CHAPTER 35

THE FIRST METALWORK AND EXPRESSIONS OF SOCIAL POWER

VOLKER HEYD, KATHARINE WALKER

Introduction

Metals have certain distinctive properties which seem to have appealed to European Neolithic and later communities: brilliance, magical transformations behind their creation, and potential for re-melting, re-casting, and re-modelling. They were also valued for their colours: gold for the sun, high on the horizon, copper for the setting sun or the blood of life, and silver for the moon. In the formative years of metallurgy, copper and its ores appear to have held primarily aesthetic roles as cosmetic colours, beads, and other personal adornments. They are likely to have been recognized as rare and precious, and were later mobilized in social differentiation. The adoption of metals altered economies and social relations, and triggered craft specialization. The roots of social differentiation were already present in some Neolithic communities, yet the uneven distribution of metal ores, like certain types of stone already, became elements in long-distance exchange networks and eventually trade. This paper attempts to go beyond simplistic ideas of metals in social stratification: it presents a more complex picture, outlining similarities and differences geographically in the presence and role of metallurgy during an early, middle, and late Copper Age.

The Earliest Metallurgy in Europe: A Near Eastern Origin?

The origins of metals can be found in the zone from which farming and animal husbandry came: the so-called 'Fertile Crescent' and adjacent Anatolia, the westernmost protrusion of Asia, comprising the majority of modern-day Turkey. Powdered copper was used for cosmetic purposes at several sites including Jericho in Palestine, Nehal Hermar in Jordan, and Hallan Çemi in Turkey. A copper-rich pigment, ~~diopsite~~, a copper silicate, was used also on some of the earliest statu- ary at Ain Ghazal, Jordan (7200–5000 BC) (Rollefson et al. 1985; Rosenberg 1999; Cleland et al. 2004). The earliest actual copper object to be discussed in print is an almond-shaped pendant with two perforations from Shanidar Cave, northern Iraq, said to date to the earliest ninth millennium BC (Solecki 1969, 311–314; Matthews 2003) although its chronological attribution is doubtful. The first clear evidence for the use of native copper in the production of trinkets comes from around the transition of Pre-Pottery Neolithic A (*c.* 8500–7600 BC) and Pre-Pottery Neolithic B (*c.* 7600–6000 BC). Slightly later copper artefacts are also known from Iran (Stech 1999).

The objects appearing at the Pre-Pottery Neolithic B sites of Çayönü Tepesi and Nevali Çori, both in Turkey some 100 km north-west of Shanidar Cave, are made from hammered native copper (Yalçin 2000). More than 100 copper objects, mostly oval-shaped beads, but also pins, fish hooks, awls, and a reamer indicate a proficiency of craftsmanship existing as early as the eighth millennium BC. Çayönü Tepesi has revealed some of the earliest attempts at working native copper with heat, instead of cold-working it, suggesting that people may have 'begun to sense the properties of metal as *metal*, rather than as some peculiar kind of stone' (Özdoğan and Özdoğan 1999, 13; see also Maddin et al. 1999). At Aşikli Höyük in Turkey, a Pre-Pottery Neolithic B settlement slightly later in date, beads made from heat-treated native copper were also found (Esin 1999). Nearly all of them came from in-house burials. Çatal Höyük is another Turkish site which yields copper artefacts from the seventh millennium BC (Mellaart 1967, 217–218, pl. 104; Cessford 2001), as well as beads dating to 6400 BC, originally identified as lead but later found to be galena, a lead sulphide ore, rather than metal (Sperl 1990).

It is the 'reduction process' achieved through the roasting of ore with charcoal, the addition of further heat, and finally casting which transforms ores into brilliant metals, and marks the beginning of metallurgy proper. This stage, not yet reached for the famous Can Hassan copper macehead, dated to *c.* 6000–5900 BC, must have developed in the centuries thereafter; by *c.* 5000–4900 BC it is finally realized as shown by the copper flat axes from Mersin-Yumuktepe, layer XVI (Yalçin 2000).

