

The Deposition of History in Prehistory: Copper Objects on Sites and in the Landscape

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A variable proportion of finds from the Neolithic and Chalcolithic of ‘Old Europe’ has come from places outside settlements, cemeteries, production sites, ritual sites, or caves. Such finds tend to be described as ‘chance/isolated/single/stray’ finds or, when in groups, as ‘hoards’. The frequent, modernist cause invoked for these finds is that they were either ‘hidden’ in times of mortal danger, represented a ‘gift to the gods’, or simply ‘lost’. One reason for these explanatory shortcomings is the over-attention to the types of objects deposited in the landscape and the frequent lack of attention to the often-distinctive place of deposition. We believe that we have misnamed, overlooked, or not accurately characterised an entire class of sites, which we term ‘landscape deposition sites’, whose defining feature was the transformation of a place by the deposition of a significant object or group of objects to create a qualitatively different place. The creation of such landscape deposit sites varied in time and space throughout Old Europe, but all sites were affected by this new dimension of the extended cultural domain.

In this article, we consider the interpretations of metal deposition in North-west Europe and the light they shed on an earlier and geographically different region. The primary aim of this paper is an exploration of the variable relationships between landscape deposit sites and the coeval finds made in special deposits in settlements and cemeteries in the 5th and 4th millennia BC, which will lead to proposed new interpretations of landscape deposition sites.

Keywords: Bronze Age, Europe, copper objects, deposition, landscape, stray finds, hoards

A major find class in the whole of prehistoric Europe is constituted by objects variously characterised as ‘chance finds’, ‘isolated finds’, ‘single finds’ or ‘stray finds’ or, in the case of group finds, as ‘hoards’. Such finds are perhaps more common than we suppose: the statistic for the deposition of copper axes in Romania reaches 65% (Vulpe 1975), an estimated 80% of all Irish stone axes known up to 1998 have been classified as stray finds (Cooney & Mandall 1998, 34–5 & fig. 3.4), while only 4% of bronze axes in the Bronze Age of the southern Netherlands was found during excavation (Fontijn 2002, 3). Until recently, prehistorians could attribute an archaeological context to few of these finds (eg, the torcs found at Snettisham, Norfolk, England, now recognised as deriving from shallow pits within a ritual enclosure: Stead 2014; cf. examples in Bradley 2017), while many finds recorded in the *Prähistorische*

Bronzefunde series can be sourced at only the national or county levels (eg, the flat axe no. 63, found in ‘Hungary’: Patay 1984, 27). Talking of the Bronze Age, Hansen (2013a, 371) describes such finds as ‘offerings without the temple’.

Traditionally, it has always been difficult to deal with these finds. Childe’s view typified that of the majority: hoards ‘are thus valuable for synchronising types but otherwise of no special interest’ (Childe 1930, 44, as quoted in Fontijn 2002, 3). In the days of contextual archaeology, such findspots became even more resistant to interpretation. The extent of attention bestowed on ‘stray finds’ was often proportional to their artistic or typological singularity (eg, the fascinating Plakuder hoard of 12 copper cruciform axes bound together with copper wire: Todorova 1981, 14).

In this article, we draw upon a well-developed body of research in North-west Europe pertaining largely to the Bronze Age and consider how well the interpretations of these data fit the forms of deposition in another area. We focus on metal deposition in

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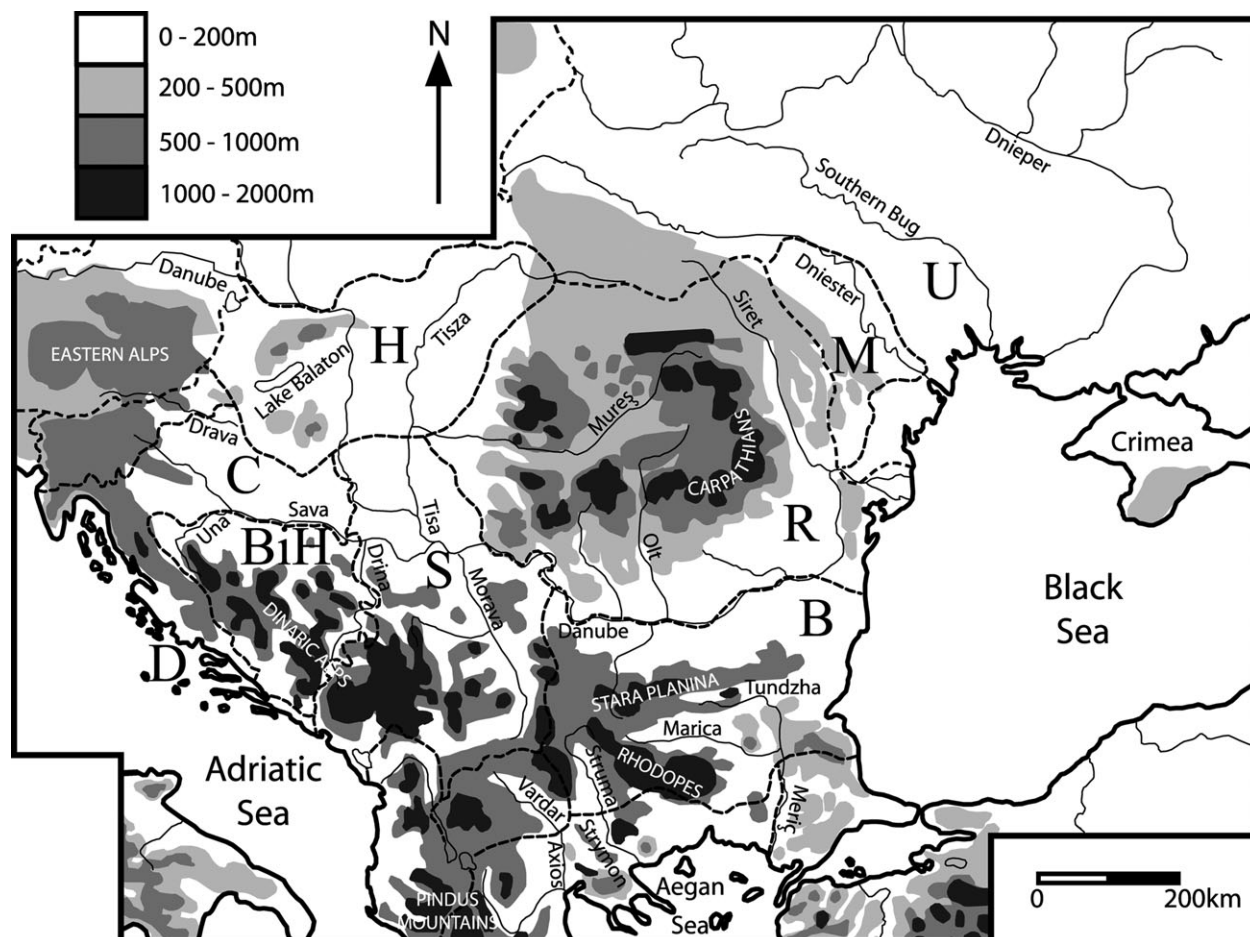


Fig. 1.

Map of the study region: (B) Bulgaria; (BiH) Bosnia–Herzegovina; (C) Croatia; (D) Dalmatia; (H) Hungary; (M) Moldova; (R) Romania; (S) Serbia; (U) Ukraine; (Drawn by L. Woodard)

‘Old Europe’ – a term adapted by Gimbutas (1974) to describe the Neolithic and Chalcolithic of former-Yugoslavia, Albania, south-east Italy, Greece, Bulgaria, Romania, Hungary, and Ukraine (cf. Anthony & Liu 2010) (Fig. 1). We use this term in an inclusive geographical sense, rather than any combination of the terms ‘the Balkans’, ‘Central’, ‘Eastern’, or ‘South-east’ Europe. Given the patchy previous research on metal deposition in Old Europe, the primary aim of this paper is to present a preliminary exploration of the relationships between metal deposition sites of varying content and their landscapes. The results of this study will lead to the second aim – the formulation of new insights into the meaning of landscape deposition in Old Europe. Our main concern is the metal finds deposited in the landscape, whether as single finds or as hoards. Any

understanding of these finds must take account of copper objects deposited in other places – principally settlements and the mortuary domain. We do not attempt to extend our analysis to cover all other forms of hoards known from Old Europe, whether axe hoards (eg, the Svoboda hoard of jadeite axes, Bulgaria: Pétrequin *et al.* 2017); flint axe hoards (Klimscha 2007; 2011); flint blade hoards (eg, Ostrovul Corbului: Berciu 1939); battle-axe finds (Klimscha 2011); or hoards of gold ornaments (eg, the Hencida hoard: Gaszdupusztai 1967; the Moigrad/Tiszaszőlös hoards: Makkay 1989; Chapman 2000a, 246–54). The Carbunga hoard, with its 851 objects comprising 16 different types and six different raw materials (Dergachev 1998), and the Varna I cemetery, with its massive number of gold and copper finds (Slavchev 2010), have also been omitted from this

study, because the sheer volume of their finds would swamp the conclusions drawn from all other deposits combined.

The seemingly intractable nature of ‘stray finds’ has undoubtedly influenced attempts to account for the phenomenon. Five main explanations have been mooted: markers of destroyed graves or settlements, hidden objects, gifts, object loss, and references to cognitive frameworks. Sherratt’s (1982, 309) idea that many stray copper axe finds were probably derived from disturbed Copper Age graves cannot, even now, be falsified, but the complete lack of associated human bone remains in eastern Hungary and other areas does not support this notion. Such deposition cannot either indicate destroyed settlements, which, in this region, were marked with surface pottery spreads, at least in the plough zone. The second explanation is that stray finds were ‘hidden’ in times of danger, and the reason why they were not recovered was the death of the depositor from enemy action (eg, Dergachev 2002a). The sheer frequency of unrecovered landscape deposits suggests an improbable level of internecine warfare (Keeley 1996) and/or an unlikely level of loss of cultural memory. The third explanation was that the deposition of prestige goods represented a ‘gift to the gods’. However, the association between the thing offered and the god to whom it is offered is problematic on both theoretical and empirical grounds (Hänsel 1997; Hansen 2016; for critique, see Fontijn 2019, chapter 6, 112–17), especially when parallels for Bronze Age deposition are proffered from Classical Greek times. Most importantly, this explanation cannot explain the overwhelming choice of dispersed gift-giving rather than giving in settlements (eg, the Omurtag hoard, deposited on the tell in north-east Bulgaria: Gaydarska *et al.* 2004). The fourth explanation is that these objects have been ‘lost’ – as if a large copper axe or ten flat axes could easily have been mislaid! (For an example of a 3.645 kg copper axe, see Patay 1984, 48.)

The fifth group of explanations, and the most recent, is derived from the idea that the deposition underpins communities’ cosmological ideas. One example deals with people’s cognitive geographies (Bradley 2017, 7). This may include the position of the finds, or their associations, relating to the group’s cosmology (Lund 2006). An example of this explanation concerns a tiered Bronze Age cosmology of sky–earth–underworld, in which bronze hoards or single objects were preferentially placed on prominent high spots (near the sky) or

near springs and aquifers (linked to the underworld) (Dunkin *et al.* 2020). A second, more general form of cosmological explanation has been advanced by Mary Helms (2012). Helms (2012, 107) suggests that since raw materials had been obtained from the earth, metalworkers felt it proper to return some of that metal to the earth as a way of ‘nourishing’ it, sustaining the generative processes of the cosmos and perpetuating an ordered and active social life. Helms (2012, 110) understands deposition as ‘carefully planned expressions of notable human activities, chiefly and otherwise, purposely intended to manipulate cosmic processes for the ultimate benefit of human communities.’

One reason for the first four explanatory shortcomings is the over-attention to the types of *objects* deposited and the (sometimes unavoidable) lack of attention to the *place* of deposition. A general critique of these ‘explanations’ for hoarding is provided by Fontijn (2002, chapter 2), who emphasises that selective deposition is scarcely covered in these traditional explanations, any more than in the prestige goods theory of hoards. By contrast, an explanation foregrounding cognitive geographies is based upon detailed correlations of specific types of bronzes with particular kinds of landscape features – a finding which can be investigated in Old Europe. Helms’ cosmological explanation also offers a general perspective which may be relevant to depositional practices in Old Europe.

PREVIOUS STUDIES OF METAL DEPOSITION IN OLD EUROPE

One of the very few authors placing settlements, cemeteries, and landscape deposits on the same map was Sherratt (1982, 309 & fig. 14), whose map of (Middle Copper Age) Bodrogkeresztúr finds in eastern Hungary showed a settlement focus on first-terrace locations, as well as a widespread extension of landscape deposits beyond the placing of settlements and cemeteries into the dry interfluves. However, Sherratt’s attribution of metal deposits as the remains of destroyed graves limited his understanding of the phenomenon.

