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Chariots and Horses in the Carpathian Lands During the Bronze Age

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Abstract: This article reconsiders the use and meaning of chariots in the 2nd millennium BCE during the Bronze Age in the Carpathian lands. Up to now, evidence for the use of chariots with four-spoked wheels in this region, has been dated to the 14th to 12th c. BCE, based on pictorial representations and artefacts from hoard finds. A new find from western Ukraine of a double burial of bridled horses dating to the first half of the 2nd millennium BCE, makes it probable that chariots were used within the Carpathian Basin at an even earlier date since the horse gear in this burial is of Carpathian type. This find also makes it likely that the custom of horse burials as a substitute for chariots was inspired by the Sintashta-Petrovka cultural complex in the Ural region and Kazakhstan. I argue that the use of chariots conveyed a highly symbolic meaning and was not primarily used in warfare. The lack of evidence for the use of chariots in the Bronze-Age in central and western Europe supports this argument. Finally, it is suggested that the custom of horse burials and the presence of two-wheeled vehicles in the eastern Carpathian Basin in the Iron Age may represent an aspect of long durée cultural memory and revival of a probably religiously connoted custom.

Introduction

Why should one write again about a much-discussed topic? The reason is, as often in archaeology, a discovery of a new archaeological find which inspired me to look again at the well-published record of chariots and horses and their transcultural connections within Bronze Age Europe. The technical innovation of the two-wheeled light horse-drawn vehicle and connected with it the question of primacy or place of origin and chronology was probably the most intensively discussed aspect of the whole debate.[1]

Chariots have been seen in the context of fighting techniques, a new ideological concept of warriorhood, and the status representation of a male elite.[2] It has been assumed that warriors fighting from chariots such as the well-known depiction of a sword-bearer who chases another warrior on foot on the grave stele of shaft grave V from Mycenae (**Fig. 1**), represented a supremely attractive role model. This not only holds true for the Aegean but also in Scandinavia[3] and other regions north of the Aegean world. The evidence for charioteering in the Carpathian lands reflected complex modes of exchange between the Aegean and Carpathian elites in the Middle Bronze Age (according to Carpathian chronology) on one side and between the Carpathian Basin and northern Europe on the other.

A third aspect traditionally connected with chariots is an ethnic and linguistic interpretation which connects the inventors of the light horse-drawn chariot with the construct of a so-

[1] For the most recent summary see: Lindner 2021.

[2] Anthony 2007; for a summary of the debate with particular emphasis on the Aegean and Anatolia and a critical view on the military use of chariots in the Carpathian Basin: Maran 2020, 518–520.

[3] Vandkilde 2014; Kristian Kristiansen called the horse-drawn chariot a "specialised package of material culture" (Kristiansen and Larsson 2005, 180–181; 185).

called Aryan or Indo-Aryan people and the expansion of the Indo-European language (for a critical assessment: Raulwing 2000; 2004; Teufer 2012), which I will not discuss in this paper.

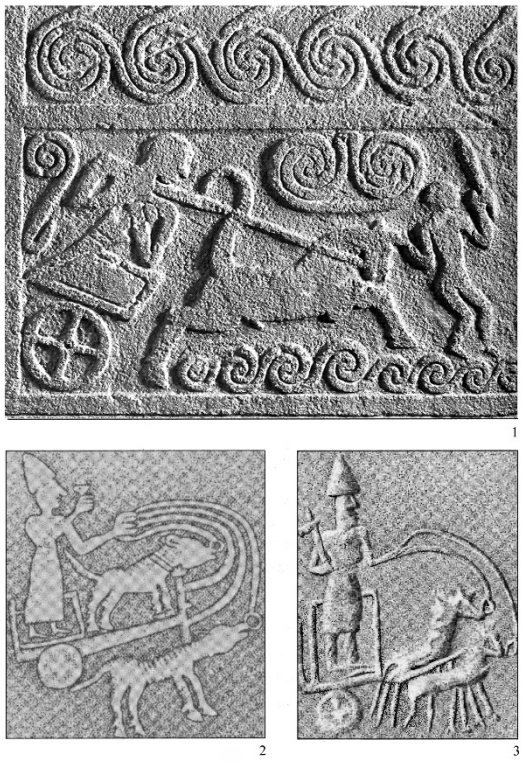

Fig. 1. Mycenae, stone stele from shaft grave V, early Mycenaean period; 1,2. seal impression from Kültepe-Kanesh (Kārum level II); 1,3. Asia Minor, unknown provenance, Metropolitan Museum of Art, New York (wiki common; Littauer – Crouwel 1979, Fig. 28–29).

Evidence of Bronze Age Chariots outside the Carpathian Lands – a Short Overview

Let us begin with chronology. Questions of mobility and transport have always fascinated archaeologists around the globe. However, since Stuart Piggott published his book on 'Early Wheeled Transport' in 1983, there has been such a vast number of publications dealing with this complex topic, that a comprehensive account cannot be given in this paper. Until recently attention focussed on the invention of the wheel and wagons.[4] A separate chapter of wheeled movement and its cultural significance addresses the two-wheeled light horse-drawn vehicle or chariot.

Different but intertwined strands of discourses evolved, most importantly around the questions of chronology, and place, i. e., where the invention of the horse-drawn chariot originated.[5] The basic prerequisite was the invention of spoked-wheel technology. Spoked wheels reduced the weight of vehicles making it possible for horses to be used as draft animals.[6] Their physical abilities offered a hitherto unknown potential of speed over longer distances. This exceeded both the human potential of movement and that of cattle/oxen in front of a four-wheeled wagon with disc-wheels exponentially. However, horses needed to be harnessed to control speed and direction of movement – in contrast to a ridden horse which can be guided by simple means like nasal leather bands or cords (Taylor – Bayarsaikhan – T. Tuvshinjargal 2015; Levine 1999; 2005). The new wagon and harnessing technology created groundbreaking new potential as military equipment, and thus a new way of warfare and entangled self-representation as a status marker of a male bellicose ruling elite.

Until recently, questions about when this fundamental and consequential invention of the horse-drawn chariot was made have generated a multitude of archaeological studies.[7] Christopher Pare wrote in 1987: "Der genaue Ursprung des von Pferden gezogenen Streitwagens, der während der Bronzezeit in Europa auftaucht, ist immer noch unklar" ("The origin of the horse-

[4] For the invention of the wheel: several contributions in Fansa – Burmeister 2004; Burmeister 2011; 2017; for the most recent overview of the relevant publications: Lindner 2021.

[5] The same holds true for the question of early wagons and the invention of the wheel in the middle of the 4th millennium BCE.

[6] For four-wheeled and two-wheeled vehicles in the Ancient Near East and the use of other equids see Mühl 2014.