In Europe, there is considerable evidence that metalworking origins followed the same general pathway, albeit with a later chronology. So, the earliest discoveries of

hammered native copper from Moldavia (Markevich 1974, 14), Romania (Comşa 1991), Hungary (Kalicz 1992; Zalai-Gaál 1996), and Slovakia (Nemejčová-Pavuková 1995) date from the later sixth millennium BC. There are also late Hamangia copper objects of adornment (Pernicka et al. 1997) and early copper chisels from Maritza-period contexts (first quarter of fifth millennium BC) at Catalka (Todorova 1981, 53) and Drama (Moesta 1991) in Bulgaria. These are still hammered, with heat applied at least for the Drama chisel. The step towards metallurgy proper, and casting of heavy tools, seems then to have happened at the transition from the first to the second quarter of the fifth millennium BC. However, recent analyses from the Vinča site of Belovode, Serbia, perhaps indicate a much earlier date for the start of processing ores and casting at least smaller objects in Europe (Ernst Pernicka, *pers. comm.*; Radivojević et al. 2010). This implies that the Near East and Europe may have developed similar technological steps simultaneously, or one not long after the other, but it is probable they would have done this independently as has long been suspected.

The Development of Metallurgy in South-eastern Europe

The Copper Age, Chalcolithic or Eneolithic is based on different criteria in the archaeological traditions of different countries. This obscures supra-regional patterns. In Bulgaria, for example, the early 'Chalcolithic' during the first half of the fifth millennium BC fails to produce securely attributed cast heavier tools or axes, nor is there evidence for ore extraction and metal reduction beyond local activity. Countries like the Czech Republic, Austria, and Poland, with numerous copper artefacts in their record from *c.* 4500–2200 BC, did not even use the term 'Copper Age' until recently. In Bulgaria, a 'Proto Bronze Age' begins at *c.* 3600 BC (Nikolova 1999; Vajsov 2002), totally replacing, terminologically, the later years of the Copper Age. This also exists for Greece, where the beginning of early Helladic and Cycladic I is set conventionally at *c.* 3200 BC (Manning 1995), and for the Ukraine and southern Russia with their Yamnaya (Rassamakin 1999). Hungary defines its early Bronze Age I at *c.* 2700 BC with the emergence of the Makó/Kosihy-čaka and early Somogyvár (Ruttkay 2003) cultural complexes to which the Vučedol entity can be attributed, although perhaps starting two centuries earlier. The same archaeological cultures are, however, named 'Final Eneolithic' in Serbia and Croatia, 'Endneolithikum' in Austria, and 'Transitional Period' in western Romania. Given these differences, the best way to provide a comparative framework is to propose a south-eastern and central European early (*c.* 4600–3600 BC), middle (*c.* 3600–3000 BC), and late Copper Age (*c.* 3000–2500/2200 BC). Each of these horizons is defined by underlying cultural entities and by its characteristic copper artefacts (Fig. 35.1).

