatis Budapestinensis provenientes, Ser. II.9. Budapest.
- Garašanin, D. (1951). Prilog proučavanju Dupljajskih kolica [A contribution to the study of clay wagon from Dupljaja]. *Starinar*, 2: 270–272.
- Garašanin, D. (1972). *The Bronze Age of Serbia*. [Exhibition in National Museum of Serbia, Belgrade.] Beograd.
- Garašanin, M.V. (1975). Ostava iz Prestovika III [Remains from Prestovik III]. In: Garašanin, M.V. (Red.), *Les dépôts préhistoriques de la Serbie et de la Voïvodine*. Matériaux archéologiques de Serbie. Fontes archaeologiae Serbiae, 1. Serie: Préhistoire, 1. Belgrade, pp. 10–13.
- Garašanin, M. (1983). Dubovačko-Žutobrdská grupa. [Dubovac-Žuto Brdo group]. In: Čović, B. (Red.), *Praistorija jugoslavenskih zemalja, IV: Bronzano doba*. Sarajevo, pp. 520–535.
- Gedl, M. (2002). *Die Halsringe und Halskragen in Polen*. Prähistorische Bronzefunde, XI/6. Stuttgart.
- Gruber, H. (2008). Schätze aus Gold. Die urnenfelderzeitlichen Depotfunde vom Arikogel und aus dem Koppental. In: Hofer, N. (Hrsg.), *Schätze – Gräber – Opferplätze. Archäologie im Salzkammergut. Katalog zur Ausstellung im Kloster Traunkirchen vom 29. April bis 2. November 2008*. Fundberichte aus Österreich, Materialhefte, Reihe A, Sonderheft, 6. Wien, pp. 72–77.
- Hampel, J. (1886). *A bronzkor emlékei Magyarhonban, I* [Antiquities of the Bronze Age in Hungary, I]. Budapest.
- Hampel, J. (1896). *A bronzkor emlékei Magyarhonban, III* [Antiquities of the Bronze Age in Hungary, III]. Budapest.
- Hansen, S. (1994). *Studien zu den Metalldeponierungen während der älteren Urnenfelderzeit zwischen Rhönetal und Karpatenbecken, I–II*. Universitätsforschungen zur prähistorischen Archäologie, 21. Bonn.
- Harding, A. (1995). *Die Schwerter im ehemaligen Jugoslawien*. Prähistorische Bronzefunde, IV/14. Stuttgart.
- Harding, A. (1999). Warfare: a defining characteristic of Bronze Age Europe? In: Carman, J. and Harding, A.F. (Eds.), *Ancient warfare. Archaeological perspectives*. Gloucestershire 1999, 157–173.
- Harding, A. (2007). *Warriors and weapons in Bronze Age Europe*. Archaeolingua, Series minor, 25. Budapest.
- Honti, Sz. (2007). Az urnenezős kultúra bronz ékszerei Balatonboglár-Berekre-dűlő és Balatonboglár-Borkombinát lelőhelyről [Bronze jewellery of the Urnfield Culture at Balatonboglár-Berekre-dűlő and Balatonboglár-Borkombinát]. In: Belényesy, K., Honti, Sz., and Kiss, V. (Eds.), *Gördülő idő. Régészeti feltárások az M7-es autópálya Somogy megyei szakaszán Zamárdi és Ordacsehi között – Rolling time. Excavations on the M7 motorway in County Somogy between Zamárdi and Ordacsehi*. Kaposvár and Budapest, pp. 178–180.
- Honti, Sz. and Jankovits, K. (2016). A new grave from the Late Bronze Age hoard found at Lengyeltóti in Southern Transdanubia. *Communicationes Archaeologicae Hungariae*, 2015–2016: 127–142.
- Horváth, P. (1997). Egy késő bronzkori (i.e. XII–X. sz.) bronz lábvért restaurálása [The restoration of a Late Bronze Age (12<sup>th</sup>–10<sup>th</sup> century BC) bronze leg armour]. *Műtárgyvédelem*, 26: 141–146.
- Hüttel, H.-G. (1981). *Bronzezeitliche Tensen in Mittel- und Osteuropa. Grundzüge ihrer Entwicklung*. Prähistorische Bronzefunde, XVI/2. München.
- Ilon, G. (2002). Ein spätbronzezeitlicher Hortfund aus Szombathely (Steinamanger), Kom. Vas (Ungarn). *Das Altertum*, 47: 149–169.