[7] I. e. Pare 1987; Littauer – Crouwel 1979; Crouwel 2004a; most recently Lindner 2021.

drawn chariot, which appears in Bronze Age Europe, is still unclear"), and referred to an either Eurasian or western Asian place of origin.[8] More than 30 years later, a clearer picture is emerging. Radiocarbon dates provide ample evidence in favour of one of the contesters. Graves of the Sintashta-Petrovka cultural complex, also referred to as Sintashta culture, located at the south-eastern Urals and in northern Kazakhstan,[9] include chariot burials with spoked wheels, which in several cases are augmented by entombed horses (Lindner 2021, 56–83 Fig. 24–43b). These graves were dated between 2100–1800 cal BCE (Teufer 1999; Kaiser 2018). Recently Stephan Lindner assembled a comprehensive account of the chariot and horse burials as well as all bridles of the Sintashta-Petrovka cultural complex (Lindner 2021, esp. 47 Fig. 18; Cat. 2). Based on Bayesian modelling of the available ^{14}C-dates he postulated the latest possible date for the use of wagons with two spoked wheels in the southeast Ural's piedmont zone between 1950–1888 cal BCE (95,4%) (Lindner 2021, 92–110).

The earliest evidence for chariots with spoked wheels in Anatolia and other regions of western Asia are images with the depiction of horse-drawn chariots on sealings. Mary Littauer and Joost G. Crouwel argued vehemently in favour of an Anatolian origin.[10] One of the most often quoted examples is a seal impression from Kültepe-Kanesh (Kārum level II) showing a man or god wearing a helmet guiding a two-wheeled wagon with four-spoked wheels (**Fig. 1,2**). Level II of the Assyrian merchant colony Kültepe-Kanesh is dated between 1950–1836 BCE (Kulakoğlu 2011). A similar scene on a seal impression from the Metropolitan Museum of Art in New York shows a charioteer holding an axe, and the draft-animals appear to be horse-like (**Fig. 1,3**). Littauer and Crouwel labelled these wagons as proto-chariots (Littauer – Crouwel 1979, 50–55; Crouwel 2004a, 77–79). It is not surprising that an invention of such fundamental consequence and advantage was so quickly dispersed that it escapes the methods available to traditional archaeology to discern differences of a few generations.

Leaving the questions of the origin of the invention and its date aside, we can state that by the early second millennium BCE the horse-drawn wagon with spoked wheels or chariot was widely distributed in the southern Urals and adjacent central Asia, Anatolia, Mesopotamia, and Mycenaean Greece of the Shaft Grave period (Littauer – Crouwel; Penner 1998).

The Carpathian Evidence

Evidence for the first use of chariots in the Carpathian Basin comes from an image on an unimposing object in a modest context, a clay urn from a cremation grave in the cemetery of Vel'ke Raškovce, Michalovce district, in eastern Slovakia. It dates to the 14th c. BCE Suciu de Sus culture (**Fig. 2**) and shows the highly stylised image of three chariots from a bird's eye perspective whereas the horses[11] and the charioteer are shown in profile. The charioteers are reduced to a dot-and-line image. The wheels with four spokes are comparable to the Kültepe and Mycenae type, in contrast to the Sintashta-type chariots which have more spokes.

[8] See also Burmeister – Raulwing 2012, 100–101.

[9] Epimachov – Korjakova 2004; Koryakova 1998; Parzinger 2006, 244–262; 317–329; Anthony 2007, 371–411.

[10] Littauer and Crouwel believed that the Sintashta burials represented an imitation of the Mesopotamian and Anatolian role models, since two-wheeled platform wagons have a longer tradition in Mesopotamia (Littauer – Crouwel 1979; Crouwel 2004a), a view which can no longer be sustained. These wagons have disc-wheels and thus need to be differentiated from the chariot with spoked wheels; for a summary of the debate see: Lindner 2021, 111–123.

[11] In contrast to western Asia donkeys or onagers are not present in the prehistoric faunal record of large parts of Europe.

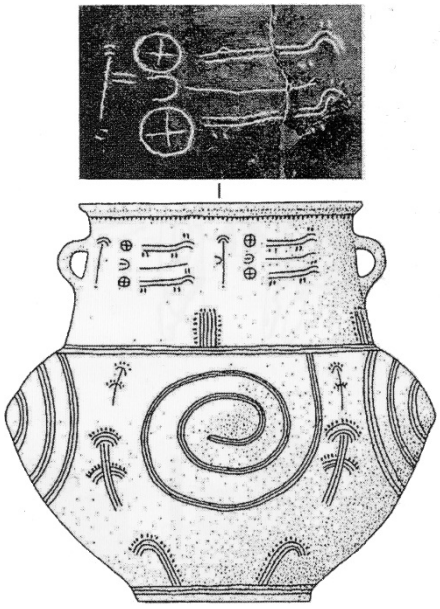

Fig. 2. Clay vessel from the cemetery of Vel'ke Raškovce, Michalovce district, eastern Slovakia (Boroffka 2004, 351 Fig. 12).

So far, there is only indirect evidence for earlier use of chariots in the Carpathian basin. It is based on the appearance of antler or bone cheekpieces (*Trensenknebel*). They have been discussed in detail by Hans-Georg Hüttel (1981), Nikolaus Boroffka discussed the rod-shaped cheekpieces or rod toggles (1998) and Mike Teufer dealt with the disc-shaped types (1999).[12] Whereas the various types of the disc- or plate-shaped cheekpieces are distributed between Kazakhstan and the eastern Carpathian Basin with one example from Mycenae which Teufer thinks is the youngest specimen (Teufer 1999),[13] the rod-shaped types or rod toggles (*Stangenknebel*) can be regarded as a Carpathian invention.[14]

The Middle Bronze Age tell-settlements in the eastern Carpathian Basin, which were central places of power with complex social organisation and wide-ranging exchange networks, functioned as ideal cultural background for this invention. From the Carpathian Basin this bridling technique using bone or antler cheekpieces either for draft-animals or for riding was transmitted westwards along the Danube via various modes of exchange (David 2001). Contact partners for the late Early Bronze Age Straubing culture in modern southern Bavaria in the late 18th to 17th c. BCE were Mad'jarovce and Věteřov communities in the western Carpathian Basin to name just some of the important players in this exchange network. As has been proposed by other scholars, the first bone rod toggles found west of the Carpathians were part of a cultural package consisting of the emergence of fortified hilltop settlements and changing trading networks, including metal trade (Metzner-Nebelsick – Pernicka – Kutscher – Krause 2020) at the transition from the Early to the Middle Bronze Age, according to central European chronology. These new communication networks are reflected by the distribution of several artefact types including the so-called *Brotlaibidole* (loaf-of-bread-idols) which are distributed in central Europe, northern Italy and the northern Adriatic, the Carpathian Basin, and the lower Danube region (David 2016). The invention of the long slashing blade (Sögel blades) and first full-hilted slashing swords also fall into this period (Hachmann 1957; Meller 2013; Metzner-Nebelsick 2013, 328 Fig. 1; Vandkilde 2014, 615 Fig. 5). The dissemination of horse gear into central Europe thus happened along with well-established exchange networks.