A long-term trajectory of landscape deposits, with a special focus on hoards, was developed by one of the current authors (Chapman 2000a). Deposition began on a small scale in the early farming period, with the Kraljevo axe hoard found in a Starčevo vessel outside its parent site (Ljamić-Valović 1986). All other known Neolithic hoards were placed within domestic settlements (Chapman 2000 a, 246–7).

Landscape deposition continued on a small scale in the later Neolithic, with most hoards deposited in settlements (Chapman 2000a, 246–7) but with a hoard of 20 complete *Spondylus* bracelets and a flint flake placed in open country near Kozhlužde (Gellert & Garscha 1930). The expanded scale of landscape deposition was a major feature of the 5th millennium BC, with far more large shaft-hole copper axes being placed in a wide variety of ‘natural’ places than in settlements (Chapman 2000a, 247–54). Single tools were by far the commonest type of landscape deposit in each region. Outside the relatively few settlements known in the 4th millennium BC in the central and western Balkans and the Carpathian Basin, people were depositing copper axes – at first more shaft-hole in form, later more flat axes – in many parts of the landscape. In most, if not all, regions, there were more landscape deposit sites than deposits of copper objects in ‘settlements’.

A researcher who has approached metal deposition in the 5th and 4th millennia BC with the insights garnered from the Bronze Age phenomenon that has formed the main focus of his research is Svend Hansen (eg, Hansen *et al.* 2012). His appreciation that deposition had not only ritual significance but also political, economic, social, and aesthetic resonances (Hansen 2012) led him (Hansen 2016, 199) to characterise hoards as ‘a tangible offering ... whose deposition is the ideal construction of space through social interaction’. He has discussed the places of deposition in terms of Foucault’s ideas of *heterotopias* (Hansen 2012, 40), while moving away from his earlier ideas of hoards as ‘gifts to the gods’ to a more nuanced position of ‘gifts to unknown powers’ – as ‘offerings without temples’ (Hansen 2013a, 371). Hansen has also generalised Bátor’s (2003) illuminating recognition of contextual differentiation in the deposition of axes, with large, heavy shaft-hole axes placed mostly in graves in the Caucasus and the North Pontic region but in settlement hoards or in the surrounding landscape in the Carpathian Basin (Hansen 2011). Moreover, Hansen (2013b) has been sensitive to the special qualities of the larger-than-usual deposits of forms such as shaft-hole axes or gold discs in Balkan deposition. Many of these insights are of great value in the understanding of landscape deposition.

An inclusive approach to metalwork is exemplified by the work of Tobias Kienlin (2010), who treats the

full corpus of finds as the unit of analysis, drawing inferences from the total distribution and making generalising chronological assumptions, supplemented by the metallographic analyses of a small sample of copper axes. Although Kienlin has not considered the landscape context of metal deposition, his approach has influenced our inclusive analyses of metal deposition.

A welcome exception to the lack of focus on the landscape context of deposition can be found in the recent study of the Copper and Bronze Ages metal deposition from the Danube to the Po (Neumann 2015). Neumann examines the distribution of deposition sites in relation to palaeo-environmental changes and in terms of the precision of available contextual information. There is only a small percentage of landscape deposits which can be accurately related to special places such as crevices, cliffs, springs, bogs, or rivers. Neumann (2015, chapter 6) also identifies the Copper Age as the start of what he calls long-term ‘ritual deposition’ in selected landscapes, such as the Hohe Wand, Austria. Unfortunately for our study, Neumann records that only eight Copper Age metal hoards are known from western Hungary and Slovenia, rendering problematic any general conclusions about the Copper Age. The evaluation of the possibility that areas now categorised as ‘wetlands’ were once dry areas in prehistory, or *vice versa*, remains difficult to achieve with current palaeo-environmental data.

Neumann’s research reminds us of how depositional acts marked out significant places in the landscape which would have attracted prehistoric communities exploring their environs. Interestingly, the four clearest examples of such places concerned ornament deposition: the rocky landscapes of the Hohe Wand cliff above the village of Stollhof (Angeli 1966) and the Kotouč peak near Štramberk (Jisl 1967), in contrast to islands in Carpathian wetlands – the Hencida islet in the Berettyó floodplain (Patay 1984) and the Tenja island with its hoard of six gold discs in the Palacsai marsh, near Osijek (Hansen 2014). These deposits suggest deliberate associations with significant landmarks, bringing the ornaments into a relationship with the landmark in both time and space.

The emphasis on special places and their close relations with specific kinds of offering has been discussed by several authors (Cooney & Mandal 1998; Thomas 1999; Bradley 2000; 2017; Fontijn 2002; 2007) for different regions and periods of the prehistory of North-west Europe, with their research based on detailed analysis of the contents of the deposits and

their places of deposit. The only general summary of selective deposition in Old Europe in this field of interest appeared in the pre-Bronze Age section of David Fontijn's (2019, chapter 4) book on the economies of destruction. Here, Fontijn (2019, 81) poses the question 'was there a pre-Bronze Age "metallization" of depositional practices?' He answers positively, noting the increase in the number of hoards and the creation of many new metal valuables, which increasingly came to dominate certain depositional contexts. Recognising that metal objects now became the 'main players', Fontijn (2019, 90) asserts that 'the burial of metalwork in the landscape had become a significant and exclusive social practice in its own right.'

This summary of the principal research on landscape deposits reveals a growing awareness of the significance of metal deposition in the landscapes of Old Europe. However, there is still lacking an overall evaluation of the relationship between such depositional acts and their landscape context. In the remainder of this article, we make a preliminary, broad-brush attempt to investigate such a relationship and develop a sense of its cultural meaning.

SAMPLING AND BASIC TERMS: TYPES OF STRAY FINDS – LANDSCAPE FORMS

The question of the data sample is of obvious importance for such a study. An obvious source was those *Prähistorische Bronzefunde* volumes (henceforth 'PBF') relevant to the Chalcolithic of Old Europe. Of the 187 PBF volumes published in the first 50 years of the series (1969–2016) (Jockenhövel 2016), six volumes concerned copper tools (in chronological order, Vulpe 1975 for Romania; Todorova 1981 for Bulgaria; Patay 1984 for Hungary; Žeravica 1991 for Dalmatia, Croatia and Bosnia–Hercegovina [abbreviated to 'Croatia' for convenience in the following analyses]; Dergachev 2002b for Moldova and Ukraine; and Antonović 2014 for Serbia). Two volumes record Chalcolithic ornaments (Petrescu-Dîmbovița 1998, publishing ornaments from the Romanian Copper and Bronze Ages, and Todorova & Vajsov 2001, concerned exclusively with the Bulgarian Chalcolithic).

The publication of the earliest volume (1975) predates the latest volume (2014) by almost 40 years, leaving us with severe fluctuations in the published listings. Nonetheless, the PBF volumes provide an unrivalled snapshot of copper finds in Old Europe. Updating each of the eight volumes would require a

massive research investment, beyond the scope of this preliminary analysis. That hoards continue to be found is shown by the recent doubling of the number of Trypillia-Cucuteni hoards through the work of metal detectorists in the hill-country of western Ukraine (Dergachev 2016); however, the lack of provenance of any of these hoards detracts from their value. One cross-check on completeness was possible by comparing the objects recorded in Patay (1984) as deriving from what the Hungarians term 'the Carpathian Basin' (viz., the current territory of Hungary, plus those parts of pre-Trianon Hungary now in other states) with the list of the same objects published in Vulpe (1975) for Romania. The resulting 100% match between the two volumes gives us some confidence as to the scholarship of the PBF authors. The unavoidable reliance on 20th or 21st century state boundaries in the PBF volumes does not make a major difference in our analyses of geographical zones.

The designation 'hoard' in Old Europe has traditionally been applied to groups of two or more objects. Following the example of single Iron Age gold coins being treated as 'deliberate deposits' in the same way as groups of two or three coins (Haselgrove 1993, 50), the validity of treating a single large, heavy copper axe as a 'hoard' of metal has been considered. If the heavy object comprised re-melted copper from a variety of former objects, the designation of a 'single-object hoard' makes sense as signifying the embodiment of a deep and complex past. Taylor (1999) discusses the key role of re-melted copper in transforming objects into different objects. However, in a well-studied area such as the southern Netherlands, single items were often of different types than multiple-object hoards and moreover deposited in different locations (Fontijn 2002). We shall continue to treat single-item deposits as just that, rather than hoards.

The type of site in which the deposit was made also raises issues of definition: for example, hoards were deposited in settlements as well as in the landscape, while mortuary deposits (ie graves) were major foci of depositional attention. We decided to use four site types for the inter-regional comparison: stray finds (viz., single finds), landscape hoards, settlement finds (including single finds and hoards), and mortuary deposits. Some of the strongest regional patterning concerned depositional preferences for site types.

There are two basic variables in landscape deposits of copper objects – the number of objects (Fig. 2) and the typology of the objects (Fig. 3). The number of

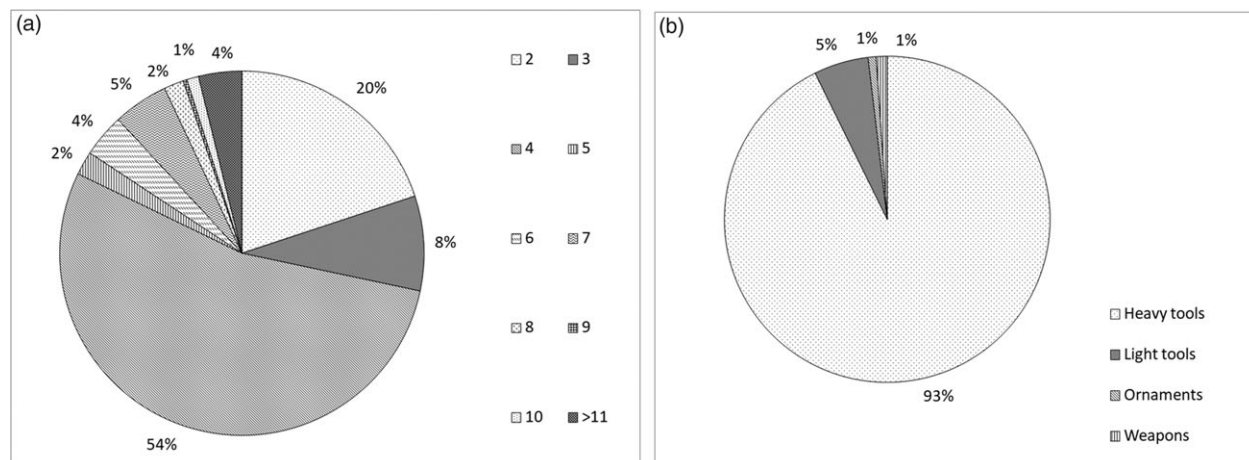


Fig. 2.

(a) Distribution of number of objects per deposit, total sample; (b) number of heavy and light copper objects, weapons, and ornaments in the total sample (Source and drawing: B. Gaydarska)

objects varies from one (eg, the single copper axe placed in the landscape at Archar, near Vidin: Todorova 1981, 42) to 22, with the distribution skewed towards the smaller numbers (Fig. 2a). The hoard of 22 items (18 flat axes and 4 hammer-axes, total weight: 11.6 kg) was found at the locality of Sara Kaya near the village of Polkovnik-Taslakovo (Silistra region) in the lower Danube valley (Chernakov 2018).¹ This judgment excludes, on chronological grounds, the hoard of perhaps as many as 55 Banyabik axes from Vâlcele, which is most likely to date to post-3000 BC (Szeverényi 2013). It is a regrettable aspect of the data that the weight of objects in a hoard is rarely recorded (but NB: Chernakov's 2018 publication of the Polkovnik-Taslakovo hoard, with weights given for each copper axe).

A total of 21 object types has been included in this study: eight heavy tools, nine light copper objects, and four ornaments (Fig. 3). The wide range of sample sizes in the six PBF volumes prioritises a 'lumping' approach rather than a 'splitting' strategy for the typology of the objects; thus, all variants of shaft-hole axes have been listed as the basic type 'shaft-hole axe'.

Given the wide range of settlement and mortuary finds for each object type, the essential feature of landscape deposits – their lack of association with settlement features – complicates any secure chronological attribution. There are regrettably few instances of settlement and mortuary finds with securely associated samples for AMS dating. One exception is the Varna cemetery, where 53 graves have been dated, of which 39 contained

copper objects (cf. the copper objects in Todorova's 1981 list with the AMS dates in Higham *et al.* 2018). Another concerns the AMS dates for Tiszapolgár and Bodrogkeresztúr cemeteries (Raczky & Siklósi 2013; Neumann 2015), while yet a third concerns the Lengyel graves at Alsónyék (Bayliss *et al.* 2013). Otherwise, the broad range of possible dates for most object types – spanning almost two millennia (4800–3000 BC) – makes it risky to attempt chronological subdivisions of the PBF samples.