- Jankovits, K. (1992). Spätbronzezeitliche Hügelgräber in der Bakony-Gegend. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 44: 3–81.
- Jankovits, K. (1997). La ricostruzione di due nuovi schinieri del tipo a lacci dall'Ungheria. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 49: 1–21.
- Jankovits, K. (2016). The Late Bronze Age two-piece cuirasses of the Danube region in the Carpathian Basin. In: Coimbra, F. and Delfino, D. (Eds.), *Late Prehistory and Protohistory: Bronze Age and Iron Age. Proceedings of the XVII UISPP World Congress (1<sup>st</sup>–7<sup>th</sup> September 2014, Burgos, Spain), Volume 9, Session A3c: The emergence of warrior societies and its economy, social and environmental consequences*. Archaeopress archaeology. Oxford, pp. 57–77.
- Jankovits, K. (2017). *Die bronzezeitlichen Anhänger in Ungarn*. Studia ad archaeologiam Pazmaniensia, 9. Budapest.
- Jankovits, K. (2020). Contacts between Transdanubia, the Balkans, Northern Italy and Greece in the Late Bronze Age as reflected by protective armour. In: Gavranović, M., Heilmann, D., Kapuran, A., and Verčik, M. (Eds.), *Spheres of interaction. Contacts and relationships between the*





- Balkans and adjacent regions in the Late Bronze/Iron Age (13<sup>th</sup>–6<sup>th</sup> centuries BCE). Proceedings of the conference held at the Institute of Archaeology, Belgrade 15–17 September, 2017. Perspectives on Balkan archaeology, 1. Rahden/Westf, pp. 95–113.*
- Jankovits, K. and Váczi, G. (2013). Spätbronzezeitliches Gräberfeld von Sárbogárd-Tringer-tanya (Komitat Fejér) in Ost-Transdanubien. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 64: 33–74.
- Jockenhövel, A. (2006). Zu Archäologie der Gewalt: Bemerkungen zu Aggression und Krieg in der Bronzezeit Alteuropas. In: Novotná, M., et al. (Eds.), *Arms and armour through the ages (From the Bronze Age to the Late Antiquity). Proceedings of the International Symposium, Modra-Harmónia, 19<sup>th</sup>–22<sup>nd</sup> November 2005*. Anodos. Studies of the ancient world, 4–5(2004–2005). Trnava, pp. 101–132.
- Kacsó, C. (2003). Der zweite Depotfund von Ungureni. In: Kacsó, C. (Hrsg.), *Bronzezeitliche Kulturercheinungen im Karpatischen Raum. Die Beziehungen zu den benachbarten Gebieten. Ehrensymposium für Alexandru Vulpe zum 70. Geburtstag. Baia Mare 10–13 Oktober 2001*. Bibliotheca Marmatia, 2. Baia Mare, pp. 267–296.
- Kalicz, N. (1980). *Agyag istenek. A neolitikum és a rézkor emlékei Magyarországon* [Clay gods. The Neolithic Period and Copper Age in Hungary]. Hereditas. Budapest.
- Kemenczei, T. (1971). A Gyöngyössolymos-kishegyi bronzleletek (Die Bronzefunde in Gyöngyössolymos-Kishegy). *Agria. Az Egri Múzeum Évkönyve*, 8–9(1970–1971): 133–146.
- Kemenczei, T. (1979) A Gyöngyössolymos-kishegyi negyedik bronzlelet (Der vierte Bronzefund von Gyöngyössolymos-Kishegy). *Agria. Az Egri Múzeum Évkönyve*, 16–17(1978–1979): 137–155.
- Kemenczei, T. (1984). *Die Spätbronzezeit Nordostungarns*. Archaeologia Hungarica, Series nova, 51. Budapest.
- Kemenczei, T. (1988). *Die Schwerter in Ungarn, I. (Griffplatten-, Griffangel-, und Griffzungenschwerter)*. Prähistorische Bronzefunde, IV/6. München.
- Kemenczei, T. (1990). Spätbronzezeitliche Goldschatzfunde. Katalog der ausgestellten Funde. In: Kovács, T. and Raczky, P. (Hrsg.), *Prähistorische Goldschätze aus dem Ungarischen Nationalmuseum*. Budapest, pp. 63–79, 121–129.