This context of intense east-west communication and exchange also went in an eastern direction with expanding networks between the eastern Alps, western Hungary, and western Slovakia on one side and the eastern Carpathian Basin and adjacent mountain areas on the other. The first ritual bronze hoards in the eastern Carpathian Basin reflect a composition pattern

[12] For the summarising discussion of their chronology see Lindner 2021 49–53.
[13] For further discussion of the Mycenaean cheekpiece see Maran – van de Moortel 2014, 541.
[14] Hüttel 1981; Boroffka 1998; maps: Kristiansen and Larsson 2005, 184 fig. 79; Lindner 2021, 48 fig. 19.

originating from the central European Únětice culture (Metzner-Nebelsick 2013, 340–342). The transmission of this specific ritual deposition practice was probably connected with or took place in the course of economic exchange activities. Interestingly, the artefacts in the famous Apa hoard (Hachmann 1957; David 2002, pl. 117–118) with the eponymous first Carpathian slashing-sword type were made of east Alpine Mitterberg copper (Pernicka – Nessel – Mehofer – Safta 2016) instead of the locally available ore from mining districts in the Maramureş, northwest Romania. Thus, it seems possible that mining specialists from the Mitterberg, but also the Slovakian Ore Mountain region,[15] were involved in prospecting and finally opening up new mining areas in the Romanian Carpathians.

A particular feature of many of the rod-shaped cheekpieces is a specific kind of wave-band-ornamentation, which also occurs on bone discs and other bone and antler objects.[16] They are seen as a reflection of cultural contacts with Mycenaean Greece of the Shaft Grave period and interpreted as specific Carpathian imitations (David 1997, 267; 273; 2001) or the appropriation of Mycenaean ornaments. Whereas in Mycenae, these specific circle and wave motives adorned golden objects as well (David 2007), in the Carpathian lands, the dominance of antler/bone objects with an equestrian context is obvious. Hüttel coined these ornaments on horse gear, i. e. the cheekpieces, as "Karpato-mykenischer Stil" (Carpathian-Mycenaean style) (Hüttel 1981, 83).[17]

The appearance of horse bridles and pictorial evidence for charioteering in the Mycenaean Shaft Grave period and material evidence in the Carpathian Basin does not allow us to establish a priority in either area (Boroffka 1998, 117; Maran – van de Moortel 2014, 541). According to the ^{14}C-dates of the Sintashta-Petrovka burials, both Mycenae and the Carpathian Basin were at the receiving end of external influences and found different solutions for the integration of this new technical complex of charioteering into specific and seemingly mutually different social practices.

It is noteworthy that at least in the first half of the 2nd millennium BCE all antler/bone cheekpieces in the Carpathian Basin were found in settlement contexts or come from ritual or unknown contexts (Hüttel 1981; Boroffka 1998). The same holds true for the south-central and even north Italian specimens (Hüttel 1981, 185–186). Furthermore, in settlement contexts, the cheekpieces were found singly. We can thus assume that this deposition is not merely waste but reflects a pattern, an intentional behaviour or ritual practice.[18] Unfortunately, this practice does not provide any information about whether the cheekpieces were used as riding or wagon-harness equipment.

An exception is a ritual context in the fortified ritual site of Oarţa de Sus-"Ghiile Botii" in the district of Maramureş in northwest Romania (Kacsó 2011, 408–415; 215–226 fig, 188–209; esp. 217 Fig. 192). Two unique bone plate cheekpieces (*Plattenknebel*) (Boroffka 1998, 92; Fig. 9,1–2) from this site were found in the mouth of one of two horses buried in an oval pit. This indicates that disc-shaped cheekpieces were highly likely used as wagon bridles. This unique find also shows that horses in connection with a bridle possessed a specific ritual and probably religious meaning.

[15] Other bronze objects analysed by Ernst Pernicka and Mathias Mehofer consisted of Slovakian Ore Mountain type copper.

[16] i.e., David 1997; 2001; David 2007 with comprehensive literature; Metzner-Nebelsick 2013, 330 fig. 2.

[17] For further discussions on the connection between Mycenae and the Carpathian Basin regarding horse gear see: David 2001 who calls the ornament: 'karpatenländisch-ostmediterrane Wellenbandornamentik', and Maran – van de Moortel 2014.

[18] This is supported by the fact that a few antler/bone cheekpieces were deposited in caves (Hüttel 1981).

These deposition rites in settlements or ritual contexts underline the specific Carpathian character of the cultural significance of either charioteering or riding. At least in the first half of the 2nd millennium BCE, there is no obvious elite context in graves for cheekpiece deposition in central and southeast Europe. This also means that we are unable to say whether or not riding or wagon driving was part of a specific representation habit of elite or aristocratic men as it was the case in the Aegean or western Asia. Since projectile weapons such as bow and arrow or spears that were used in conjunction with chariots are either absent or do not play a significant part in the archaeological record in the Carpathian Basin during the first half of the 2nd millennium BCE, Hüttel concluded that chariots were not used as military equipment in this region (Hüttel 1982, 60). The aforementioned unpretentious nature of the urn from Vel'ke Raškovce in Slovakia (Fig. 2) supports this view. The deposition of bridles or wagons and wagon parts was liable to taboo in a sepulchral context. The fact that vehicles did, however, play a significant role in ritual practices during the first half of the 2nd millennium BCE – in settlement contexts or ritual sites – can also be deduced from various clay models of four-wheeled wagons or clay wheel models in the eastern Carpathian basin (Boroffka 2004, 347 Fig. 1; Metzner-Nebelsick 2013, 334 Fig. 5).[19]

Horse Burials and Charioteering in the Circum-Carpathian Region

I will now come to the more recently published finds which caught my attention and inspired me to write this article. Except for the image on the urn from Vel'ke Raškovce dating to the 14th or even late 15th c. BCE and the even earlier find from Oarţa de Sus we may assume that chariots existed but there is no material evidence for the contemporary use of chariots in the Carpathian Basin: We do not know whether the Carpathian rod toggles or disc- and plate cheekpieces were used for either harnessing a ridden horse or horses in front of a chariot or even a four-wheeled wagon.