The designation of the form of landscape in which a deposit was made takes Old European archaeologists into a territory with which many are unfamiliar. While most practitioners have opted for the individual settlement as their object of study, using fieldwalking as a means of discovering more settlements (eg, most volumes of the Hungarian Archaeological Topography: Laszlovszky with Chapman 2004), there are relatively few studies which take the landscape as the unit of analysis, using fieldwalking as a method of recovering diachronic settlement patterns (eg, Chapman *et al.* 1996; Bailey *et al.* 2002; Chapman 2004; Krauß 2006; Gaydarska 2007; Ross *et al.* 2018). Thus, the categorisation of small areas of the landscape in terms of discrete environmental variables has rarely been attempted (but see Neumann 2015). At the outset, we acknowledge the paucity of evidence on riverine deposition, such as was common in other parts of Europe (an obvious example is the River Thames, with its distinctive concentrations of deposits in London but in other parts of the catchment too (Needham &

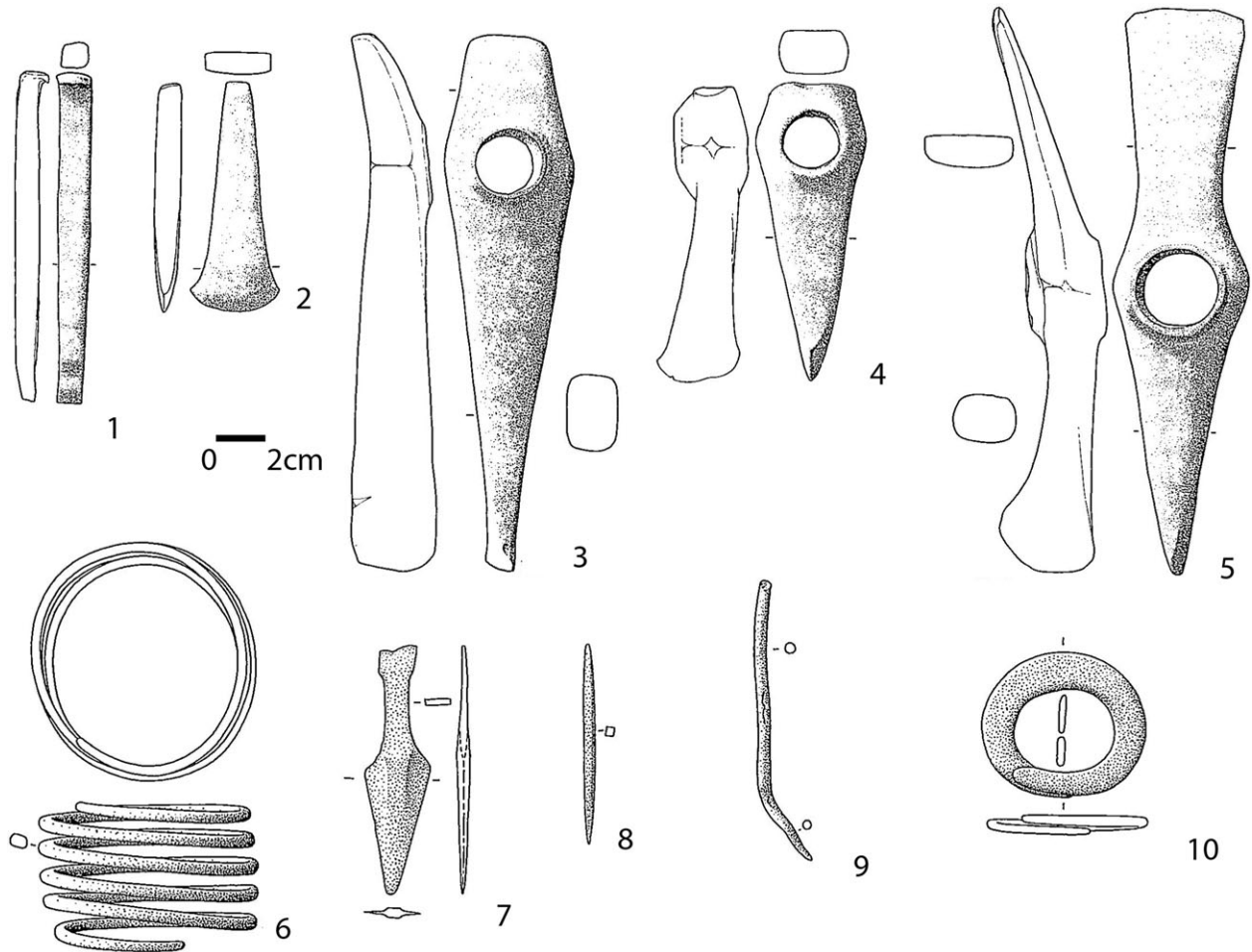


Fig. 3.

Types of copper objects included in the study: (1) chisel, Újszentmargita: Patay 1984, Taf. 1/6; (2) flat axe, Egerszalók: Patay 1984, Taf. 4/54; (3) hammer-axe, Kisköre: Patay 1984, Taf. 9/156; (4) fragmented hammer-axe, Szob: Patay 1984, Taf. 51/525; (5) shaft-hole axe, Szarvas: Patay 1984, Taf. 30/344; (6) spiral bracelet, Carbuna: Dergachev 2002a, Taf. 3/54; (7) dagger, Cucoara I: Dergachev 2002a, Taf. 9A/1; (8) awl, Iablona I: Dergachev 2002a, Taf. 9J/2; (9) borer, Giurgulești I: Dergachev 2002a, Taf. 11/1; (10) solid bracelet, Rusești Noi: Dergachev 2002a, Taf. 8D/12 (Source: B. Gaydarska)

Burgess 1980). One example is the deposition of flat and shaft-hole axes near the mouth of the Kolubara river, Serbia (Antonović 2014, nos 44–46, 168A, 288). But with so little information on Neolithic or Chalcolithic deposits made in major rivers such as the Danube, the Maritsa, the Tisza, or the Morava, we have lost much of the potential for contrasts between dry land and wetland deposition so prominent in place-times such as the southern Dutch Bronze Age (Fontijn 2002; 2007) or Denmark (Levy 1982). Likewise, the rarity of organic deposits is part of a vicious research circle, with the scarcity of suitable contexts of preservation in turn hindering the few studies of riverine and wetland deposition.

Thus, as a heuristic measure, we propose the following five-fold categorisation of the landscape:

- wetlands (eg, marshy areas in the Cetinja valley, near Sinj, Dalmatia; the confluence of the Kolubara and the Sava rivers, West of Belgrade, Serbia);
- lowlands (eg, the river terraces of the Great Hungarian Plain or the Lower Danube Basin);
- hill-country (eg, many parts of the Šumadija, Serbia, or the Moldavian piedmont);
- upland areas (eg, the Carpathian mountain chain); and

- rocky areas (eg, rock crevices, peaks, and caves: Angeli 1966).

We acknowledge that these descriptors are a preliminary attempt at a complex task, with more detail required for many findspots (see Fontijn 2019, chapter 7 for a discussion of the subtle differences within even a single peat-bog). It is rare to be able to take local palaeo-environmental change into account in Old Europe (for its significance, see Dunkin *et al.* 2020). There are two additional potentially complicating factors in this categorisation – a topographical issue and a relational question. The former concerns deposits made at the interface between two landscape types (eg, at the foot of the Rhodopes as they rise steeply from the Thracian plain, south Bulgaria), where the practice has been to record the lower of the two landscape forms. The comparison of regions in the study area makes sense only in terms of local topography, so stretches of the river Mureş are classed as ‘lowland’ relative to the surrounding hill-country, even though the Transylvanian part of the Mureş would normally be termed an upland basin.

RESULTS

The two most general statistics relate to the total number of deposits studied – amounting to over a thousand places – and the number of objects in those deposits, comprising almost 1500 objects (Table 1).

Analysis 1: Content of landscape deposits

The first result concerns the types of objects placed in landscape deposits and related depositional types. The vast majority of objects placed in landscape deposits constituted the so-called heavy tools: axes and chisels (Fig. 2b). Smaller objects, such as awls, borers, and (fish-)hooks were also found sporadically, while the vast majority of ornaments was found in settlements, settlement hoards, and the mortuary zone. In the two PBF volumes devoted to Chalcolithic ornaments, including settlement finds, grave goods, and stray finds in the landscape, Petrescu-Dîmboviţa (1998) records two ornaments as stray (*viz.*, unstratified) finds in settlements, while Todorova and Vajsov (2001) record 26 stray ornaments in settlements (4.2% of all settlement finds) and ten stray ornament deposits in the landscape (1.6% of all landscape deposits). In the remaining six PBF volumes in this study, only ten stray ornament finds were mentioned – all in settlement contexts associated

TABLE 1. NUMBER OF DEPOSITS AND NUMBER OF METAL ITEMS BY COUNTRY

<i>Country</i>	<i>No. of deposits</i>	<i>No. of metal items</i>
Bulgaria	193	250
Dalmatia/Croatia/Bosnia-Herzegovina	49	79
Hungary	277	401
Moldova/Ukraine	75	129
Romania	221	279
Serbia	196	325
TOTAL	1011	1463

with tools. These statistics demonstrate the strong predominance of copper tools over ornaments in the landscape deposits of Old Europe. Since losing ornaments is easier than losing heavy copper axes, this result is a further argument against accidental loss.

We turn now to the analytical findings, starting with the general pattern before looking at regional variability for each analysis. The four principal variables considered here are the type of deposit, the landscape unit of the deposit, the number of items per deposit, and the types of objects in a deposit.

Analysis 2: Distribution of types of deposit &

Analysis 3: Distribution of deposit by landscape unit

Almost 70% of the total of over 1000 deposits were landscape deposits (aka ‘stray finds’), with settlement finds accounting for 15%, graves 11%, and 5% in landscape hoards (Fig. 4). In terms of topography, the majority of deposits (73%) was placed in the lowland zone, even though that zone comprises less than 60% of the landmass of Old Europe, with 21% of deposits made in the hill-country and equally low representation in uplands, rocky landscapes, and wetlands (Fig. 5).

The predominance of landscape deposits is clear from four of the six regional distributions (Analysis 2: Fig. 4). The two exceptions – Bulgaria and Moldova and Ukraine – indicate strikingly different patterns, with deposition in the former more or less equally divided between settlements, graves, and the landscape and a predominance of settlement deposits with very few graves in the latter. There were low incidences of landscape hoards in four of the regions, reaching 12% only in Croatia and Romania, while mortuary deposits were almost absent in Croatia and Serbia, and rare in

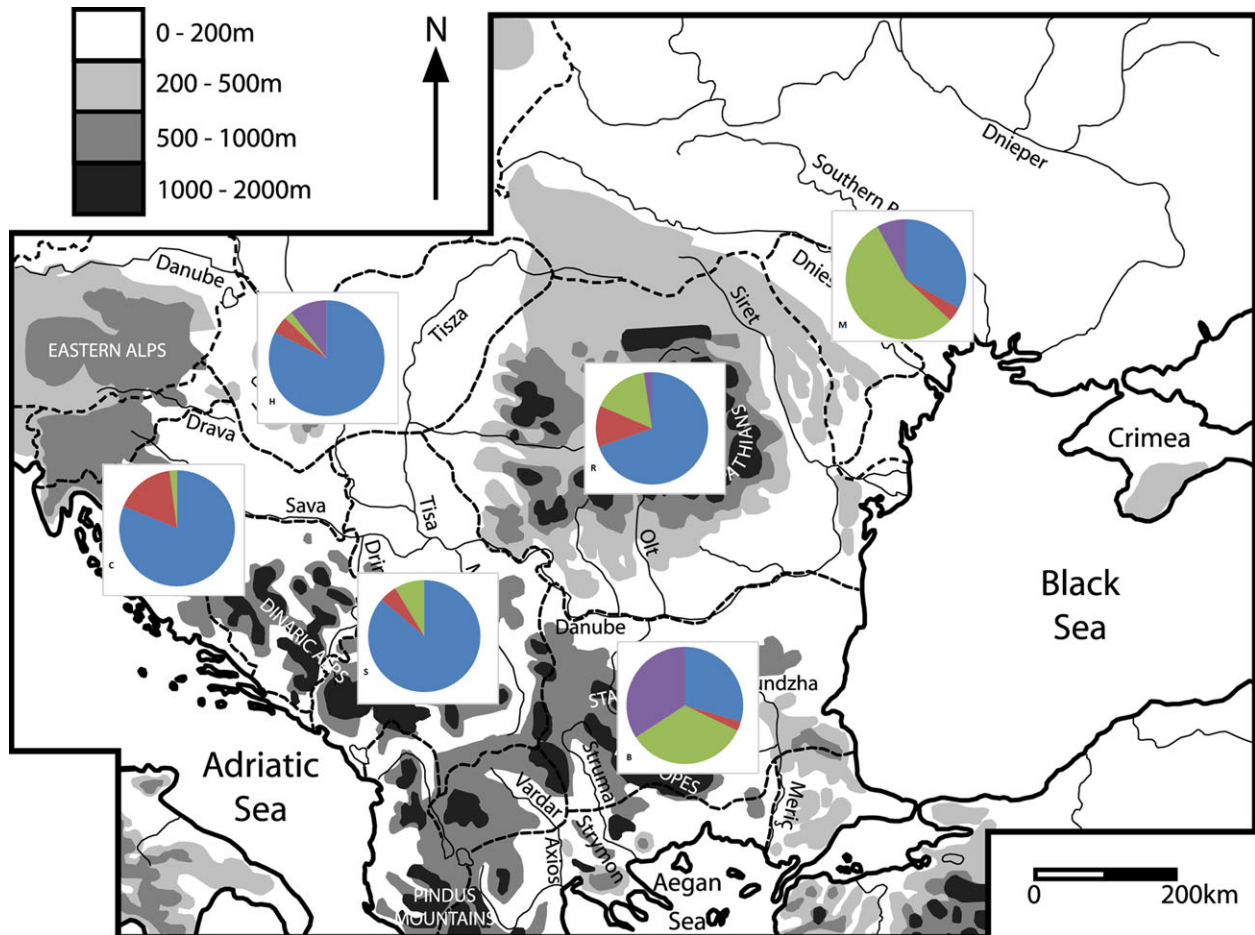


Fig. 4.