- Kemenczei, T. 1991: *Die Schwerter in Ungarn II.: Vollgriffschwerter*. Prähistorische Bronzefunde, IV/9. Stuttgart.
- Kilian-Dirlmeier, I. (1993). *Die Schwerter in Griechenland (außerhalb der Peloponnes), Bulgarien und Albanien*. Prähistorische Bronzefunde, IV/12. Stuttgart.
- Kossack, G. (1954). *Studien zum Symbolgut der Urnenfelder- und Hallstattzeit Mitteleuropas*. Römisch-Germanische Forschungen, 20. Berlin.
- Kovács, T. (1977). *The Bronze Age in Hungary*. Hereditas. Budapest.
- Kovács, T. (1992). Glaubenswelt und Kunst. In: Meier-Arendt, W. (Hrsg.), *Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiss*. Frankfurt am Main, pp. 76–82.
- Kristiansen, K. (1999) The emergence of warrior aristocracies in later European Prehistory and their long-term history. In: Carman, J. and Harding, A.F. (Eds.), *Ancient warfare. Archaeological perspectives*. Gloucestershire, pp. 175–189.
- Kuzsinszky, B. (1920). *A Balaton környékének archaeológiája* [Archäologie der Balatongegend]. Budapest.
- Kytlicová, O. (1955). Hromadný nález bronů od Starého Sedla (okres Milevsko) (Der Bronzefund von Staré Sedlo, Bez. Milevsko). *Památky archeologické*, 46: 52–75.
- Kytlicová, O. (2007). *Jungbronzezeitliche Hortfunde in Böhmen*. Prähistorische Bronzefunde, XX/12. Stuttgart.
- Makkay, J. (2006). The Late Bronze Age hoard of Nadap (A nadapi /Fejér megye/ késő bronzkori raktárlelet). *A Nyíregyházi Jós András Múzeum Évkönyve*, 48: 135–184.
- Maran, J. (2004). Kulturkontakte und Wege der Ausbreitung der Wagentechnologie in 4. Jahrtausend v. Chr. In: Fansa, M. and Burgmeister, S. (Hrsg.), *Rad und Wagen. Der Ursprung einer Innovation: Wagen im Vorderen Orient und Europa. Eine Ausstellung im Landesmuseum für Natur und Mensch, Oldenburg, vom 28. März bis 11. Juli 2004*. Beiheft der Archäologischen Mitteilungen aus Nordwestdeutschland, 40. Mainz am Rhein, pp. 429–442.
- Sz. Máthé, M. (1988). Bronze Age tells in the Berettyó valley. In: Kovács, T. and Stanczik, I. (Eds.), *Bronze Age settlements of the Great Hungarian Plain, I. Inventaria praehistorica Hungariae*, 1. Budapest, pp. 27–122.
- Mészáros, Gy. (1972). A nagyvejkei későbronzkori kincslelet (Die Hortfunde aus der Spätbronzezeit von Nagyvejke). *A Szekszárdi Béri Balogh Ádám Múzeum Évkönyve*, 2–3(1971–72): 19–66.
- Milleker, F. [1930]: Praistorijska kolica iz Dupljaje [Prehistoric car from Dupljaja]. *Starinar*, 3 red., 5(1928–1930): 20–30.
- Mira Bonomi, A. (1979). I rinvenimenti del Bronzo finale alla Malpensa nella Lombardia occidentale. In: *Il Bronzo finale in Italia. Atti della XXI Riunione Scientifica dell'Istituto Italiano di Preistoria e Protostoria 1977. In memoria di Ferrante Rottatore Vonwiller*. Firenze, pp. 117–146.
- Mödlinger, M. (2017). *Protecting the body in war and combat. Metal body armour in Bronze Age Europe*. Oriental and European archaeology, 6. Wien.
- Mountjoy, P.A. (1984). The bronze greaves from Athens. A case for a LH III C date. *Opuscula Atheniensia*, 5: 135–146.
- Mozsolics, A. (1950). *Der Goldfund von Velem-Szentvid. Ein Beitrag zur Metallkunst der älteren Hallstattzeit*. Praehistorica, 1. Basel.
- Mozsolics, A. (1953). Mors en bois de cerf sur le territoire du bassin des Carpathes. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 3: 69–111.
- Mozsolics, A. (1960). Die Herkunftsfrage der ältesten Hirschgeweihtrensen. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 12: 125–135.