One can, however, say that the disc-shaped cheekpieces were most likely exclusively used as wagon/chariot bridles due to parallels in the southern Urals or western Kazakhstan (Lindner 2021, 46–51). Recent finds from the early Middle Bronze Age period in southeast Poland and western Ukraine show that rod toggles (*Stangenknebel*) which can be regarded as a Carpathian invention were also used for charioteering. Marcyn Przybyła has assembled the relevant evidence of horse gear and its contexts (Przybyła 2020). Most of the antler or bone toggles as well as some ornamented bone buttons he collected come from early Middle Bronze Age horse burials from south-east Poland and western Ukraine. As the map shows (**Fig. 3**), the burials are found in a restricted area associated with the Middle Bronze Age Trzciniec and Komariv cultures.

Bones from a horse in burial 38 from Moriawianki provided a radiocarbon date of 1742–1535 cal BCE with an interval of 68% (Przybyła 2020, 122). In the case of Miernów, barrow II he could date the grave on typological grounds to the transition of the Early to Middle Bronze Age period (BzA2 – Bz B1) according to central European chronology (Przybyła 2020, 123). Next to the horse burials, some horse bridles have also been found in settlement contexts (Przybyła 2020, 110 Fig. 6; 112 Fig. 8). I do not want to repeat Przybyła's arguments but rather comment on some of the most interesting finds. He argues that although there

[19] In Nižná Myšl'a a wagon model with originally four wheels was discovered in a children's burial (Olexa – Pitorák 2004, 311; 318).

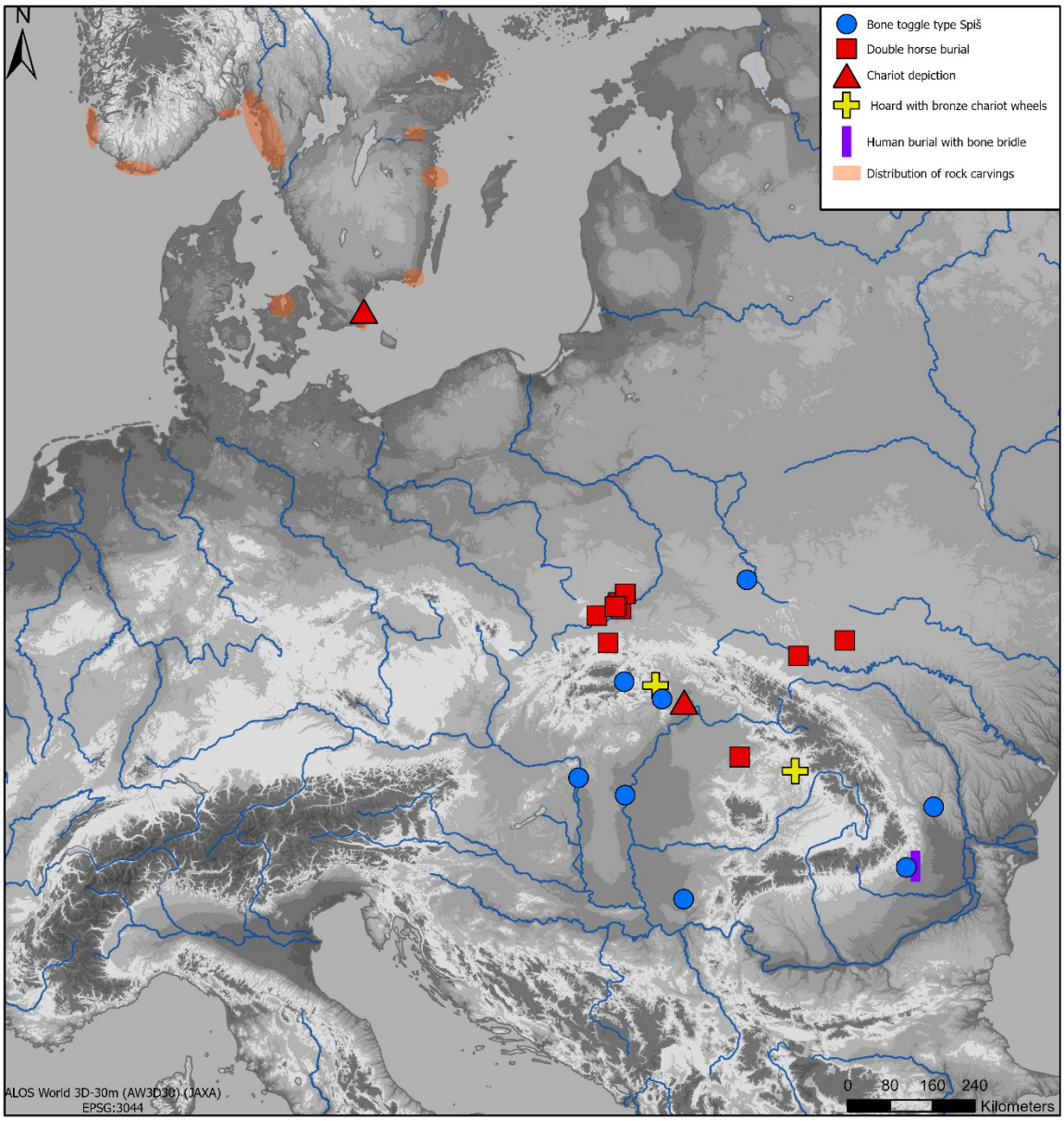

Fig. 3. Map showing evidence for the use of chariots in the 2nd Millennium BCE outside the Mediterranean/western Asian *koine* and the Sintashta-Petrovka cultural complex. square: burials with two bridled horses in a grave context or double burial of unbridled horses of the first half of the 2nd millennium BCE; cross: hoard finds with two bronze wheels, 13th–12th c. BCE; triangle: figurative depictions of chariots (Scandinavia limited to Kivik, here distribution of rock carvings indicated by shading); circle: rod toggles of type Spiš; rectangle: human burial with rod toggles (map: Metzner-Nebelsick using data from Hüttel 1981; Boroffka 1998; Larsson 2004; Przybyła 2020; Lindner 2021; map design and raw data processing: G. J. F. Nebelsick).

is no direct evidence for chariots, at least the dimensions in one of the burial chambers gives a hint in this direction. In the chamber in barrow II, grave 10 of the site of Miernów with two horses in disturbed position and one human individual, the western part of the burial chamber measuring 120×310 m was empty and could have been filled by a chariot (Przybyła 2020, 124 Fig. 14,5). The rudimentary grave plan, however, gives the impression of a disturbed,

stratigraphically unclear context.[20] Since all the other horse burials in southeast Poland and western Ukraine do not contain human burials, the Miernów II, grave 10 example remains questionable. On the contrary, the absence of human burials in the other known examples again accounts for a deliberate decision to bury the horses without a human body. In my view, this pattern reflects a specific ritual behaviour since the other graves were in most cases undisturbed.