Analysis 2: regional variations in types of deposit. Total sample, n=991; (B) Bulgaria, n=211; (C) Croatia, Dalmatia & Bosnia-Herzegovina, n = 76; (H) Hungary, n = 196; (M) Moldova & Ukraine, n=48; (R) Romania, n=253; (S) Serbia, n = 266. Key to pie-charts: blue: stray finds (landscape deposits); red: landscape hoards; green: settlement finds (single finds & hoards); purple: mortuary finds (Source: authors. Drawn by B. Gaydarska)

Romania. The relative importance of funerary deposits in Hungary, at 11% compared with earlier periods, indicates the strengthening of the mortuary zone from 4500 BC onwards.

When it comes to the places in the landscape favoured for depositional practices (Analysis 3: Fig. 5), there is a clear preponderance of the lowland zone in all regions, with particularly strong emphases (over 75%) on lowland sites in Bulgaria, Hungary, and Moldova and Ukraine. This is not such a surprise in Moldova and Ukraine, with their extensive loess-covered lowlands and scarcity of uplands outside the Carpatho-Ukrainian mountains. However, the significance of the three principal mountain ranges – the Rhodopes, the

Sredna Gora, and the Balkan range – which structure the topography of Bulgaria suggests a deliberate focus on lower-lying places (NB: the deposition of Karanovo VI sherds on the ‘mouth’ of a silhouetted mountain peak South of tell Dolnoslav [pers. comm. A. Raduntcheva] and the discard of Chalcolithic pottery in upland rocky landscapes). Equally, the landscapes of Romania are dominated by the Carpathian range, but unlike in the Bronze Age (Soroceanu 1995), few Copper Age upland deposits are known. The absence of wetland deposits in Bulgaria, Moldova, or Ukraine reflects not so much the absence of suitable wetlands, but rather a research tradition focussed on settlements rather than the wider landscape. By contrast, an important factor in UK

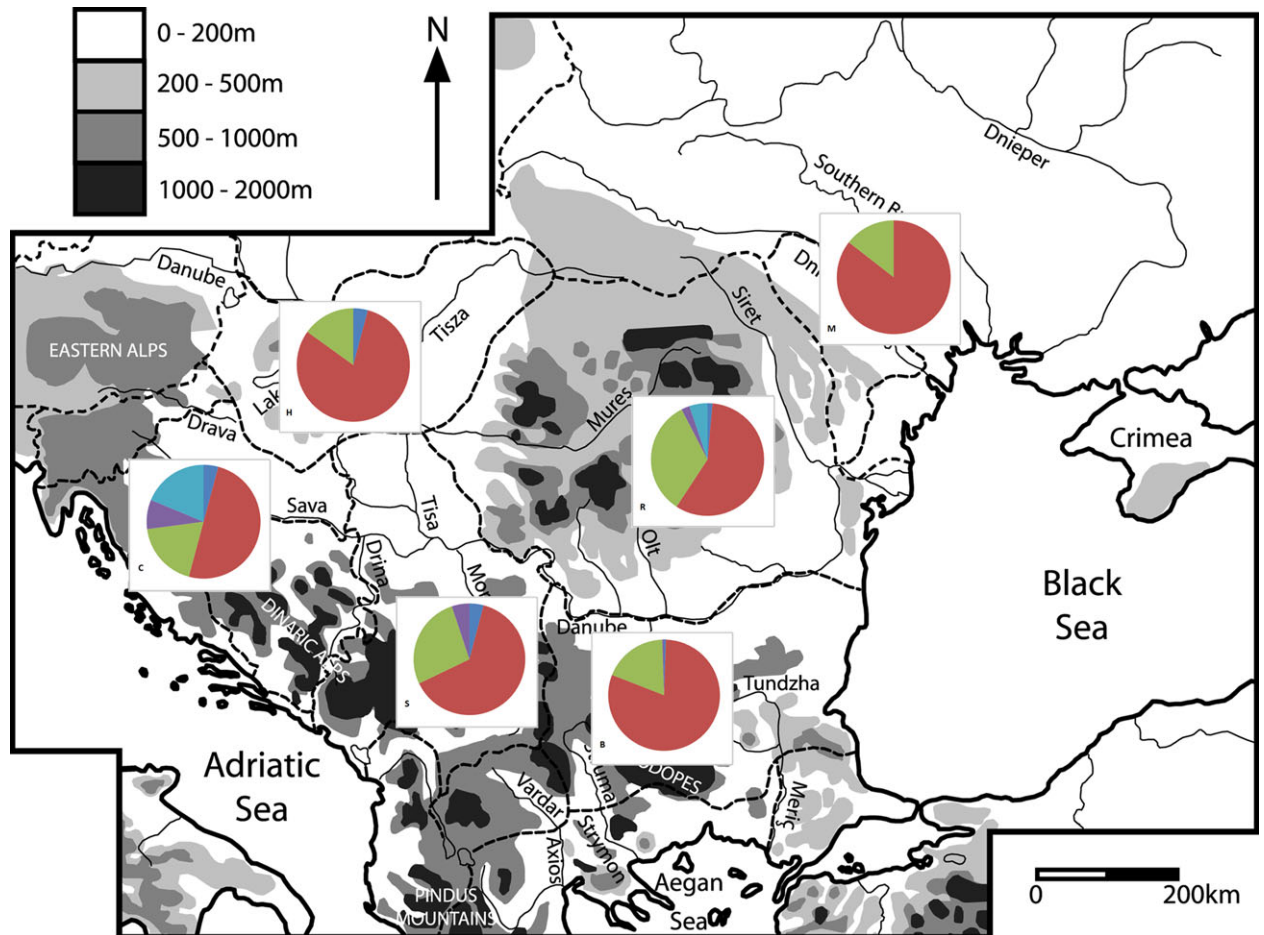


Fig. 5.

Analysis 3: regional variations in the landscape zones of deposits. Key to pie-charts: dark blue: wetlands; red: lowlands; green: hill-country; purple: uplands; light blue: rocky landscapes. Otherwise, key as in Fig. 4 (Source: authors. Drawn by B. Gaydarska)

landscape, and especially wetland, research is the existence of the Portable Antiquities Scheme since 1997 (Bland 2017). Each region in Old Europe shares a medium focus on deposition in hill-country, with the highest incidence in Romania and the lowest in Hungary, Moldova, and Ukraine.

Analysis 4: Deposit type by landscape unit

All four types of deposit were made predominantly in the lowland zone – especially settlement and mortuary deposits. Landscape deposits were made in all of the five landscape units, with many examples in both wetlands and rocky landscapes and hoards with the most diverse distribution (Fig. 6).

The primary reason for the great variations in the regional distributions of deposit types was the absence of deposits in specific landscape units. The most strongly affected were Moldova and Ukraine, with only lowlands and hill-country utilised, but other landscape units were missing in Hungary (no deposition in uplands or rocky landscapes), as well as Bulgaria and Serbia (no deposition in rocky landscapes). Lowland deposition was pre-eminent in every region, most strongly in Hungary, Moldova, and Ukraine and least dominant in Croatia, with its many hoards in wetlands and rocky landscapes. The Croatian penchant for wetland deposition is echoed in Hungary, where more hoards were found there than any other type of deposit. By contrast, a reasonably high

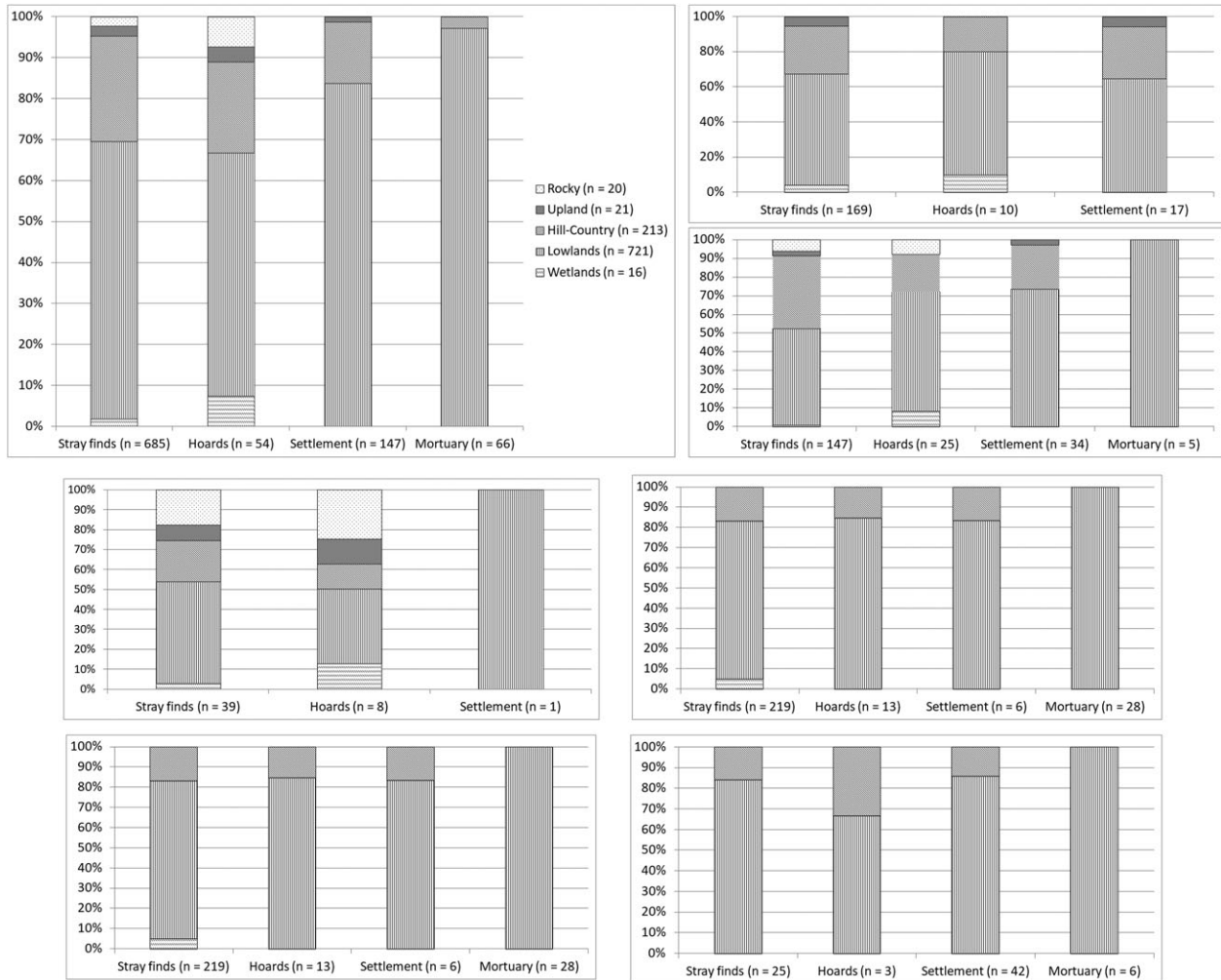


Fig. 6.

Analysis 4: deposit type by landscape unit. Clockwise from top left (Figs 6–9, 11): total sample; Serbia; Romania; Hungary; Moldova; Bulgaria; Croatia (Source: authors. Drawn by B. Gaydarska)

proportion of hoards were deposited in the Bulgarian uplands and the Moldovan/Ukrainian hill-country.

Analysis 5: Number of objects per deposit by type of deposit

The deposits studied here range from one to 12 items, with the vast majority in the lower range (Figs 2a & 7). The relationship between the number of types and variety of raw materials in landscape deposits of two or more items (n=68) shows no patterning. Fully three-quarters of all single-item deposits were placed in the landscape, with occasional items in settlements and

even fewer in graves. The number of items in hoards increased from the smallest hoards to medium-sized hoards of five items and a secondary peak of hoards of over ten items. Both settlement and mortuary finds were patchy across the whole range, with settlement finds concentrating in the lower range and funerary finds more in the upper range.