- Mozsolics, A. (1975). Somogy megyei bronzleletek (Bronzefunde aus dem Komitat Somogy). *Somogy Megyei Múzeumok Közleményei*, 2: 5–21.
- Mozsolics, A. (1981). Der Goldfund von Várvölgy-Felsőzsid. In: Lorenz, H. (Hrsg.), *Studien zur Bronzezeit. Festschrift für Wilhelm Albert von Brunn*. Mainz, pp. 299–308.
- Mozsolics, A. (1985). *Bronzefunde aus Ungarn. Depotfundhorizonte von Aranyos, Kurd und Gyermely*. Budapest.
- Müller, R. (1972). A pötrétei későbronzkori kincslelet (Der spätbronzezeitliche Schatzfund von Pötréte). *A Veszprém Megyei Múzeumok Közleményei*, 11: 59–71.
- Müller, R. (2013). A második késő bronzkori aranykincs Várvölgyről (Der zweite spätbronzezeitliche Goldschatz von Várvölgy, Kom. Zala). *Archaeologiai Értésítő*, 138: 81–103.



- Müller-Karpe, H. (1956). Das urnenfelderzeitliche Wagengrab von Hart a. d. Alz, Oberbayern. *Bayerische Vorgeschichtsblätter*, 21: 46–75.
- Müller-Karpe, H. (1962). Zur spätbronzezeitliche Bewaffnung in Mitteleuropa und Griechenland. *Germania*, 40: 255–284.
- Naue, J. (1903). *Die vorrömischen Schwerter aus Kupfer, Bronze und Eisen*. München.
- Novák, M. and Váczi, G. (2012). Késő bronzkori fegyverlelet a Bakonyból – Megjegyzések az urnamezős művelődés fegyverdeponálási szokásaihoz / A Late Bronze Age weapon find from the Bakony region, Hungary – Notes on the weapon deposition practices of the Urnfield culture. *Ősrégészeti Levelek – Prehistoric Newsletter*, 12(2010): 94–114.
- Novotná, M. (1984). *Halsringe und Diademe in der Slowakei*. Prähistorische Bronzefunde, XI/4. München.
- Pabst, S. (2011). Die grossräumige Ausbreitung der Brillenfibeln am Übergang von der Bronze- zur Eisenzeit – Kommunikationswege und soziale Hintergründe. In: Dietz, U. L. and Jockenhövel, A. (Hrsg.), *Bronzen im Spannungsfeld zwischen praktischer Nutzung und symbolischer Bedeutung*. Prähistorische Bronzefunde, XX/13. Stuttgart, pp. 199–234.
- Pabst, S. (2012). *Die Brillenfibeln. Untersuchungen zu spätbronze- und ältereisenzeitlichen Frauentrachten zwischen Ostsee und Mittelmeer*. Marburger Studien zur Vor- und Frühgeschichte, 25. Rahden/Westf.
- Pabst, S. (2015). Naue II-Schwerter mit Knaufzunge und die Aussehenbeziehungen der mykenischen Kriegerelite in Postpalatialer Zeit. *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 60(2013.1): 105–152.
- Pankau, C. (2015). Das spätbronzezeitliche Wagengrab von Königsbrunn (Lkr. Heidenheim). *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 60(2013.1): 1–103.
- Pankau, C. (2018).: Typologie und Chronologie einiger urnenfelderzeitlicher Wagenbronzen: Tüllen und Kappen. In: Nessel, B., Neumann, D., and Bartelheim, M. (Hrsg.), *Bronzezeitlicher Transport. Akteure, Mittel und Wege*. Ressourcen Kulturen, 8. Tübingen, pp. 167–185.
- Papachatzis, N. (1978). *Mykene – Epidauros – Tiryns – Nauplia. Führer durch die klassischen Stätten der Argolis*. Athen.
- Pare, Ch.F.E. (1987). Der Zeremonialwagen der Bronze- und Urnenfelderzeit: seine Entstehung, Form und Verbreitung. In: Barth, F.E., Biel, J., Egg, M., France-Lanord, A., Joachim, H.-E., Pare, Ch.F.E., Schauer, P., and Uenze, H.P., *Vierrädrige Wagen der Hallstattzeit. Untersuchungen zu Geschichte und Technik*. Monographien des Römisch-Germanischen Zentralmuseums, 12. Mainz, pp. 25–67.
- Pare, Ch.F.E. (1989). From Duplaja to Delphi: the ceremonial use of the wagon in later Prehistory. *Antiquity*, 63(Nr. 238): 80–100.