The most striking example comes from a double burial of bridled horses from Husjatyn in the Ternopil' oblast in western Ukraine published by Vasyl' Il'chyshyn (Il'chyshyn 2016). The two horses in Husjatyn were buried facing each other with their bridles in situ (**Fig. 4a**).[21] No sign of an accompanying charioteer was found. The antler cheekpieces of the harness of both horses are different (**Fig. 4b**).

They carry bi-plane perforations for the reigns and harness straps. The ornamentation of the rod toggles resembles faintly the wave-band-ornaments of Mycenaean inspiration from contexts across the mountains in the Carpathian Basin (Il'chyshyn 2016, 87 Fig. 4,5–6; Przybyła 2020, 113 Fig. 9; 115 Fig. 10). They are, however, clearly of local style. Typologically, the rod toggles from horse 2 can be compared with Hüttel's Type Spiš (Hüttel 1981, pl. 8) or Boroffka's type IV ("*Zapfenknebel*") (**Fig. 5**).

All share a bi-plane perforation system (*Einrichtungssystem*) for the leather straps with two oval holes and a smaller one in between at a 90° angle (Il'chyshyn 2016, 86 Fig. 3,3; 87 Fig. 4,5–6; Przybyła 2020, 113 Fig. 9). This type has a distribution centre in the eastern Carpathian Basin and across the Carpathian mountain range. They were probably produced in the fortified settlements of late Early Bronze Age date in eastern Slovakia.

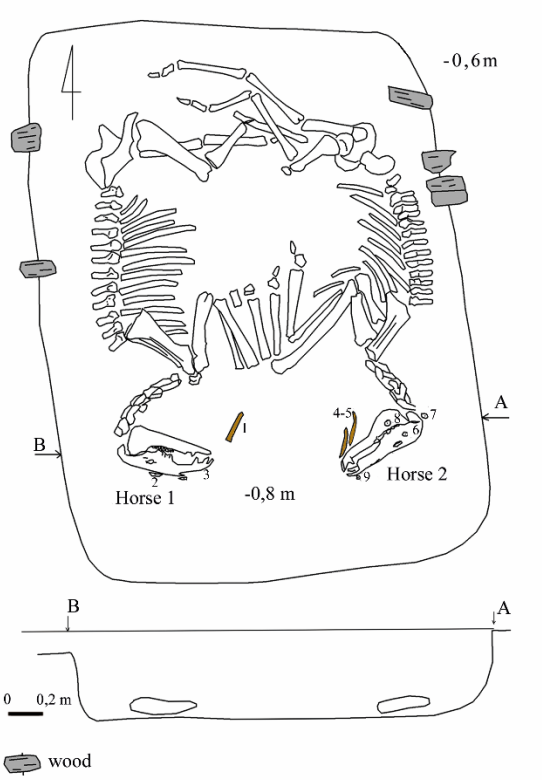

Fig. 4a. Double burial of horses with horse gear in situ from Husjatyn in the Ternopil' oblast in western Ukraine (after Il'chyshyn 2016, 85 fig. 2).

Il'chyshyn and Przybyła compare the round antler reign knobs with star-shaped incisions and a bronze rivet in its centre to fasten it to leather straps (**Fig. 4b,2–3; 6–9**) to examples from the southern Romanian Monteoru culture. A similar knob or small phalera was also found in the settlement of Nižná Myšl'a in eastern Slovakia (**Fig. 5,7**) (Olexa – Pitorák 2004, 310 Fig. 1). This site is known for its cemetery with hundreds of inhumation graves dating to the late Early Bronze Age in central European terms and the Middle Bronze Age according to local southeast European chronology. In the graves but also in the settlement of Nižná Myšl'a ample evidence of metalworking, the

[20] The excavator assumed a Corded Ware Culture burial (Przybyła 2020, 123) which Przybyła refutes.

[21] Vasyl' Il'chyshyn informed me in 2017 that ^{14}C- and archaeozoological analyses are being made in Poznań; to my knowledge the results are pending.

use of prestigious dress accessories with hundreds of faience beads in a single grave, golden dress accessories, and bronze or bone/antler artefacts – among them rod toggles – were found, the latter in the settlement (**Fig. 5,6**) (Olexa 2003; Olexa – Nováček 2013; Olexa – Pitorák 2004).

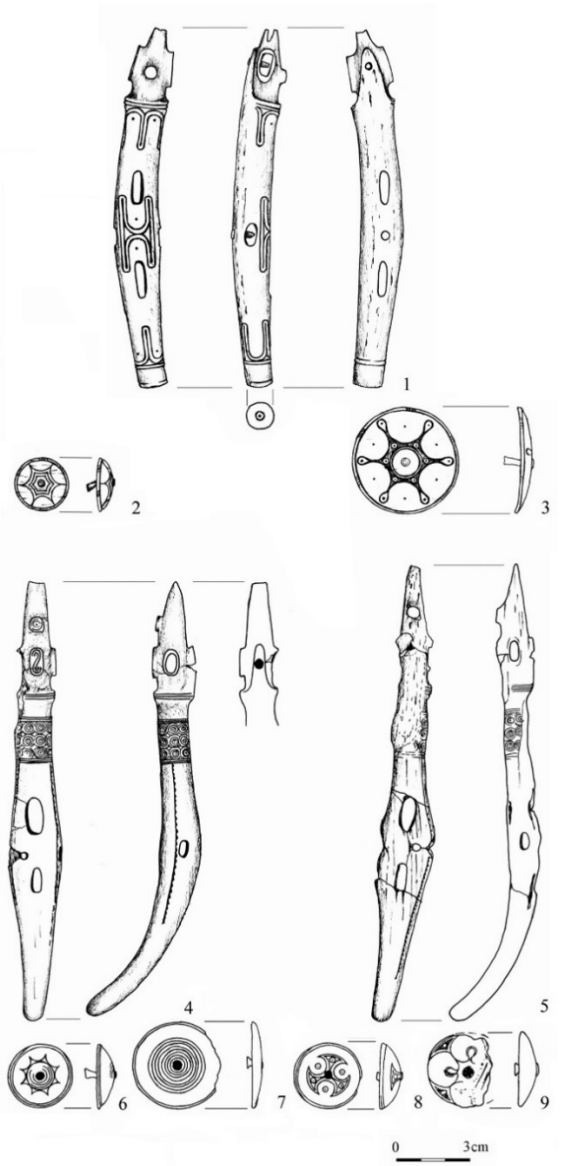

Fig. 4b. Husjatyn in the Ternopil' oblast in western Ukraine, horse gear of horse 1 (1–3) and horse 2 (4–9); antler/bone, 1–3; 6–9 with bronze rivets (after Il'chyshin 2016, 86 Fig. 3; 87 Fig. 4).