There are suggestive regional differences in this analysis, in which deposition in Bulgaria and Hungary was dominated by the mortuary domain, the settlement domain predominant in Moldova and Ukraine, and landscape hoard deposition prevailing in Croatia, Serbia, and Romania. Mortuary deposition was absent in Serbia

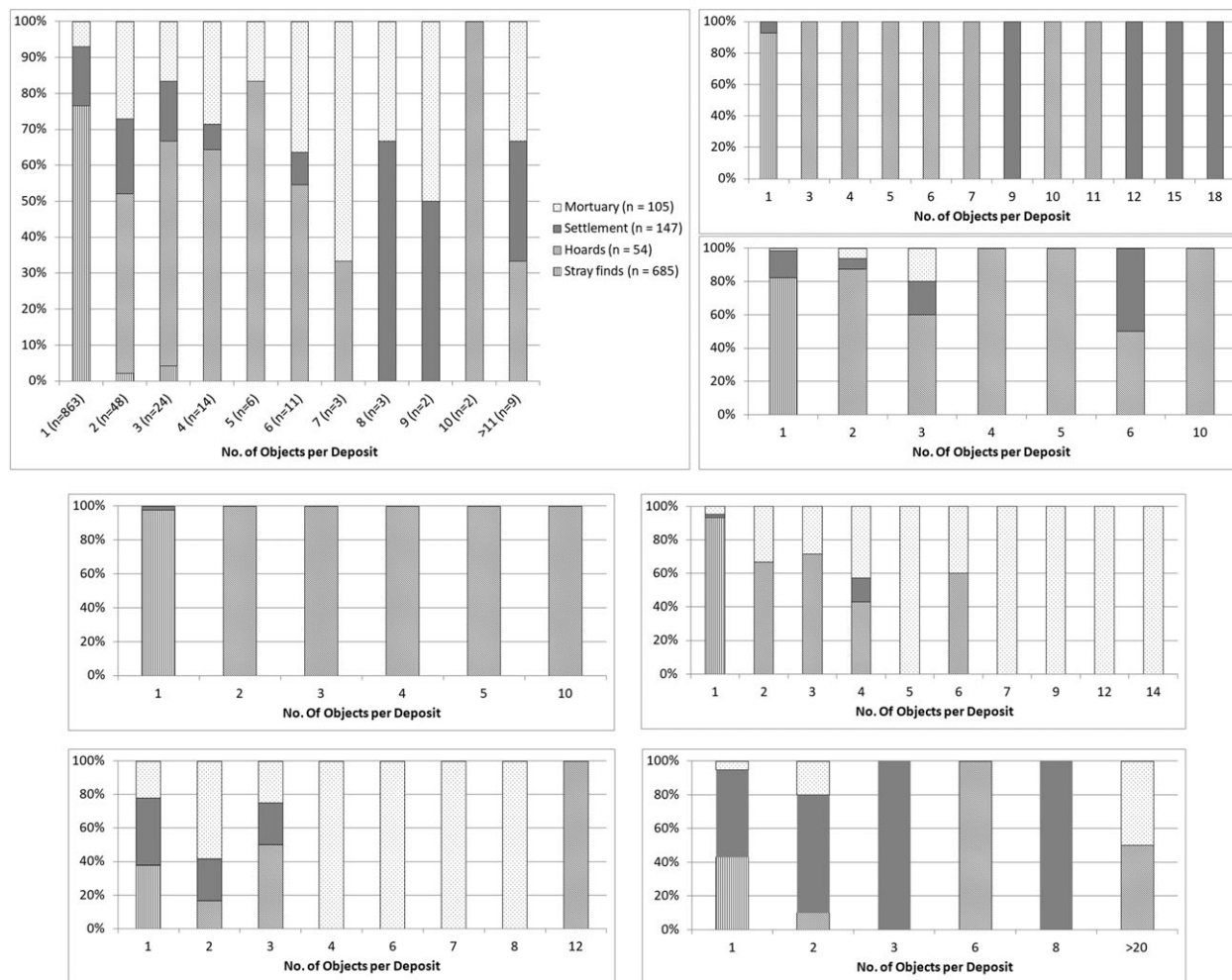


Fig. 7.

Analysis 5: number of objects per deposit by type of deposit (Source: authors. Drawn by B. Gaydarska)

and Croatia and scanty in Romania. The significance of settlement deposition in Bulgaria, Moldova, and Ukraine can be judged by the fact that almost half of single-item deposits were placed in settlements rather than the usual 80–90% in small-scale landscape deposits. Dan Monah (2003) noted that the size and diversity of Cucuteni settlement hoards was greater than in most other regions.

Analysis 6: Number of objects per deposit by landscape unit

Lowland deposition dominated all sizes of deposit, especially in deposits of seven or more. With the exception of a single rocky-landscape deposit with ten items, the sizes of deposits in the remaining

landscape units fell below six items (hill-country), five items (wetland) or three items (the remaining rocky-landscape deposits) (Fig. 8).

The regional patterns fall into two forms: those four regions whose deposition was concentrated in the lowlands (Serbia, Hungary, Bulgaria, and Moldova/Ukraine) and a much more varied placing of deposits in Romania and Croatia. The larger deposits were particularly dominated by lowland places, with all finds with more than four items in Bulgaria and Moldova and Ukraine, and seven in Serbia, found exclusively in lowland places. Hill-country deposition in Romania was more important than in any other region, while all five landscape units received single items in Croatia.

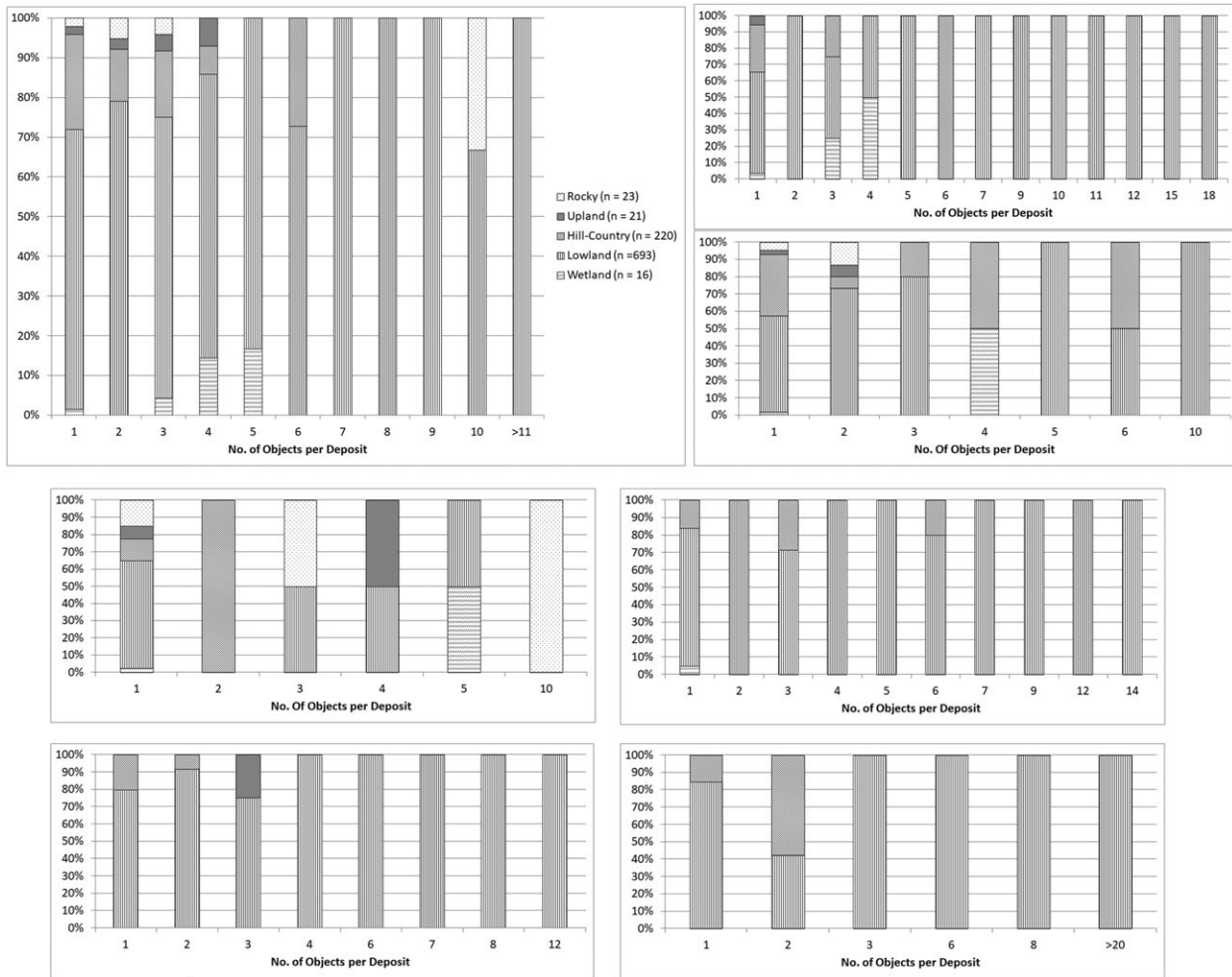


Fig. 8.

Analysis 6: number of objects per deposit by landscape unit (Source: authors. Drawn by B. Gaydarska)

Analysis 7: Object types per deposit by type of deposit
 Sample size affects the overall picture insofar as the commonest object types (awls, chisels, flat axes, hammer-axes, and shaft-hole axes) were found in all kinds of deposits (Fig. 9). Fragmentary axes were found in all but mortuary deposits, underlining the significance of enchainment to other domains, especially for landscape deposits. Complete axes were predominantly found in landscape deposits – always more than half but up to three-quarters of shaft-hole axes. Those types never found in landscape deposits included daggers and ornaments. However, we should not overlook as potential ‘community hoards’ the Hencida ornament hoard (Gaszdapusztai 1967) or the extraordinary Moigrad/Tiszaszólós hoards (Makkay 1989), which

contained several unique objects, including sheet gold figurines, an obsidian bowl, a triple-pronged gold fork, and a gold scabbard tip (for ‘community hoards’: Needham 1989).

The same regional differences found in Analysis 5 recur in this analysis, with a split between regions dominated by landscape deposits (Serbia, Croatia, Romania), a preference for mortuary deposits (Hungary and Bulgaria), and a dominance of settlement finds (Moldova and Ukraine). There are minor variations between regions dominated by landscape deposits, with higher frequencies of all axes in Serbia, lower frequencies in Romania, and the division of axe deposits between single-item and hoard deposits in the Croatian landscape. In Hungary, there is a

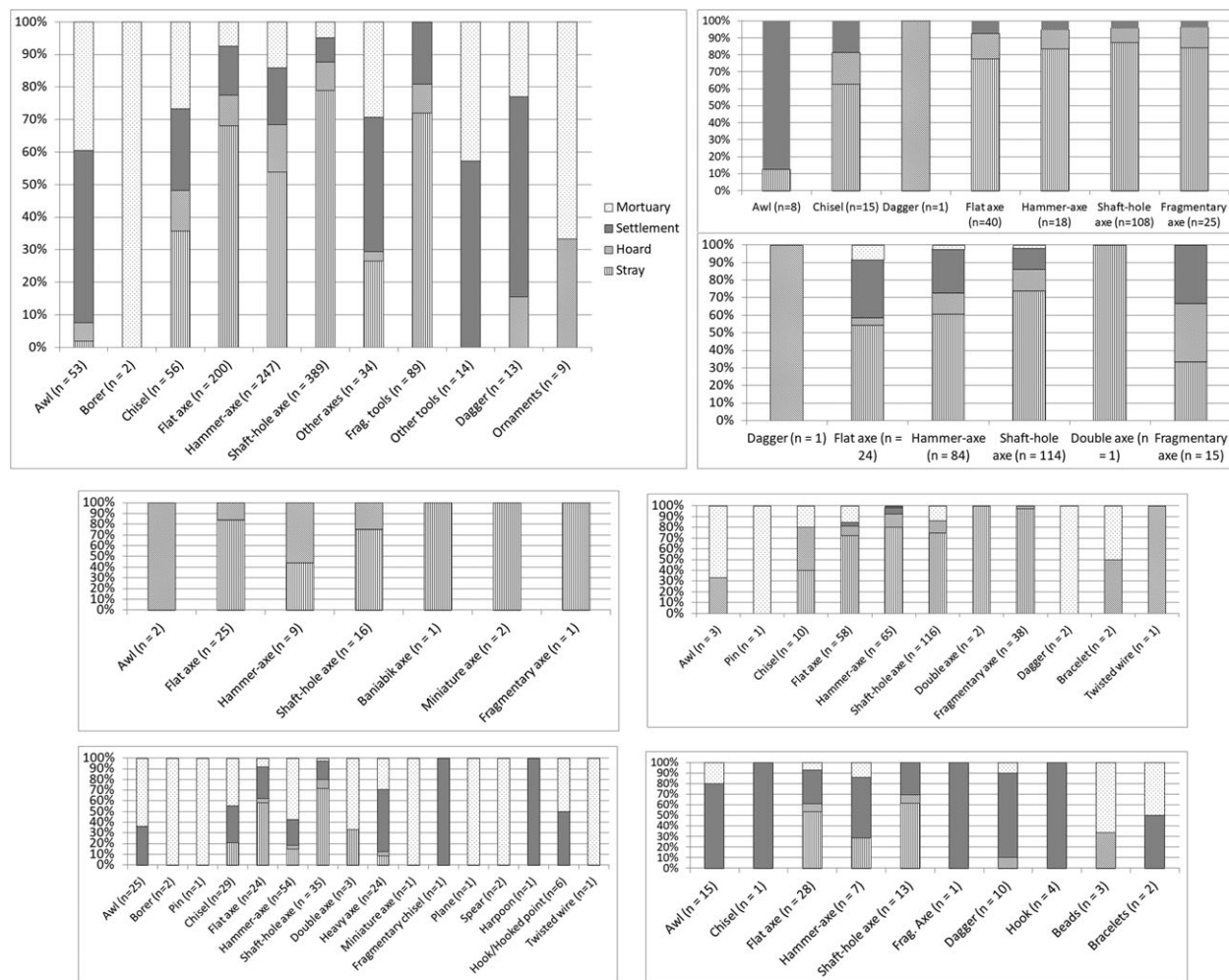


Fig. 9. Analysis 7: object types per deposit by type of deposit (Source: authors. Drawn by B. Gaydarska)