- Pare, Ch.F.E. (1992). *Wagons and wagon-graves of the Early Iron Age in Central Europe*. Oxford.
- Pare, Ch.F.E. (2004). Die Wagen der Bronzezeit in Mitteleuropa. In: Fansa, M. and Burgmeister, S. (Hrsg.), *Rad und Wagen. Der Ursprung einer Innovation: Wagen im Vorderen Orient und Europa. Eine Ausstellung im Landesmuseum für Natur und Mensch, Oldenburg, vom 28. März bis 11. Juli 2004*. Beiheft der Archäologischen Mitteilungen aus Nordwestdeutschland, 40. Mainz am Rhein, pp. 355–372.
- Patek, E. (1968). *Die Urnenfelderkultur in Transdanubien*. Archaeologia Hungarica, 44. Budapest.
- Paulík, J. (1968). Panzer der jüngeren Bronzezeit aus der Slowakei. *Bericht der Römisch-Germanischen Kommission*, 49: 41–61.
- Paulík, J. (1975). Ein Grabhügel der Čaka-Kultur von Dedinka. *Jahresbericht des Instituts für Vorgeschichte der Universität Frankfurt am Main*, 1975: 57–60.
- Paulík, J. (1986). Čakanská mohyla v Dedinke, okres Nové Zámky (IV) (Das Čaka-Hügelgrab in Dedinka, Bez. Nové Zámky, IV). *Zborník Slovenského národného múzea*, 80. História, 26: 69–112.
- Paulík, J. (1990). *Mohyly z mladšej doby bronzovej na Slovensku. Sprivodca po výstave (Jungbronzezeitliche Hügelgräber in der Slowakei. Führer durch die Ausstellung)*. Bratislava.
- F. Petres, É. and Jankovits, K. (2014). Der spätbronzezeitliche zweiteilige Bronzebrustpanzer aus der Donau in Ungarn. *Acta Archaeologica Academiae Scientiarum Hungaricae*, 65: 43–71.
- Petrescu-Dîmbovița, M. (1978). *Die Sicheln in Rumänien*. Prähistorische Bronzefunde, XVIII/1. München.
- Platon, N. (1966). Athen, Acropolis. *Archaiologikon Deltion*, 21(Chronika 36).
- Ridgeway, W. (1901). *The early age of Greece, I*. Cambridge.
- Říhovský, J. (1979). *Die Nadeln in Mähren und im Ostalpengebiet (von der mittleren Bronzezeit bis zur älteren Eisenzeit)*. Prähistorische Bronzefunde, XIII/5. München.
- Říhovský, J. (1983). *Die Nadeln in Westungarn*. Prähistorische Bronzefunde, XIII/10. München.
- Roska, M. (1944). Koravaskori lószerszámok az Erdélyi Nemzeti Múzeum Történeti Tárában (Früheisenzeitliche Pferdegeschirre in der Historischen Abteilung des Erdélyer (Siebenbürger) Nationalmuseums. *Közlemények az Erdélyi Nemzeti Múzeum Érem- és Régiséggyűjtéséből*, 4: 43–52.
- Salaš, M. (2005). *Der urnenfelderzeitliche Hortfund von Polešovice und die Frage der Stellung des Depotfundhorizonts Drslavice in Mähren*. Brno.
- Salzani, L. (1986). Gli schinieri di Desmontà (Verona). *Aquileia Nostra*, 57: 386–391.
- Salzani, L. (1990). Desmontà (Comune di Veronella e di Albaredo). In: Zorzin, R., Salzani, L., Dal Cero, B., Toniolo, A., and Buonopane, A. (Eds.), *La preistoria e l'età romana nel territorio sinistra Adige*. Cologna Veneta (Verona), pp. 41–44.
- Salzani, L. (1994). Nogara. Rinvenimento di un ripostiglio di bronzi in località „Pila del Brancón”. *Quaderni di Archeologia del Veneto*, 10: 83–94.
- Schauer, P. (1971). *Die Schwerter in Süddeutschland, Österreich und in der Schweiz, I. (Griffplatten-, Griffangel- und Griffzungenschwerter)*. Prähistorische Bronzefunde, IV/2. München.
- Schauer, P. (1978). Die urnenfelderzeitlichen Bronze-panzer von Fillinges, Dép. Haute-Savoie, Frankreich. *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 25: 92–130.