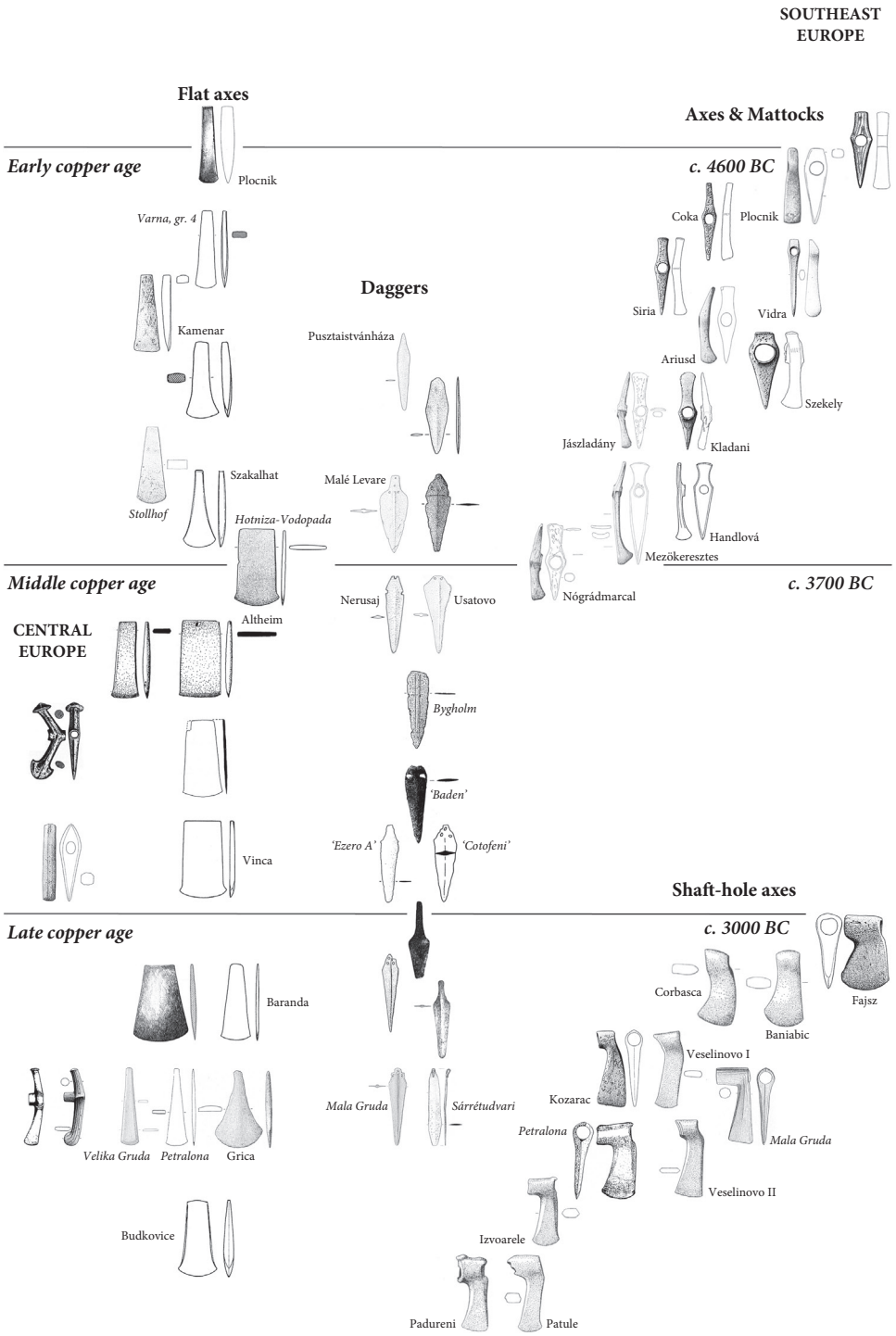

FIG. 35.1. Chrono-typological chart of early copper axes and daggers (axes after Vulpe 1970 and most daggers after Vajsov 1993; author's own montage).

The early Copper Age

The early Copper Age has a domestic emphasis and is characterized by a fragmented cultural background with different and relatively isolated, regional societies of sedentary farming villagers, living in nucleated settlements. Framed by the Suvorovo-Novodanilovka herders in the north-east (Govedarica 2004; Anthony 2007), branches of the Western Linearbandkeramik (LBK) and its successors in the west (Whittle 1996), and the emerging Trichterbecher (TRB) societies in the north-west (Midgley 1992; Klassen 2000; 2004), the societies of the Kodžadermen-Gumelnița-Karanovo VI, Tripolye-Cucuteni, Salcuța-Krivodol-Bubanj Hum, and the Tiszapolgár-Bodrogkeresztur-Hunjadi Halom sequences are the most important of these (cf. Parzinger 1993; Whittle 1996; Bailey 2000; Chapman 2000). The typical copper inventory consists of primarily heavy hammer-axes and mattocks (e.g. Vulpe 1970; Novotná 1970; Todorova 1981; Patay 1984), and certain types of flat axes (Dobeš 1989; Schmitz 2004; Kienlin 2008), both known of in their thousands. The copper dagger is another object that appears in the record simultaneously in the western Pontic and the eastern Carpathian basin, but only from *c.* 4000 BC onwards (Vajsov 1993; 2002; Matuschik 1998). Additionally, copper and gold jewellery and personal adornments are well known, including bracelets, all kinds of rings, spirals, plates, and decorated pins. There is also a range of amulets and other symbolic items. Greece sees the first silver objects in its record, in the form of arm rings and amulet pendants (Zachos and Douzougli 1999; Maran 2000; also Turkey, cf. Zimmermann 2005).