division between axes – mostly found in landscape deposits – and non-axes – mostly found in mortuary deposits with a few in hoards in the landscape. The late forms of axes – the Banyabik and cruciform types – were found exclusively in landscape deposits in Romania (Chapman 2000a, 119). The Bulgarian deposits show a wider range of non-axe types than in any other region, where even hammer-axes were mostly placed in graves and, unusually, heavy axes deposited mainly in settlements. The only types found in landscape deposits in Moldova and Ukraine were axes and, given the paucity of Trypillia grave finds there, there was an unexpectedly high number of types found in mortuary deposits – even some axes, but also ornaments.

Analysis 8: Combinations of object types in deposits
 This analysis adapts Needham’s (2002, fig. 3) tripole combination matrix for the major components of British Bronze Age hoards – tools, weapons, and ornaments. Given the paucity of true weapons such as daggers and spearheads (viz., with nothing but a martial function) in Old Europe, there is a problem in the differentiation of weapons from tools (Fig. 10). Chapman (1999) has discussed the term ‘tool-weapon’ to apply to multi-functional axes (here, hammer-axes and shaft-hole axes). Thus, the third pole of the Old European combination matrices refers to ‘tool-weapons’, with a reference to the few true weapons in these contexts. There is also the problem that only

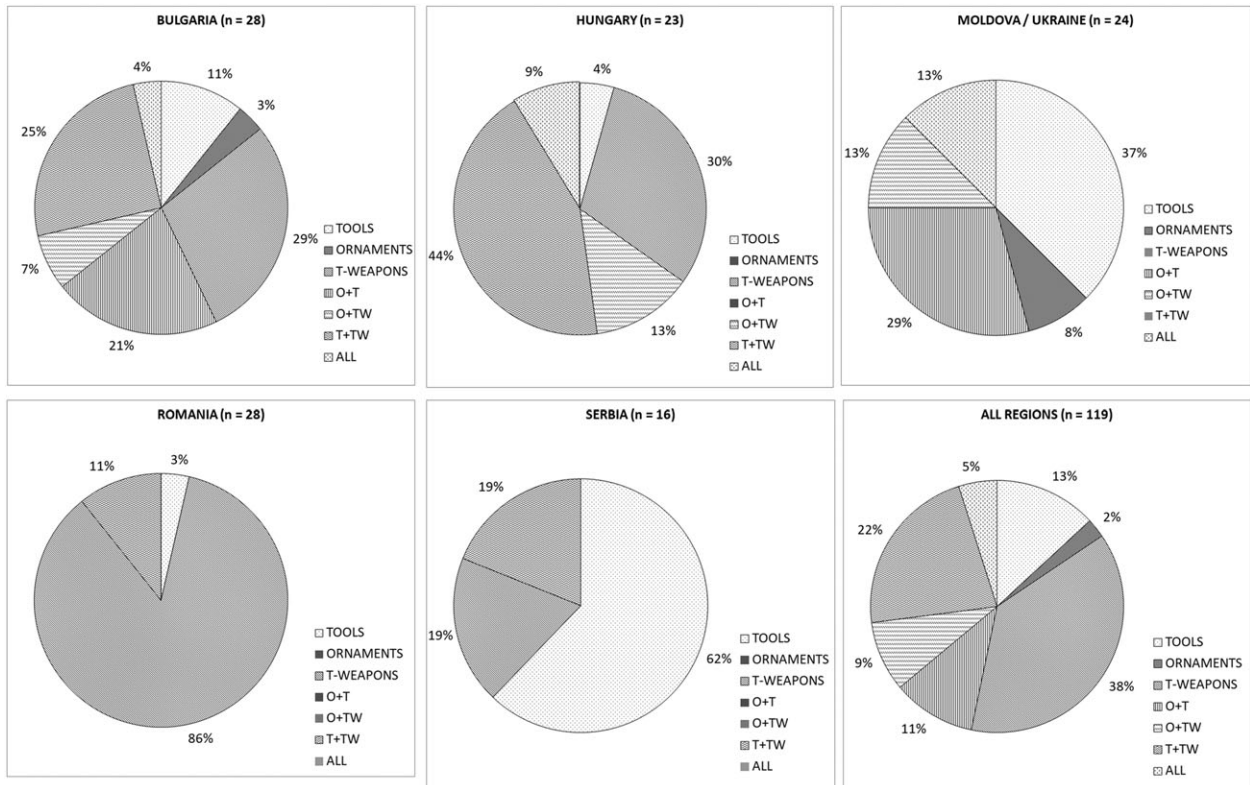


Fig. 10.

Analysis 8: combinations of object types in deposits of 2+ items (Source: authors. Drawn by B. Gaydarska)

two of the study regions have comprehensive lists of ornaments – Bulgaria and Moldova and Ukraine. While the other three regions with large sample sizes – Serbia, Romania, and Hungary – contain references to copper and gold ornaments, we cannot be sure that all of the ornament finds have been included in these volumes’ data.

The results of the simplified combination matrices are presented by region for all deposits of two or more items (Fig. 10). The most significant conclusion is the great regional variability in hoards with only one of the main types, which ranges from 35% in Hungary to 90% in Romania. Another way of expressing this strong preference is to note that only six findspots out of 119 cases contained all three main types – ornaments, tools, and tool-weapons. Not all this variability can be explained by the provision of more reliable data on ornament finds. The most frequent combination was found to be tools and tool-weapons, as found in all regions except Moldova and Ukraine – a finding closely matched to the predominance of hoards of

multiple tool-weapons over those of tools or ornaments.

Analysis 9: Object types per deposit by landscape unit

The final analysis shows as strong a predominance of lowland deposits as in Analysis 6, with only Croatia bucking the trend with a much more varied suite of places. The only type with fewer than 80% preference in the lowlands was the shaft-hole axe (Fig. 11). There were low frequencies of deposition – never reaching 20% – in the wetlands, with only shaft-hole axes reaching 30% deposition in another unit (the hill-country).

Although flat axes and shaft-hole axes were deposited in all five landscape units in Croatia, with hammer-axes in four units, all axes were preferentially placed in the lowlands. This pattern of varied flat axe and shaft-hole axe deposition across the landscape units was shared in Serbia, while no more than half the types in Hungary, Bulgaria, Moldova, and Ukraine were deposited in units outside the lowlands. Occasional

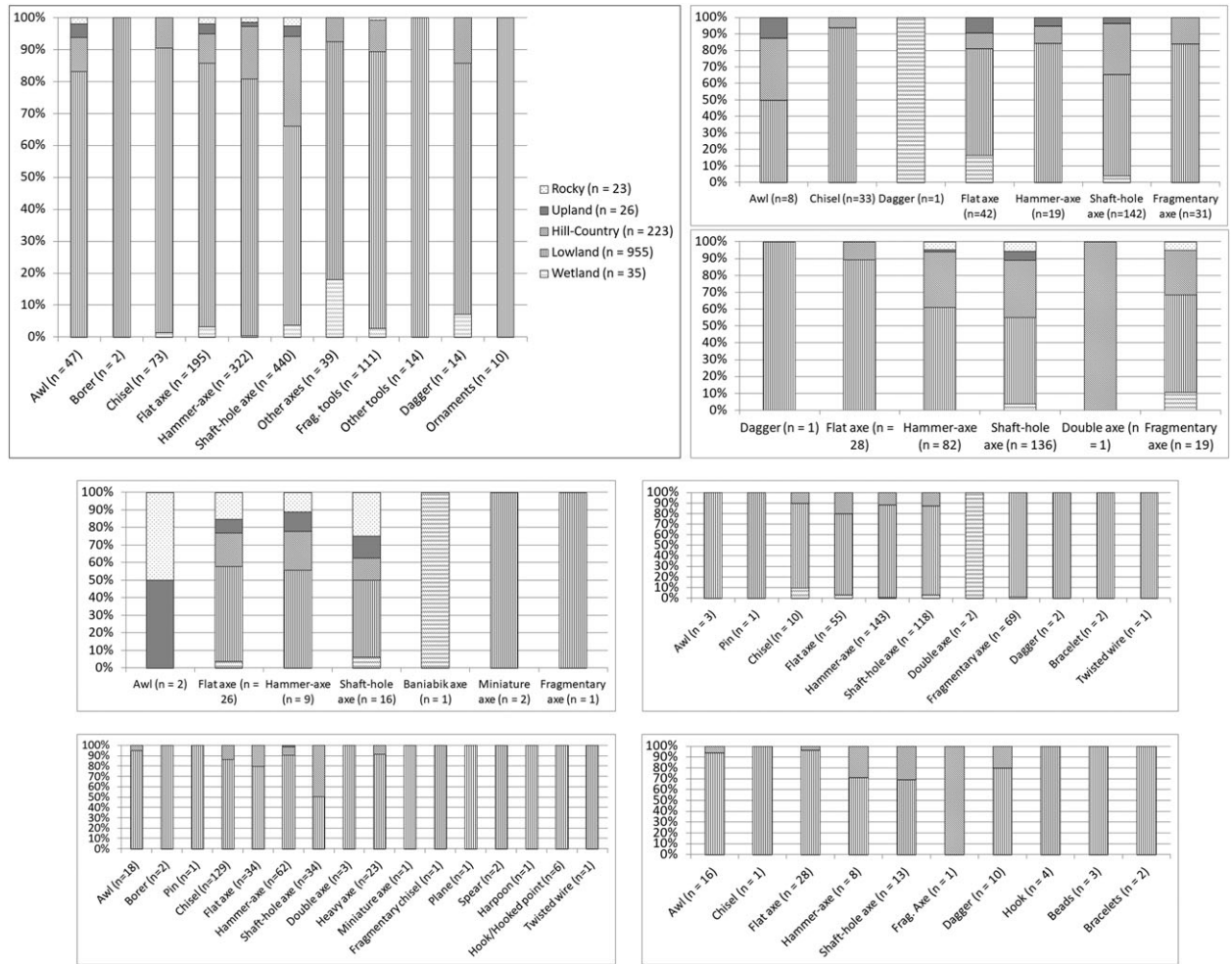


Fig. 11.

Analysis 9: object types per deposit by landscape unit (Source: authors. Drawn by B. Gaydarska)

high frequencies of axe deposition were encountered outside the lowlands, as with half of the shaft-hole axes in Bulgaria found in the hill-country. While no type fell below 70% of deposition in the lowlands in Moldova and Ukraine, the lowland dominance in Romania varied between axe types, with the highest for flat axes (88%), then hammer-axes and fragmentary axes (c. 60%), and only 50% for shaft-hole axes.

Summary of analyses

In summary, seven general observations can be made at this stage.

1. These analyses supported the strong to very strong predominance of lowland deposition

identified in Analysis 3 but with regional nuances. The greatest concentrations of lowland deposition arose in Serbia, Hungary, Bulgaria, Moldova, and Ukraine. All depositional types were preferentially deposited in the lowland zone, with larger hoards concentrated in the lowland zone rather than in other landscape units. Whether this finding is related to a bias towards lowland settlement in prehistory rather than an investigator bias or both remains an open question. The Upper Tisza Project in north-east Hungary was the first regional survey in that country which included an upland component for comparison with a lowland study area (Block 3 – Zemplén Mountains: Chapman *et al.* 2010).