- Schauer, P. (1982a). Die Beinschiene der späten Bronze- und frühen Eisenzeit. *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 29: 100–155.
- Schauer, P. (1982b). Deutungs- und Rekonstruktionsversuche bronzezeitlicher Kompositpanzer. *Archäologisches Korrespondenzblatt*, 12: 335–349.
- Schauer, P. (1987). Der vierrädrige Wagen in Zeremonialgeschehen und Bestattungsbrauch der Orientalisch- Ägäischen Hochkulturen und ihrer Randgebiete. In: Barth, F.E., Biel, J., Egg, M., France-Lanord, A., Joachim, H.-E., Pare, Ch.F.E., Schauer, P., and



- Uenze, H.P., *Vierrädrige Wagen der Hallstattzeit. Untersuchungen zu Geschichte und Technik*. Monographien des Römisch-Germanischen Zentralmuseums, 12. Mainz, pp. 1–22.
- Schliemann, H. (1878). *Mykenae. Bericht über meine Forschungen und Entdeckungen in Mykenae und Tiryns*. Leipzig.
- Seidl, U. (1995). *Bronzezeit. Die ersten Wagenbestattungen Mitteleuropas*. Sammlungen des Württembergischen Landesmuseums, 2. Stuttgart.
- Sherratt, A. (2004). Wagen, Pflug, Rind: ihre Ausbreitung und Nutzung. Probleme der Quelleninterpretation. In: Fansa, M. and Burgmeister, S. (Hrsg.), *Rad und Wagen. Der Ursprung einer Innovation: Wagen im Vorderen Orient und Europa. Eine Ausstellung im Landesmuseum für Natur und Mensch, Oldenburg, vom 28. März bis 11. Juli 2004*. Beiheft der Archäologischen Mitteilungen aus Nordwestdeutschland, 40. Mainz am Rhein, pp. 409–428.
- Snodgrass, A.M. (1967). *Arms and armour the Greeks*. Aspects of Greek and Roman life. London.
- Soproni, S. (1954). A budakalászi kocs (Un char culturel de Budakalász). *Folia Archaeologica*, 6: 29–36, 198–199.
- Sprockhoff, E. (1931). *Die germanischen Griffzungenschwerter*. Römisch-germanische Forschungen, 5. Berlin and Leipzig.
- Sprockhoff, E. (1954). Nordische Bronzezeit und frühes Griechentum. *Jahrbuch des Römisch-Germanischen Zentralmuseums*, 1: 28–110.
- Szabó, G. (1993). Fémmegmunkálási nyomok a Regöly-Veravár késő bronzkori leletegyüttes tárgyain [Traces of metalworking on the objects of the late Bronze Age finds of the Regöly-Veravár]. *A Wosinsky Mór Múzeum Évkönyve*, 18: 169–224.
- V. Szabó, G. (2019a). *Bronzkori kincsek Magyarországon: földbe rejtett fegyverek, eszközök, ékszerek nyomában* (Bronze Age treasures in Hungary: the quest for buried weapons, tools and jewellery). *Hereditas archaeologica Hungariae*, 3. Budapest.
- V. Szabó, G. (2019b). Die goldene Beinschiene, das Panzerdepot und das Schwertpaar. Neue Narrative zur Ideologie der spätbronzezeitlichen Kriegerelite in Ungarn. In: Hansen, S. and Krause, R. (Eds.), *Materialisierung von Konflikten*. Universitätsforschungen zur prähistorischen Archäologie, 346. Bonn, pp. 163–189.
- Tarbay, J.G. (2015a). A new Late Bronze Age warrior equipment from East Central Europe. *Archaeologiai Értesítő*, 140: 29–70.
- Tarbay, J.G. (2015b). The reanalysis of the eponymous hoard from Gyermely-Szomor and the Ha A2 Periode in the territory of Hungary. In: Németh, R.E. and Rezi, B. (Eds.), *Bronze Age chronology in the Carpathian Basin. Proceedings of the International Colloquium from Târgu Mureş (2<sup>th</sup> – 4<sup>th</sup> October 2014)*. Bibliotheca Musei Marisiensis, Seria archaeologica, 8. Târgu Mureş, pp. 311–371.