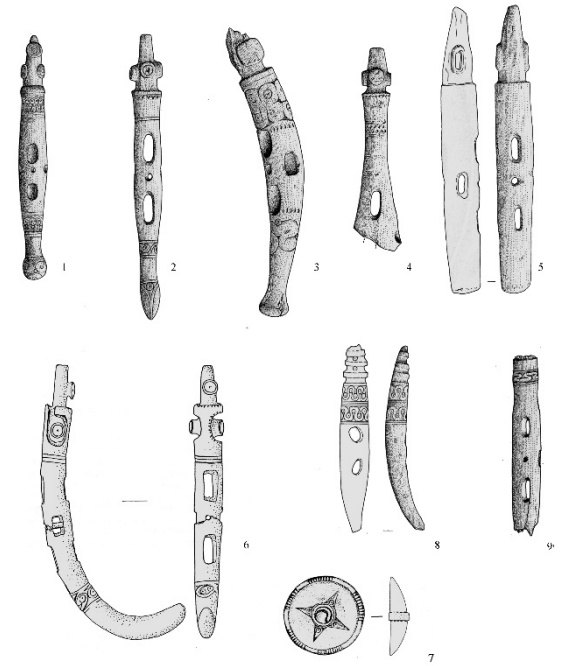

Fig. 5. Antler/bone rod toggles type Spiš (1–6.9) or related type (8) after Hüttel. 1 Belc, western Ukraine; 2 Budapest-Lágymányos, Hungary; 3 Spišsky Štvrtok, eastern Slovakia; 4 Gîrbovăţ, eastern Romania; 5 Tószeg-Laposhalom, eastern Hungary; 6–7 Nižná Mišľa, eastern Slovakia; 8 Sărata-Monteoru, southeastern Romania; 9 Vatin, northern Serbia (after Hüttel 1981, pl. 8–8; Olexa – Pitorák 2004, Fig. 1).

So far, I have avoided mentioning Sărata-Monteoru in the southern Romanian district of Buzău southeast of the Carpathian Mountains. It is the only site where two antler/bone rod toggles were found in a burial context other than in the Sintashta-Petrovka cultural complex in the Urals/Kazakhstan region or the Trzciniec-Komariv culture. Six cheekpieces of different type were discovered at the site (Boroffka 1998, 93). An identical pair from grave 35 of cemetery II (**Fig. 5,8**; Hüttel 1981, pl. 9,93; Boroffka 1998, 96 Fig. 6,4) is ornamented in the Carpathian-Mycenaean wave-band-style. Another pair of sidepieces from Sărata-Monteoru[22] is a disc-type with parallels in the Sintashta-Petrovka cultural complex, a third single one, type A2a after Teufer, has parallels there as well (Boroffka 1998, 98 Fig. 8,1–2.4; Teufer 1999, 92 Fig. 17; Lindner 2021, 50 Fig. 20).

[22] The find context is not certain (Boroffka 1998, 93).

Without being able to go into further typological detail, we can reach the following conclusions:

The ritual practice to bury either bridled horses or to deposit pairs of horse bridles in human graves is limited to the circum-Carpathian area: in southeast Poland and the Dniestr (now Tyra) river region in western Ukraine and Transylvania. This specific deposition mode represents a close link to the burial rites of the Sintashta-Petrovka cultural complex. Although the Sărata-Monteoru burial only contained a pair of rod toggles which probably stood for a riding bridle, this connection is represented by the presence of the type A-disc cheekpiece, which is typical for the Sintashta-Petrovka cultural complex (Teufer 1999, 87 Fig. 12; 88 Fig. 13) and may thus imply the use of chariots in the lower Danube region as well. In my view, the specific geographical situation of supposedly more open landscapes not confined by mountains supported more intense routes of communication between communities in this region or east of the Carpathian Mountain range than with those in the inner Carpathian Basin. In contrast, communities in the Carpathian Basin were involved in closer exchange with the south, i. e. with Mycenaean Greece of the Shaft Grave period.[23]

I any case, on a more basic level, the evidence of the horse burials from southeast Poland and north-western Ukraine, and the burial from Sărata-Monteoru provide support for the assumption that rod toggles were also used as bridles most likely for chariots or at least for wagons in the Carpathian lands in the first half of the second millennium BCE.

Later Evidence and Charioteering outside Carpathian Lands

Finally, I would like to discuss another aspect of this topic. If we look at the evidence for chariots in Bronze Age Europe of the 2nd millennium BCE, we observe regions in which the use of chariots is attested in form of pictorial evidence or indirectly via the context of bridles (see also Pankau – Krause 2017). Next to Mycenaean Greece and the Carpathian lands, this is Scandinavia (Larsson 2004; Kristiansen – Larsson 2005; Vandkilde 2014, 615 Fig. 5; Metzner-Nebelsick 2003). The evidence for Scandinavia has been discussed intensively, most recently by Helle Vandkilde (2014). It is commonly agreed that the horse-chariot technological complex as well as the afore mentioned new sword type (see above) were brought to Scandinavia via routes of personal contacts, exchange, and trade from the Carpathian Basin. These close links involved a variety of other objects and commodities such as glass from Egypt and western Asia from the 14th c. BCE contexts (Varberg – Gratuze – Kaul 2015) or symbolic items such as a form of gold bracelets with double spiral ends (Metzner-Nebelsick 2010; 2019), which occur in hoard finds with gold objects in the Carpathian Basin and elite warrior graves in northern Germany and southern Scandinavia, just to give two examples.

Chariots are depicted in large numbers on the rock carvings in the regions of Scania (Skåne) and Bohuslän in southern Sweden (Larsson 2004). They always show wheels with four spokes like those in the Aegean and Anatolia (Fig. 1) or on the vessel of Vel'ke Raškovce (Fig. 2). The ritual context is evident. The most famous rock carving, however, comes from a grave context – the intensively discussed stone cist burial underneath the giant tumulus from Kivik-Bredarör in Scania (Randsborg 1993; Bertilsson – Ling – Bertilsson – Potter – Horn

[23] For the mutual contacts between Mycenaean Greece and the Carpathian Basin in regard to horse gear and ornamentation see: Maran – van de Moortel 2014, 544–545.

2017). One of several stone slabs with figurative and symbolic images shows a unique scenic depiction of mythological content. In its upper part, it depicts a sword-bearing warrior on a chariot drawn by two stallions (**Fig. 6**).