2. The significance of landscape deposits – whether single-item or hoards – cannot be underestimated in Old Europe, with such deposits comprising 80% of all depositional findspots. Such deposits were made in each of the five defined landscape units. Their contents are predominantly heavy tools, with an apparent absence of daggers and ornaments. There is probably a preservational bias in favour of dense, heavy copper objects and against the smaller, less compact ornaments and daggers, but taphonomic factors cannot provide a complete explanation of these figures.
3. Landscape hoards showed the most diverse distribution of all types of deposit across the landscape, with the majority in the lowlands but also many in the wetlands and in rocky landscapes. In contrast to the preferred mortuary zone in Bulgaria and Hungary, or the plentiful settlement deposits of Moldova and Ukraine, landscape hoards predominated in Serbia, Romania, and Croatia.
4. There was a general contrast between larger groups of objects in mortuary deposits with smaller groups in settlement finds, with landscape hoards covering the full size range. At the regional level, there was a contrast in Hungary between axes preferentially placed in landscape deposits and types other than axes predominantly deposited in mortuary contexts.
5. A substantial, if minor, component of deposits (8–9%) consisted of fragmented tools – almost all of them axes. These fragments were most frequently placed in landscape deposits (up to 80%) in the lowlands, while none was deposited in mortuary contexts. To our knowledge, no two fragments from the same tool have been re-fitted from the same site or different sites (Chapman 2000a; Chapman & Gaydarska 2007), suggesting that the enchainment links between axe and chisel fragments may have formed a network connecting deposits ‘out there’ in the landscape to nearby settlements.
6. There was marked regional variation in the preference for deposits which included only one of the three principal types of object – tools, ornaments, and tool-weapons. The most frequent hoard combinations were found to be tools with tool-weapons, except in Moldova and Ukraine.
7. Finally, the weak development of wetland archaeology in Old Europe has almost certainly led to a

deficit in our knowledge of wetland deposition in all regions. We expect this landscape unit to be a growth area in future archaeological prospection (eg, the wetlands research of Goce Naumov in north Macedonia [Naumov 2018] and Boban Tripković in the Mačva of north-west Serbia [Tripković & Penezić 2017]).

UNDERSTANDING LANDSCAPE DEPOSITION

One monograph stands out from the extensive bibliography on landscape deposits – the PhD thesis published by David Fontijn (2002; cf. also 2007; 2019). This stimulating work covered the deposition of predominantly bronze objects in wetlands, settlements, and graves in the southern Netherlands from 2300–600 BC. To summarise the key points relevant to the Copper Age of Old Europe, Fontijn demonstrated that selective deposition of bronzes meant that the deposited objects were not simply things but carried specific and different meanings, just like people. Deposition was ‘a culturally prescribed and meaningful way to deal with objects’ (Fontijn 2002, 275), in order to keep objects apart – in the right places. Moreover, deposition was the culmination of an object’s biography, with a life of circulation ending in deposition through the celebration of meanings accumulated through its life and then disappearance.

The import of bronze into a region devoid of copper and tin sources meant people in the southern Netherlands formed ‘importing communities’, with the import of exotic material inextricably linked to giving up part of the material to deposition, in parallel to gift exchange. Deposition was also a form of ‘remembrance by removal’, whereby the removal of special items left no traces. The importance of depositional repetition led to the creation of ‘landscapes of memory’ in the wetland zones of deposition – areas which were invisible in comparison with the highly visible barrows dispersed across the dry landscape (the ‘invisible’–‘visible’ contrast is developed in Fontijn 2007). These invisible places, often with long-term histories of deposition, structured the landscape just as much as the visible barrows.

However, we cannot simply read the Dutch narrative across to Old Europe. There were three – and perhaps as many as five – major differences between the two study regions. Unlike the southern Netherlands, Old Europe was an area of rich polymetallic ore deposits, with at least three regions with major copper sources. Secondly, the main depositional contrast that structured

the Dutch data – the predominance of watery deposits for swords and axes, in contrast to the dry-land mortuary domain with its ornaments – cannot be recognised in Old Europe, although there were numerous differences between place of deposition and form of object in this study. Thirdly, there was a far narrower range of martial objects in Old Europe – in practice, only daggers and multi-functional axes ('tool-weapons' in the terminology of Chapman 1999). The fourth possible difference concerns the significance of zones of watery deposition up to 1 km² in the southern Netherlands; it is not yet possible to state whether such zones existed in Old Europe. There are several cases of a cluster of landscape deposits in the same village territory (eg, Békásmegyer: Patay 1984, 25, 27, 38, etc.), but this may relate to the activities of local merchants or collectors. Neumann (2015) hints at the beginning of such zones in the Copper Age. Equally, while the existence of long-term 'rules' governing the practice of keeping objects apart cannot yet be verified in Old Europe, certain depositional practices concerning the differential treatment of exotics entering Early Neolithic sites have been identified (Chapman 2007). Jeunesse (2017) has claimed a long-term, dialectical relationship between rich graves and hoards. Nevertheless, several of Fontijn's key conclusions appear to be relevant to Old Europe. We begin with the context of landscape and other deposits.

The peak of landscape deposits in Old Europe spanned the 5th and 4th millennia BC. The 5th millennium BC was, in many ways, the heyday of European nucleated settlements until the mediaeval period. The further west and north you looked, and the later the period in prehistory, the fewer nucleated settlements were created as the core element of dwelling practices (Chapman 1989). It was not until the 4th millennium Trypillia megasites that we see the first flowerings of a tradition of living in low-density cities that was not re-discovered in Mediterranean Europe until the Minoan Bronze Age, a millennium later, or in temperate Europe until the Iron Age, some 3000 years later (Gaydarska 2020). But it was also in the 4th millennium that the most dispersed settlement patterns characterised the central and western Balkans and the Carpathian Basin. The settlement contrast between Ukraine and the more westerly parts of Old Europe was well matched in the distributions of deposits, with far more settlement deposits in Moldova and Ukraine and far more landscape deposits in other areas. However, a rather different pattern is found in the 5th millennium, when the peak of more nucleated settlement in

Bulgaria and Romania was coeval with an increase in landscape deposits. Thus, Julian Thomas' (1999, 164) general conclusion for the British Neolithic – that deliberate deposition was emphasised at a time when domestic activities were fleeting and transient – works only partially for Old Europe.

Perhaps one reason for this was that the east Balkans in the 5th millennium revealed increased complexity in landscape practices, coinciding with the growth of the mortuary domain principally through the creation of extra-mural cemeteries. An example is the area around tell Sultana, in South Romania, with three extra-mural cemeteries linked to the tell (Lazăr 2012). Similar types of axe and chisel as were found in 5th millennium landscape deposits were also found in coeval cemeteries. By contrast, different subtypes of copper and stone objects were found in the adjacent tell and cemetery at Goljamo Delchevo (Chapman 1996). These cemeteries provided new contexts for the expression of both personal *and* community identities (*contra* Fontijn 2019, who downplays the communal significance of cemeteries in Holland).

A third contextual aspect of landscape deposits concerned the proximity to copper sources of the various areas. Importing communities were typically found in Hungary, Moldova, and Ukraine, while the principal copper sources were found in north-east Serbia, central and eastern Bulgaria, and Transylvania (O'Brien 2015). However, the importance of exotic imports can be shown by the lead isotope analyses of copper objects in tells near the Chalcolithic mine of Ai Bunar, central Bulgaria – one of the earliest in south-east Europe (Chernykh 1978). These analyses showed that, while fragments of raw copper on these tells derived from the nearby mine, complete copper objects were brought from long distances of up to 200 km (Pernicka 1997). In other words, importing communities were by no means restricted to areas lacking copper sources; as in Bronze Age Holland, exotic materials embodied cultural value in all periods and all regions of Old Europe (Chapman 2007).

The fourth factor concerns long-term depositional practices. While Fontijn's studies (2002; 2019) are based upon depositional sequences of 3000 years in Holland and other areas, the data from Old Europe covers a shorter period of 2000 years, coarsely divided into only two phases (5th millennium BC: Early–Middle Copper Age; 4th millennium BC: Late Copper Age) in which there were few areas in which deposition in both phases was encountered.

Stepping back to consider a longer time-frame, we begin with the Early Neolithic period. In his contextual study of exotic objects deposited by early farming communities, one of the current authors (Chapman 2007, 219–20) noted that ‘most exotic items went through a process of translation in which the alien and strange values that they embodied were mapped onto the cultural values of the home community’. For stone and shell finds, this mapping process occurred more in general settlement contexts than in houses, while the only material not placed in mortuary deposits were the metals. Almost all exotic objects were excluded from settlement ritual contexts vital for the social reproduction of these early farming communities, perhaps because their otherness prevented assimilation into the core cultural values of local communities. There are, thus, already hints at the different treatment of non-metal and metal objects – the latter rare and unusual objects for early farming communities.

A new site type has recently been defined for the same period – the ‘pit site’, characterised by an absence of obvious houses and a proliferation of pits often containing mixed ‘domestic’ objects, many fragmented (Early Neolithic examples include Yabulkovo and one phase of Rakitovo; Later Neolithic examples include Kompolt-Kister in Hungary and Gradac–Zlokućani in Serbia [Chapman 2020]). The numbers of pit sites appear to be small in the Early Neolithic, with a major increase in the later Neolithic (late 6th–early 5th millennia BC), especially in Bulgaria (the Karanovo IV pit sites). Invoking the collective actions of many people, this site type was a scaled-up form of pit deposition, which Chapman (2000b) had earlier characterised as an exchange with either the ancestors (if the pit was dug into earlier settlement deposits) or with nature (if the pit was dug into natural deposits) (cf. Helms 2012). Four key elements were shared between the pit sites and landscape deposits of metal objects: the invisibility of each site type (NB: the contrast in Bulgaria was between invisible pit sites and highly visible settlement mounds); an exchange with nature; the transformation of the value of the place of deposition; and the extension of the cultural domain into often previously unsettled areas. However, the contents of these two forms of deposition revealed polar differences, with primarily domestic, local objects (grinding stones, pottery, lithics) in the former and mostly exotic metal in the latter. There is a fundamental opposition between the focus on local practices of food production and maintenance activities at the pit sites and the celebration of far-flung

contacts and exotic places associated with metal objects placed in the landscape deposits. In all, or almost all, cases, landscape deposits deliberately excluded human remains, the remains of domestic practices, very elaborate objects, and the remains of metallurgical production. These absences in Old Europe were often characteristic of north-west European Bronze Age deposition (Bradley 2000, chapter 4). The gifting of heavy copper axes to the landscape rather than to traders from the next village constituted a return of the copper won from the earth, from mines, back to nature through a generalised exchange with a specific place replete with personal, ritual, and cosmological connotations (Chapman 2000b; Helms 2012). A diachronic general trend in Old Europe combines the increase in landscape deposits in the late 5th and 4th millennia BC with a decrease in pit sites, although whether the former was a structural replacement for the latter remains for future clarification.

The polar opposite between pit sites and landscape deposits is perhaps the clearest example from Old Europe of the role of deposition in keeping things apart, in the right place. The marked regional variations in the choice between hoards of one object type (tools or ornaments or tool-weapons) and combination hoards show that different practices were developed across Old Europe. However, what was more widespread was the practice of metal fragmentation, which affected some 8–9% of the total sample, implying the existence of enchainment links between many landscape deposits and other places – perhaps mainly in the domestic domain. In this context, enchainment refers to the linkage of persons, places, and objects to create and maintain social relations (Chapman 2000a, 5; Jones 2012, 19–20). There is thus a tension between enchainment with memorialised links between landscape deposits and other places, and the maintenance of objects in their right place through multiple repetitions of decisions about where to deposit which types of object.

These enchainment links serve to underline the fact that ‘landscapes were densely packed networks of indexes’ (Jones 2007, 226), just as each landscape deposit formed an index of past deposits of the same or different objects (Kovacik 1999). One of the most obvious index-based links with landscape deposits was metallurgical production. Although direct evidence of production remains missing from all such deposits, the spectacular nature of axe deposits in particular indexed their own production, enchainment to copper sources, exchange networks, production sites,

and re-distribution places. As Fontijn (2002, 217) has proposed, deposition acted as a summary of the entire life-course of a copper axe.

The strong predominance of heavy copper tools in deposits in Old Europe (Fig. 2b) prompts the question of why axes and chisels were so important in such deposition. Fontijn's (2002, 254) parallel explanation of the significance of bronze axes rests on the great variety of index-based links to the settlement history of a local community – to forest clearance and wood-working (houses, canoes, fences), as well as to personal status through warfare and exchange, with the possibility that bronze was exchanged through the medium of axes. All of these factors also pertain to different forms of copper axes, but the key difference was a historical factor – the heavy tools of the Old Europe Chalcolithic were the first objects which could have been transformed through recycling from other objects and, later, not only into other objects but into other larger objects than was possible with non-metal objects (cf. the large size of the Moigrad gold pendant: Makkay 1989; Hansen 2011).