- Tarbay, J.G. (2019). Disc cuirasses or costume sets? A Late Bronze Age ribbed „phalera” type from East-Central Europe. In: Bánffy, E. and Barna, J. (Hrsg./Eds.): *“Trans lacum Pelsonem.” Prähistorische Forschungen in Südwestungarn (5500–500 v. Chr.) — Prehistoric research in South-Western Hungary (5500–500 BC)*. Castellum Pannonicum Pelsonense, 7. Budapest etc., pp. 367–384.
- Tarbay, J.G. (2021). The path of a Late Bronze Age “warrior” – The selection on weapons in Transdanubian scarp hoards: Rinyaszentkirály (Somogy county/H) and Keszőhidegkút (Tolna county/H). In: Bardarelli, G. and Graells i Fabregat, R. (Eds.), *Ancient weapons. New research perspectives on weapons and warfare. Proceedings of the International Conference, Mainz, September 20<sup>th</sup>–21<sup>th</sup> 2019*. Römisch-Germanisches Zentralmuseum – Tagungen, 44. Mainz, pp. 91–144.
- Točík, A. and Paulík, J. (1960). Výskum mohyly v Čakev rokoch 1950–51 (Die Ausgrabung eines Grabhügels in Čaka in den Jahren 1950–51). *Slovenská archeológia*, 8: 59–124.
- Tompa, F. (1928). A felsőszidi lelet (Der Goldfund von Felsőszid). *Archaeologiai Értesítő*, 42: 204–207, 344–345.
- Tompa, F. (1936). 25 Jahre Urgeschichtsforschung in Ungarn 1912–1936. *Bericht der Römisch-Germanischen Kommission des Deutschen Archäologischen Institutes*, 24–25(1934–1935): 27–127.
- Trogmayer, O. (1975). *Das bronzezeitliche Gräberfeld bei Tápió*. *Fontes archaeologici Hungariae*. Budapest.
- Turk, P. (1996). Poznobronastodobne vrbovolistne sulične osti – Weidenblattförmige Lanzenspitzen aus der späten Bronzezeit. *Ptujski zbornik*, 6: 80–84.
- Uckelmann, M. (2012). *Die Schilde der Bronzezeit in Nord-, West- und Zentraleuropa*. Prähistorische Bronzefunde, III/4. Stuttgart.
- Vágó, Á. (2015). *A Kárpát-medence ősi kincsei. A kőkortól a honfoglalásig* (Ancient treasures of the Carpathian Basin. From the Stone Age until the Hungarian Conquest). Budapest.
- Vasić, R. (2004). The Dupljaja cart again. In: Rogozea, P. and Cedică, V. (Red.), *Festschrift für Florin Medeleț zum 60. Geburtstag*. Bibliotheca historica et archaeologica Banatica, 32. Timișoara, pp. 155–162.
- Vinski-Gasparini, K. (1973). *Kultura polja sa žarama u sjevernoj Hrvatskoj* (Die Urnenfelderkultur in Nordkroatien). Sveučilište u Zagrebu, Filozofski fakultet u Zadru, Monografije, 1. Zadar.
- Vizdal, J. (1972). Erste bildliche Darstellung eine zweirädrigen Wagens vom Ende der mittleren Bronzezeit in der Slowakei. *Slovenská archeológia*, 20: 223–231.
- Wels-Weyrauch, U. (1978). *Die Anhänger und Halsringe in Südwestdeutschland und Nordbayern*. Prähistorische Bronzefunde, XI/1. München.
- Winghart, S. (1993). Das Wagengrab von Poing, Lkr. Ebersberg, und der Beginn der Urnenfelderzeit in Südbayern. In: Dannheimer, R. and Gebhard, R. (Hrsg.), *Das keltische Jahrtausend*. Ausstellungskataloge der Prähistorischen Staatssammlung, 23. Mainz am Rhein, pp. 88–93.
- Winghart, S. (1999). Die Wagengräber von Poing und Hart a. d. Alz. Evidenz und Ursachen spätbronzezeitlicher Elitenbildung in der Zone nordwärts der Alpen. In: *Eliten in der Bronzezeit. Ergebnisse zweiter Kolloquien in Mainz und Athen*. Monographien des Römisch-Germanischen Zentralmuseums, 43.2. Mainz am Rhein, pp. 515–532.
- Wosinsky, M. (1896) *Tolnavármegye az őskortól a honfoglalásig, I–II*. (Das Komitat Tolna von der Urzeit bis zur Landnahmenzeit, I–II). Budapest.