The middle Copper Age

Ever-increasing interaction between herders and emerging pastoralists of the Pontic Steppe belt and their sedentary neighbours at the lower Danube and the eastern Carpathians in the first quarter of the fourth millennium BC (Anthony 2007; Meyer 2008) led to a new emphasis on stock. Subsequent changes in the economy required a different lifestyle and settlement organization. Consequently, this altered social foundations which affected ritual, spirituality, and cult, for example with paired cattle burials appearing in the record for the Baden and Globular Amphora Cultures (Pollex 1999). These are perhaps the mechanisms behind the rapid expansion of these cultures as well as Cernavodă III and Boleráz. Strikingly, metal production, circulation, and deposition followed an opposite pathway to this cultural expansion in most of south-eastern and central Europe. This horizon sees the end of the heavy copper holed axes. Gold also disappears completely from the record, as most of the silver does in the Aegean. However, flat axes, particularly broader specimens like the Altheim and Vinča types continue (e.g. Dobeš 1989) and daggers flourish in some regions in the east, albeit as different forms from their predecessors (Vajsov 1993; Nikolova 1999). Jewellery continues as well, but as with all other metal artefacts in this horizon, seemingly in lower numbers. At a handful of Baden sites in Austria and Slovakia, the neck ring re-enters the record after a short appearance in the mid fifth millennium.

The late Copper Age

The late Copper Age is signalled by the infiltration of populations associated with the Yamnaya culture from the northern Pontic steppe belt, into large parts of south-eastern Europe with similar environmental conditions from *c.* 3000 BC (Anthony 2007; Heyd 2011). This event was not perhaps as drastic as one might think, but it would have been part of a new quality of interaction and communication between essentially heterogeneous social groups. This trajectory was ~~also~~ accompanied by a range of innovations in the social, technological, and economic spheres, including the now widespread use of horses and wheeled transport, as well as in other material culture. This package also included a distinct series of new metal categories and types (Harrison and Heyd 2007; Subbotin 2008). The copper inventory around the Balkans and Carpathians sees the re-appearance of the holed axe, now in the form of the single edged shaft-hole axes of the Fajsz, Baniabic, and Corbasca types, undoubtedly originating from the circum-Pontic and Caucasus regions (Kohl 2007, 57ff). Along with them comes the tanged dagger; a distinct form of awl with swollen middle shaft; and small hair or temple-rings made sometimes of gold, but mostly of silver and occasionally copper. Besides, flat axes continue throughout the third millennium—for example, in the form of the Griča and Baranda types of south-eastern and central Europe (Kuna 1981)—and at the same time the first flanged ones appear, foreshadowing early Bronze Age forms.

While the various eastern and central European Corded Ware groups from the second quarter of the third millennium BC remain mostly metal-poor, later types of the single-edged shaft-hole axes flourish in south-eastern Europe and the Carpathian basin. It is only then, in the context of the expansion of the Bell Beaker phenomenon during the mid-millennium, that tanged copper daggers and small awls reach a prominence and range never experienced before (Heyd 2007), with rare daggers in gold and silver showing they have risen once more in social significance. Generally, regions now seem more closely linked, and gold and to a lesser extent silver reappear as jewellery and for symbolic or prestigious objects. The silver hair-rings of the aforementioned Yamnaya package transform rapidly into Corded Ware precious metal hair-rings and copper hair-spirals. Subsequently, two trajectories appear: a central European Bell Beaker branch consisting of hair-rings of the distinct Sion type dated to *c.* 2500–2400 BC, and the *Noppenringe* and British Bell Beaker branch of golden basket earrings, or more likely hair-rings.

Inconsistencies in Chronologies, Distributions and Contexts

Despite these clearly visible evolutionary trends in early European metalwork, there are some aspects of the metallurgy that are still in dispute or not quite understood.

The first is the apparent sudden appearance of the heavy Pločnik type hammer axes, said to be the earliest cast axes in Europe, around the mid fifth millennium BC. They

stand at the beginning of a long series of heavy axes and then mattocks, both dominating the record of the early Copper Age in their thousands. They are found over a vast area from the western Ukraine to Slovakia/Slovenia (Govedarica 2001; Radivojević 2006). Most of them enter the record as single finds, which links them to all the other later heavy axes. But several come from the fifth millennium BC hoard of Karbuna in the Ukraine, the Pločnik hoards in eastern Serbia, the Tiszapolgár cemetery of Tibava in eastern Slovakia, and Varna grave 43 in Bulgaria. Varna has new AMS ^{14}C-dates which centre around 4500 BC (Higham et al. 2007), matching the Tripolye A2 pot in which the hoard of Karbuna was deposited, while Tibava grave C is later by perhaps one or two centuries. However, the four Pločnik hoards, consisting of forty-five objects altogether, are dug into an earlier Vinča layer (Stalio 1964), giving them a probable date within the second quarter of the fifth millennium BC. It is therefore quite possible that a European pyrotechnical metallurgy which produced these heavy axes originated from the central Balkans and the Vinča culture, supporting the new Belovode evidence mentioned above. This would make it the heartland not only of an independent European metallurgy, but also of a millennium-long early Copper Age axe tradition.