The fundamental change in the mid- to late 5th millennium BC concerned the transformation from the traditional Old European basis for enchainment relations through fragmented objects (Chapman 2000a) to the emergent properties of the smelting, melting, alloying, re-melting, and re-cycling of molten metal (Taylor 1999). These properties not only offered ways of creating larger, heavier objects such as massive shaft-hole axes but also created the potential for the formation of new objects from old, perhaps combining two or more different metal sources. It must be recognised that some – perhaps most – large copper objects may have been manufactured using copper from one source in one place, although it is important to acknowledge that the archaeo-metallurgical analyses to demonstrate this process of manufacture remain to be completed (pers. comm. Mark Pollard). However, recycled copper would have offered a new form of shorthand for complex biographies. If this opportunity was realised, then it was not only the impressive physicality of large copper objects that made them so important but also their compressed biographical information that demonstrated wider political links to their social hinterland (eg, the large tools in the Pločnik hoards: Grbić 1929; Stalio 1973). If the recycling of metals became common, it would have created a form of privileged, perhaps magical, communication unnecessary for the exchange of high-quality flint or

decorated fine wares whose origins were visually transparent. We suggest that the fusion of biographical knowledge and special technical skills opened up the possibility for impressive copper alloy objects to become inalienable objects (*sensu* Godelier 1999), in a way that could not have happened with small copper objects, single-source large axes, or most chipped stone objects. The key object types for these transformations became the copper axe and the chisel, whose inalienability was assured through deposition in an invisible but memorialised place. The very possibility of recycling meant that landscape deposition of different types of object in different places emphasised the separation that was so culturally important (David Fontijn, pers. comm.). In tension with this idea, the frequency of combination hoards juxtaposing tools and heavy tool-weapons emphasised the different aspects of daily life referenced at the same time by these hoards.

The final point about landscape deposits reprises Fontijn's (2007) distinction between visible and invisible places, as manifested in the contrast between barrow and landscape deposition in the southern Dutch Bronze Age. There, the watery zones which received so many sword and axe deposits were natural, uncultivated, and unaltered prior to deposition. In Old Europe, however, while wetlands, uplands, and rocky landscapes corresponded to all three traits, the lowland arable areas which received the vast majority of landscape deposits *and* hoards were once 'natural' but may have been, or had the potential to become, cultivated and altered through agricultural practices. Lowland axe deposits were thus more related to the extension of the cultural domain typical in settlements through the creation of new networks of invisible, yet memorialised, places. The discovery of the majority of 'Balkan' landscape deposits as heavy copper tools placed in fertile arable land in the lowlands emphasises the link between deposition, social transformation, tenure, and mixed farming. In Helmsian terms, the deposition of metalwork to sustain the cosmic processes essential to social reproduction was largely focused in the areas where arable production sustained local dwelling. In a parallel context, Edmonds (1999, 125) sees British Neolithic stone axes deposits as 'anchors for local memory', constituting 'the tradition of renewing tenure through offering and interment'. Lowland arable deposits showed at the same time a liminal separation from settlements *and* a relation to arable territories. There were too few landscape deposits in prominent upland locations and wetlands

to support the tiered cosmology proposed on the basis of bronze hoards and single finds for the Middle and Late Bronze Age of south-east England (Dunkin *et al.* 2020).

CONCLUSIONS

We believe that, insofar as Old Europe is concerned, we have misnamed, overlooked, or not accurately characterised an entire class of sites whose defining feature was the transformation of a place by the deposition of a significant object or group of objects to create a qualitatively different place – a place of landscape deposition. This parallels Thomas' (1999) proposal for pit deposition in the British Late Neolithic. In other words, we are still prone to treating landscape deposits in the way that Childe did in the 1930s (see above).

In terms of the sample of deposits in settlements, graves, and the landscape as recorded in eight *Prähistorische Bronzefunde* volumes covering the 5th and 4th millennia BC in Old Europe, the three key summary statistics are: the high proportion of copper axes and chisels (93%) in all deposits; the predominance of single-item deposits (75%); and the strong selection of lowland arable locations for these deposits (72%).

Within these parameters, there were significant interregional variations in the form and location of these deposits, such as the preference for the mortuary zone in Bulgaria and Hungary, settlement deposits in Moldova and Ukraine, and landscape hoards in Serbia, Romania, and Croatia.

There are as yet insufficient deposits in dramatic rocky landscapes and wetland locations to accept a tiered cosmology in the Copper Age in Old Europe. Instead, the vast majority of landscape deposits was placed in invisible zones which became part of the local network of memorialised places whose value was enhanced by metal deposition. The restricted knowledge of such places was probably controlled by a special part of the local community which used deposition as a way to create or enhance communal identity and to invoke landmarks, fishing grounds, hunting areas, or arable land.

Landscape deposits were the culmination of the entire biographies of copper objects – a celebration of all of the enchainment links created through all life-stages, from the winning of the copper, its often long-distance exchange, its manufacture and use, and the recycling that produced another generation of objects.

There was a tension between the key role of deposition to keep objects apart, in the right place, and the

enchainment which linked the fragments of copper objects which comprised some 8–9% of the total sample of deposited objects to their matching fragments in other places – perhaps principally the domestic domain.

While there was often a correlation between periods of dispersed, homestead settlement and a peak in landscape deposits – notably in the 4th millennium BC in the Balkans and Hungary – the widespread development of nucleated settlements in the 5th millennium BC also coincided with extensive landscape deposits and the extension of the mortuary domain through extra-mural cemeteries, in a period notable for the transformation of both personal and communal identities.

In conclusion, we remind our readers that this has been a preliminary investigation of landscape deposits. The most urgent task for the future is the implementation of detailed studies of long-term, local depositional practices and their relation to specific segments of the landscape in Old Europe.

Acknowledgements We are most grateful to David Fontijn, Jo Brück, Svend Hansen, and Tobias Kienlin for reading earlier drafts of this article and offering stimulating comments. Ernst Pernicka and Mark Pollard helped us understand how difficult it is to find analytical proof for the re-mixing of copper from different objects in order to make a new, larger object. David Fontijn (2019) kindly sent us a pre-publication of his book 'Economies of destruction'. Matt Knight, Wolfram Schier, Daniel Neumann, Lauren Speed, and Colin Haselgrove were kind enough to help us with references, while we enjoyed discussing metalworking with John Watson. We are grateful to Lauren Speed for drawing Fig. 1. We are also grateful to the Editor and her referees for comments which, in some cases, have improved the latest version of this article.

NOTE

¹ This hoard was found after the publication of Todorova's (1981) PBF volume on Bulgarian copper axes and is therefore excluded from the analyses.

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RÉSUMÉ

Le dépôt de l'histoire dans la préhistoire: objets en cuivre sur des sites et dans le paysage de John Chapman et Bisserka Gaydarska

Une proportion variable de trouvailles du Néolithique et du Chalcolithique de la Ancienne Europe nous est parvenue de lieux extérieurs aux implantations, cimetières, sites de production, sites rituels ou Grottes. On a tendance à les décrire comme des trouvailles fortuites/isolées/uniques/égarées/ ou, quand elles sont en groupes, comme des trésors. La cause moderniste invoquée pour ces trouvailles est qu'elles avaient été, 'soit cachées à une période de danger mortel', qu'elles constituaient une offrande aux dieux ou tout simplement qu'elles avaient été perdues. Une raison pour ces déficiences dans les explications est l'excès d'attention accordé dé aux types d'objets déposés dans la nature et le manque d'attention accordé à l'endroit, souvent particulier, du paysage où avait eu lieu le dépôt. Nous croyons que nous avons mal nommé, passé sous silence ou incorrectement catégorisé une classe entière de sites que nous désignons sous le nom de sites de dépôt dans la nature et dont le trait marquant était la transformation d'un lieu par le dépôt d'un objet important ou d'un groupe d'objets, de ce fait en créant un endroit qualitativement différent. La création de sites de dépôt a varié dans le temps et l'espace à travers toute la vieille Europe mais tous les sites furent affectés par cette nouvelle dimension du domaine culturel élargi.

Dans le présent article, nous considérons les interprétations des dépôts de métal dans l'Europe du nord-ouest et la lumière qu'ils apportent sur une région plus ancienne et géographiquement différente. Le but principal de ce rapport est une exploration des relations variables entre les sites de dépôts dans le paysage et les découvertes contemporaines faites dans des dépôts spéciaux dans des occupations et des cimetières aux 5^{ème} et 4^{ème} millénaires av. J.C. ce qui nous conduira à proposer de nouvelles interprétations des sites de dépôts dans la nature.

ZUSAMMENFASSUNG

Die Deponierung von Geschichte in der Vorgeschichte: Kupferobjekte an Fundorten und in der Landschaft, von John Chapman und Bissierka Gaydarska

Ein variabler Anteil von Funden aus dem Neolithikum und Chalkolithikum „Alteuropas“ stammt von Orten außerhalb von Siedlungen, Gräberfeldern, Produktionsstätten, Ritualstätten oder Höhlen. Solche Funde werden in der Regel als „zufällige/isolierte/individuelle/verstreute“ Funde bezeichnet oder, wenn sie in Gruppen auftreten, als „Horte“. Die häufige, modernistische Erklärung für diese Funde ist, dass sie entweder in Zeiten tödlicher Gefahr „verborgen“ worden waren, ein „Geschenk an die Götter“ darstellten oder einfach „verloren“ gegangen waren. Ein Grund für diese eingeschränkten Erklärungsmöglichkeiten ist die übermäßige Beachtung der in der Landschaft niedergelegten Typen von Objekten und die wiederholt mangelnde Beachtung des häufig charakteristischen Deponierungsortes. Wir glauben, dass wir eine ganze Klasse von Fundorten, die wir als „Landschaftsdeponierungsorte“ bezeichnen, falsch benannt, übersehen oder nicht genau charakterisiert haben, deren bestimmendes Merkmal die Transformation eines Ortes durch die Niederlegung eines signifikanten Objekts oder einer Gruppe von Objekten war, wodurch ein qualitativ anderer Ort geschaffen werden sollte. Das Erzeugen solcher Landschaftsdeponierungsorte war zeitlich und räumlich in ganz „Alteuropa“ unterschiedlich, aber alle Orte waren von dieser neuen Dimension des erweiterten Kulturbereichs betroffen.

In diesem Beitrag erörtern wir die Interpretationen von Metalldeponierungen in Nordwesteuropa und wie sie Aufschluss geben können über eine frühere und geographisch andere Region. Das primäre Ziel dieses Beitrags ist eine Untersuchung der variablen Beziehungen zwischen Landschaftsdeponierungsorten und den zeitgleichen Funden, die in besonderen Niederlegungen in Siedlungen und auf Gräberfeldern des 5. und 4. Jahrtausends BC gemacht wurden, was zu Vorschlägen für neue Interpretationen von Landschaftsdeponierungsorten führen soll.

RESUMEN

La deposición de la Historia en Prehistoria: objetos de cobre en los yacimientos y en el paisaje, por John Chapman y Bissierka Gaydarska

Una proporción variable de los hallazgos neolíticos y calcolíticos de la ‘Vieja Europa’ procede de lugares como asentamientos, cementerios, lugares de producción, rituales o cuevas. Estos descubrimientos tienden a describirse como ‘fortuitos/aislados/únicos/perdidos’, o cuando aparecen agrupados se han definido como ‘acumulaciones’. Frecuentemente, la causa que se atribuye a estos depósitos es que fueron ‘ocultos’ en tiempos de peligro, que representan un ‘regalo a los dioses’, o simplemente que ‘se perdían’. Una de las razones de estas deficiencias explicativas es la excesiva atención que se presta a los tipos de objetos depositados en el paisaje y el escaso interés que suscita el lugar de deposición, a menudo, muy característico. Consideramos que se ha denominado incorrectamente, ignorado o caracterizado inapropiadamente un conjunto de sitios, que hemos denominado ‘depósitos en el paisaje’, cuyo rasgo definitorio fue la transformación del lugar por la deposición de un objeto significativo o grupos de objetos para crear un lugar cualitativamente diferente. La creación de estos depósitos en el paisaje varía en el tiempo y en el espacio a lo largo de Europa, pero todos los sitios están afectados por esta nueva dimensión del dominio cultural.

En este artículo, consideramos las interpretaciones sobre los depósitos de metal en el noroeste de Europa y la información que aportan sobre una región anterior y geográficamente diferente. El objetivo principal de este artículo es abordar la relación entre las variables ‘depósitos en el paisaje’ y los hallazgos coetáneos procedentes de los asentamientos y cementerios datados en el V y IV milenio BC, lo que conllevará nuevas interpretaciones sobre los ‘depósitos en el paisaje’.