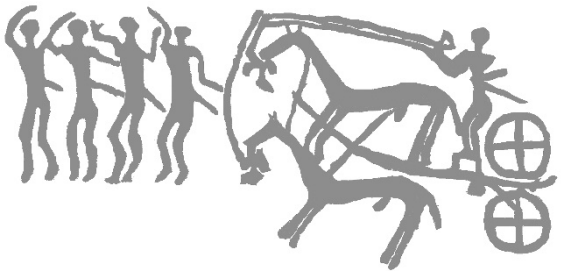

Fig. 6. Kivik-Bredarör, Scania, southern Sweden. Scene from the upper part of stone slab 7 from the stone cist grave with rock carving (drawing after a rub-off by Dietrich Evers published by Bertilsson – Ling – Bertilsson – Potter – Horn 2017, 297 fig. 6B; see also: Swedish Rock Art Research Archives, www.shfa.se).

He follows a procession of sword bearers with raised arms. Because of the remaining bronze objects in the robbed grave, including a sword pommel, a fibula, and a bronze sheet metal vessel (Randsborg 1993), the stone cist and its carvings were traditionally dated to Period II of the early Nordic Bronze Age that is the 14th c. BCE. Because of the extraordinary design of the giant tumulus and these finds, the stone cist grave of Kivik has been identified as the burial of a paramount leader with contacts that ranged as far as Hittite Anatolia and the Aegean (Kristiansen – Larsson 2005, 186–194). He was seen as a prominent member of "warrior aristocracies" in Scandinavia and beyond (ibid., 212–231). This view, however, was recently challenged by Joachim Goldhahn, who could show that the Kivik stone cist did not contain the burial of a single outstanding warrior hero, but rather multiple burials for what appears to be mostly individuals in their teens and was used over several centuries (Goldhahn 2009). Because of this, the mythological context of the depicted scenes is even more plausible. Despite the long period of burial activity, the earliest date for the chariot scene remains the 14th c. BCE.

After this short review of the evidence of Bronze Age charioteering the question remains, if the distribution of this particular practice of wagon driving reflects a specific fighting style as indicated on the stone stele of Mycenae or hinted at on the Kivik slab with the sword-bearing charioteer (**Fig. 6**) and if so, does that mean fighting techniques in the otherwise closely entwined Europe were so fundamentally different? As Hüttel (1982, 60) already argued, the weapon record but also the surprisingly scarce evidence for chariots in the Carpathian Basin make it unlikely that they played a significant role in warfare there in the 2nd millennium BCE. This argument finds support in the fact that in central Europe there is no evidence for two-wheeled vehicles or chariots during this period, although the weapon repertoire is comparable with that in the Carpathian Basin (Harding 2007). One would thus expect that conflicts would be fought with the same rules of conduct and equipment. The ritual connotation of the use of chariots however, is apparent and thus their significance as a prominent status marker. To sum up:

1. The recently published evidence from southeast Poland and western Ukraine has shown that the practice to bury horses with horse gear resembles the custom of the Sintashta-Petrovka complex. It is thus likely that the initial impulse to use chariots in this region came from Eurasia and not from the Aegean. However, the usage of genuinely Carpathian bridle types indicates not only a strong local touch and appropriation of this practice but also intensive contacts with communities across the mountains in the Carpathian Basin.

2. Although the early 2nd-millennium rod-shaped cheekpieces used in the Carpathian Basin are often ornamented with adaptations of the so-called wave-band-patterns of Mycenaean origin, they represent a local interpretation of

this inspiration. In Mycenaean contexts, these ornaments are applied to various, also precious golden object types and are with one exception not found on rod-shaped cheekpieces. The so far only rod toggle in Greece, a settlement find from Mitrou in Lokris, was interpreted by Joseph Maran and Aleydis van de Moortel as a local hybrid or reworked Carpathian import (Maran – van de Moortel 2014, 544).

Disc-shaped cheekpieces with a distribution between central Asia, the Carpathian Basin and Mycenae do not carry wave-band-motives. The connection of this specific ornament with a genuinely Carpathian bridle type is evident and may hint at a specific symbolic meaning with a possible religious connotation of this motive-complex and horses – in particular in the Carpathian lands.

3. The ritual and religious significance of horses in the Carpathian lands is further indicated by the fact that the early Middle Bronze Age horse burials in southeast Poland and western Ukraine do not contain human burials. The double burial in a pit in the fortified settlement and ritual site of Oarţa de Sus also points at the highly ritual significance of horses.

4. Since the horses of these recently published burials were bridled with Carpathian type rod toggles, we may suppose that the most likely imported and individually deposited rod toggles of late Early Bronze Age date in the west, i. e. in southern central Europe, were likewise used to bridle horses in front of wagons or that they were indeed used as riding bridles. Unfortunately, a taboo to depict the human body or narrating scenes in central Europe (in contrast to the Nordic Bronze Age) (Metzner-Nebelsick 2018) prevents us from reconstructing real-life practices regarding wagon driving or riding.

5. The use of prestigious horse gear items was highly susceptible to specific rules and taboos. Their deposition in graves was not the custom in the Carpathian Basin or southern central Europe in the 2nd millennium BCE. Thus, they did not play a role as status markers in sepulchral contexts as is the case in the Late Bronze and Early Iron Ages.

6. The use of chariots, in particular, seems to have been a highly ritualised practice, at least in some cases with a religiously or mythologically charged background. The well-known examples of Vel'ke Raškovce and Kivik make that clear.

Aspects of long durée Regarding Chariots in Carpathian Lands

Finally, it is worth noting that horse bridles and wagon mounts are occasionally found in bronze hoards of the late 2nd millennium BCE (Pare 1987). Although we are unable to reconstruct the wagons used in real-life from the selected deposition of single mounts in hoards, it is thus possible to say that the chariots maintained its ritual significance within the Carpathian Basin over several centuries.

There are two sacrificial hoards in the eastern Carpathian Basin which contained a pair of bronze wheels with four spokes of the type depicted on late Mycenaean frescoes or images on pottery (**Fig.7**).

In the hoard of Arcalia near Bistriţa in Transylvania discovered in 1793 the diameter of the wheels was 70 cm (**Fig. 8**). They were found together with seven bronze rings which supposedly (Roska 1942, 30–31) belonged to either the harness or a wagon. The second hoard with two bronze wheels symbolising a chariot was

found in Obišovce, Košice district, in eastern Slovakia (**Fig. 9**).

Fig. 7. Scene with 'Rail chariots' after J. W. Crouwel on a late Mycenaean crater from Tiryns, Argolis, Greece (Crouwel 2004, 345 fig. 7).