In the later stages of the fifth millennium BC heavy hammer-axes and mattocks are found largely in the western and north-western Pontic, eastern Balkans, and eastern Carpathian basin. Between 4100 and 3800 BC, it is the Carpathian basin as a whole, and particularly its western and north-western regions, which produce the most, while their numbers across the previous centre to the east are declining (Meyer 2008; Ivanova 2008). This is why the Hungarian tradition calls this period the 'High Copper Age'. It is also in the three centuries around 4000 BC that metallurgy is exported westward, for example, the Şiria type axe from Überlingen at Lake Constance (Matuschik and Matschullat 1997), perhaps the flat axe from Pont-de-Roide in eastern France (Klassen et al. 2007), and the famous gold lozenge from Pauilhac in Aquitaine (Roussot-Larroque 2008). Axes of Carpathian manufacture are also reaching the northern European plain (Müller 2001; Łęczycki 2005) and southern Scandinavia (Klassen 2000), and there is a contemporaneous spread south-west with the first copper artefacts entering the southern Alps and the Padanian plain of northern Italy (Zimmermann 2007; Gleirscher 2008). The next stage, from *c.* 3700 BC into the second half of the fourth millennium BC, sees the metal supply of the Carpathian basin vanishing and the previously described zones to the west, north-west, and south-west becoming the new centres of a central European metallurgy. Thus, a north-Alpine metallurgical zone develops (Matuschik 1998; Bartelheim et al. 2002; Bartelheim 2007; Roberts and Frieman, this volume); a distinct hoarding tradition emerges in TRB Poland (Łęczycki 2004); and the distribution of flat axes in southern Scandinavia reaches its peak (Klassen 2000). This is also the period when independent metallurgy emerges in the central and western Mediterranean (Pearce and Bartelheim, this volume). There can be little doubt these developments are interlinked, but as yet there is no convincing model explaining these large-scale geographical shifts. Many questions remain. Were unique historical events responsible? Was there a breakdown of networks, first in the east and then in the Carpathian basin? Alternatively, was there a general devaluation of metals or loss of symbolic value? Or more simply, did the copper ores in the east become exhausted with no technology available to move to different sources?

Exactly the same questions have been asked of the so-called middle Copper Age metal decline across most of south-eastern Europe around the middle and second half of the fourth millennium BC. The scarcity of metal objects in the Cernavodă III-Boleráz cultures of the lower Danube and the Carpathian basin compared with previous periods has long been recognized (Roman and Diamandi 2001), as it has for the whole of the Baden sequence, and many contemporary societies in the lower Danube, the Balkans, and in Greece (Maran 1998, 513). Metals are also virtually absent during the early Helladic and Cycladic I of the late fourth and early third millennia BC in Greece, although termed here early Bronze Age (McGeehan-Liritzis 1996; Rambach 2000), as they are in the whole of the Globular Amphora culture of the north (which preceded the central area later occupied by the Corded Ware). In contrast, contemporary metal objects are quite well known from the Coțofeni of Transylvania (Mareš 2002; Ciugudean 2002), the Usatovo and related late Tripolye societies in the north-western Pontic region (Anthony 2007; Kohl 2007, 28ff), and as already described, for north-Alpine central Europe. Overall, south-eastern and central Europe offer distinctly differing pictures in this period. Yet as a whole the heavy copper axes and mattocks of the early Copper Age, which were probably symbols of value, wealth, and power, have disappeared.

This goes along with fundamental changes of context. Hoarding was no longer practised and lavishly equipped graves were also now absent. Instead, wealth and status were perhaps negotiated through other media such as the single, paired, or multiple cattle burials of the Baden and Globular Amphora cultures. Nonetheless, even in what are regarded as metal-free regions, Cernavodă III-Boleráz and Baden-period metalwork exists, albeit mostly in low numbers and as smaller objects (e.g. ~~knifes~~, chisels, awls, jewellery and other miscellaneous objects). The conclusion is that the decline may not be as sharp as commonly suggested. A depression in metal circulation is being dealt with, which was geographically quite varied; less metal may have been available in the Carpathian basin, but elsewhere there may be continuity.