This selective mode of object deposition is typical for sacrificial hoards of the Late Bronze Age (13th–12th c. BCE) in the area. Because of the deposition in the ritual context of hoards, we have difficulties to reconstruct the social setting in which these chariots were used. Since the form of these full-size wheels compares with depictions from contemporary palatial contexts of Mycenaean Greece, we can suppose that chariots with bronze wheels from the last centuries of the 2nd millennium BCE were used in an elite context outside the Mediterranean world as well and functioned as status markers. The Carpathian finds are part of a *koine* of largely contemporary finds in Scandinavia, the Aegean and beyond.[24]

In southern central Europe and indeed in western Europe this concept of status representation did not have the same significance. As Pare has shown (1987; 1992) wagons with bronze-clad wheels or wagon boxes only started to be deposited in central Europe in the 13th and 12th c. BCE. Those wagons possessed four wheels and belonged to elite male graves. Intermittently, this custom survived regionally into the Early Iron Age Hallstatt period. There is no evidence for chariots in the 2nd millennium BCE. They only gained acceptance as a prominent grave good in the late Iron Age La Tène period attributed to the historic Celts (van Endert 1987) and may then have been a reflex of an Italian inspiration (Crouwel 2012).

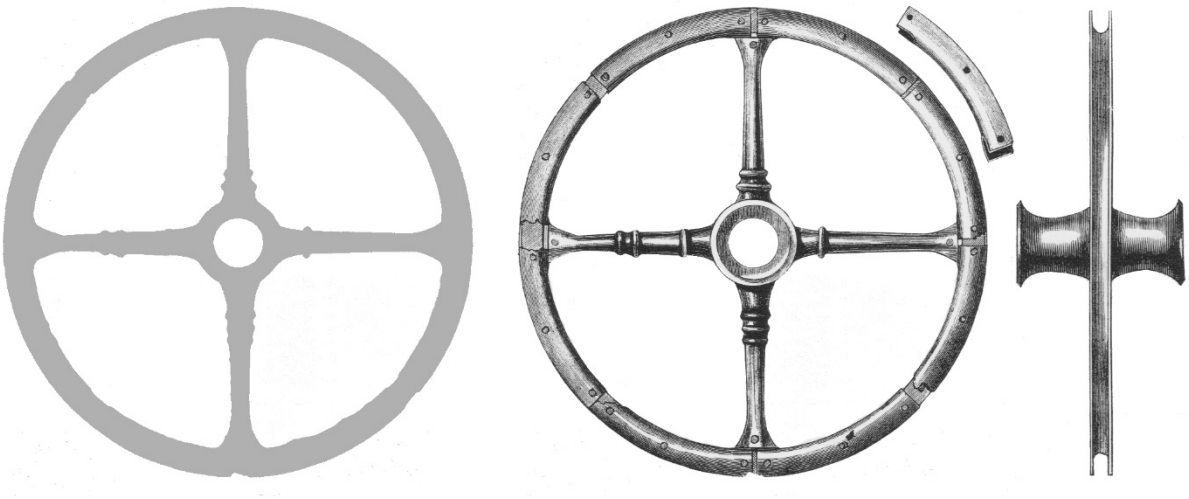

Fig. 8. Hoard/ritual deposit from Arcalia, Bistriţa district, Romania with two bronze wheels with 70 cm diameter (graphic L. D. Nebelsick after Hampel 1886, pl. 59,2a; Pare 1987, 36 fig. 13).

[24] The problem of absolute chronology remains. Because no associated finds can date the bronze wheels from Arcalia and Obišovce, it is difficult to determine if they were really produced ca. 200 years later than the vessel from Vel'ke Raškovce. I would like to assume this on grounds of hoarding practice and ceramic typology which cannot be explained in this article in detail.

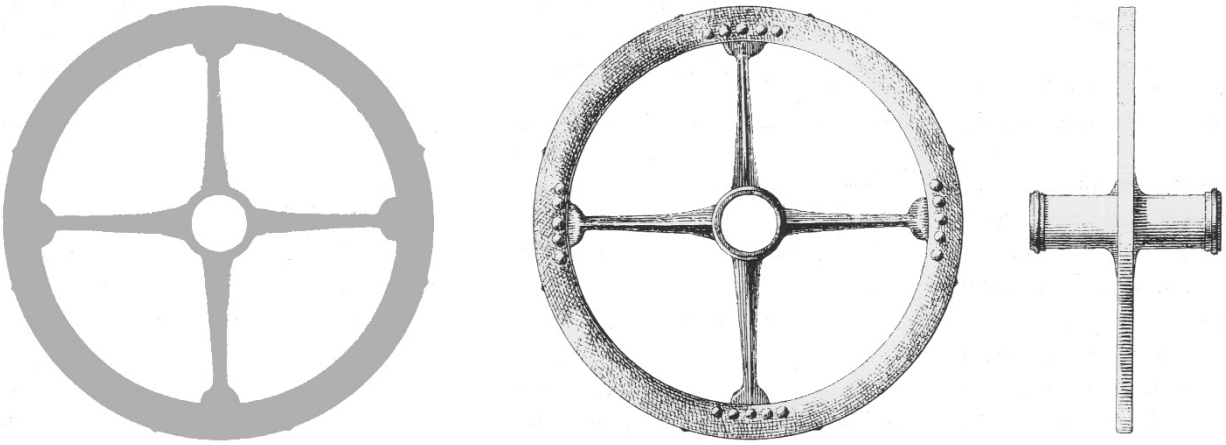

Fig. 9. Hoard/ritual deposit from Obišovce, Košice district, Slovakia with two bronze wheels with 55 cm diameter (graphic L. D. Nebelsick after Hampel 1886, pl. 59,1; Pare 1987, 33 fig. 10).

In the western Carpathian Basin, i. e. the eastern Hallstatt culture, early Iron Age burials with wagons are rare (Pare 1992). In the eastern Carpathian Basin, however, we find chariots and horses buried together in the Scythian period cemetery of Szentes Vekerzug in southeastern Hungary (Chochorovski 1985; Teleaga 2017). Also, in the late Hallstatt to early Latène period (6th to 5th c. BCE) in northeast Croatia and northwestern Serbia or Slovakia, bridled and unbridled horses are known either as single or double burials (Kmet'ová 2017; 2018). Interestingly, the charioteers or riders are not present in those graves. The notion that these customs may have been a faint reflection of the previous chronologically very distant practices, described in this article, is an appealing idea that cannot, however, be proven through archaeological research.

This overview had the intention to present the current state of knowledge concerning an eminent aspect of transcultural practices in combination with some new ideas.

I hope to have shown that, despite difficulties and restrictions by the fragmentary state of available information, to reconstruct the distant past or life and believes in Distant Worlds is always worth trying.

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