Beyond Varna and Gold: The Social Implications

There seem to be two major opinions when it comes to the social implications of early metalwork: the most popular describes metallurgy as one of the key triggers for emerging social, economic, and ritual complexity, particular during the early Copper Age horizon (e.g. Renfrew 1978; contributions of J. Lichardus in Lichardus 1991a; Sherratt 1994); the other sees its impact as rather marginal (e.g. Parkinson 2006; Kienlin 2008) and of little importance in terms of social stratification. This latter has been proposed especially for the Carpathian basin and is supported by the absence of settlement evidence for advanced social hierarchy in Bulgaria and Romania. It does, however, have to acknowledge the special position of the famous Chalcolithic cemetery of Varna in

Bulgaria (Slavchev 2008), which has produced over 3,000 single gold objects, weighing more than 6kg; 165 copper objects, many of them larger axes and adzes (Higham et al. 2008, 95); more than 230 flint artefacts and around ninety stone objects; 650 clay products; and over 12,000 dentalium shells and around 1,100 Spondylus shell ornaments probably imported from the Aegean. Copper and gold obviously played an important role in the display of wealth, power, and perhaps status, a relationship clearly demonstrated by some clay vessels from prominent graves being decorated in gold powder, the multiple axe offerings in graves 1, 4 and 97, or most lavishly, by the so-called 'chieftain's' grave 43 (Todorova 1981; Fol and Lichardus 1988). The man buried in the latter has been described as having a symbolic role in, or control over, metalworking due to his special metal tool collection (as has cenotaph grave 4), and the grave's so-called golden penis sheath could well be a golden replica of a tuyère (jet-like air-concentrator normally made of backed clay).

Did the Varna cemetery and its accumulation of wealth really stand alone in south-eastern Europe? Interestingly the answer must be both 'yes' and 'no'. Yes, because as a funerary ensemble and a cemetery nothing can match it currently and perhaps never will. No, because there are structurally similar accumulations of material wealth, and in particular metals, in the early Copper Age horizon from a wide geographical range—however, they are mostly from hoards (Fig. 35.2). Massive golden bracelets like those from Varna (graves 1, 4, 36, 43 and 97), each weighing more than 100g, are known from Fundeni-Lungoci (probably a grave, or part of a hoard) and Balaci (a single find or part of a hoard) in the Romanian Lower Danube (Govedarica 2004), from the Moigrád hoard in Transylvania, and in the form of an arm spiral weighing 165.9g from the Tiszaszölös hoard in the Hungarian plain (Makkay 1989). The Moigrád and Tiszaszölös treasures themselves, with their lozenges, plates, and other things, must each have originally contained more than a kilo of pure gold, with the oval plate or pendant of Moigrád, with a diameter of an incredible 31.1cm, totalling 780g alone. But there is more: one can add the hoard from house 4 of the Chotnica site in Bulgaria with its forty-four pieces of golden jewellery and pendants weighs 310g altogether (Todorova and Vajsov 2001); the Hencida hoard in Hungary weighs *c.* 150g (the largest pendant 94.91g; Virág 2003); the two gold disks from Stollhof in Austria weigh 121g and 71g; the two gold disks from Tenja-Orlovinja in Croatia weigh 150g (and more than double if one can add the gold bands and rings, Glogović 2003); the two Csáford disks weigh 140g (Korek 1960); the Ercsi hoard pieces are of similar weight ('Trésors… 2001'); there is the 21.4cm wide Štramberk-Kotouč silver disk (Hásek 1989); and the collection of golden pendants most likely from another hoard said to have originated in either Greece or Bulgaria (Dimakopoulou 1998). Similarly, there are the big copper axe hoards, such as Plakuder in Bulgaria and Bečmen in Serbia each containing more than five kilos of pure copper (Lichardus-Itten 1991), the four Pločnik hoards weighing a total of 16kg, or the full metal hilted and decorated Jászladány axe from Osijek in Croatia (Jovanović 1979, 40–41, pl. II, 1–3) made of 18kg of pure copper, the heaviest single copper artefact for millennia (Fig. 35.3). Even the clay vessels with their decoration in gold powder have now found a parallel from the slightly later Bubanj site of Niš-Novo Selo in eastern Serbia

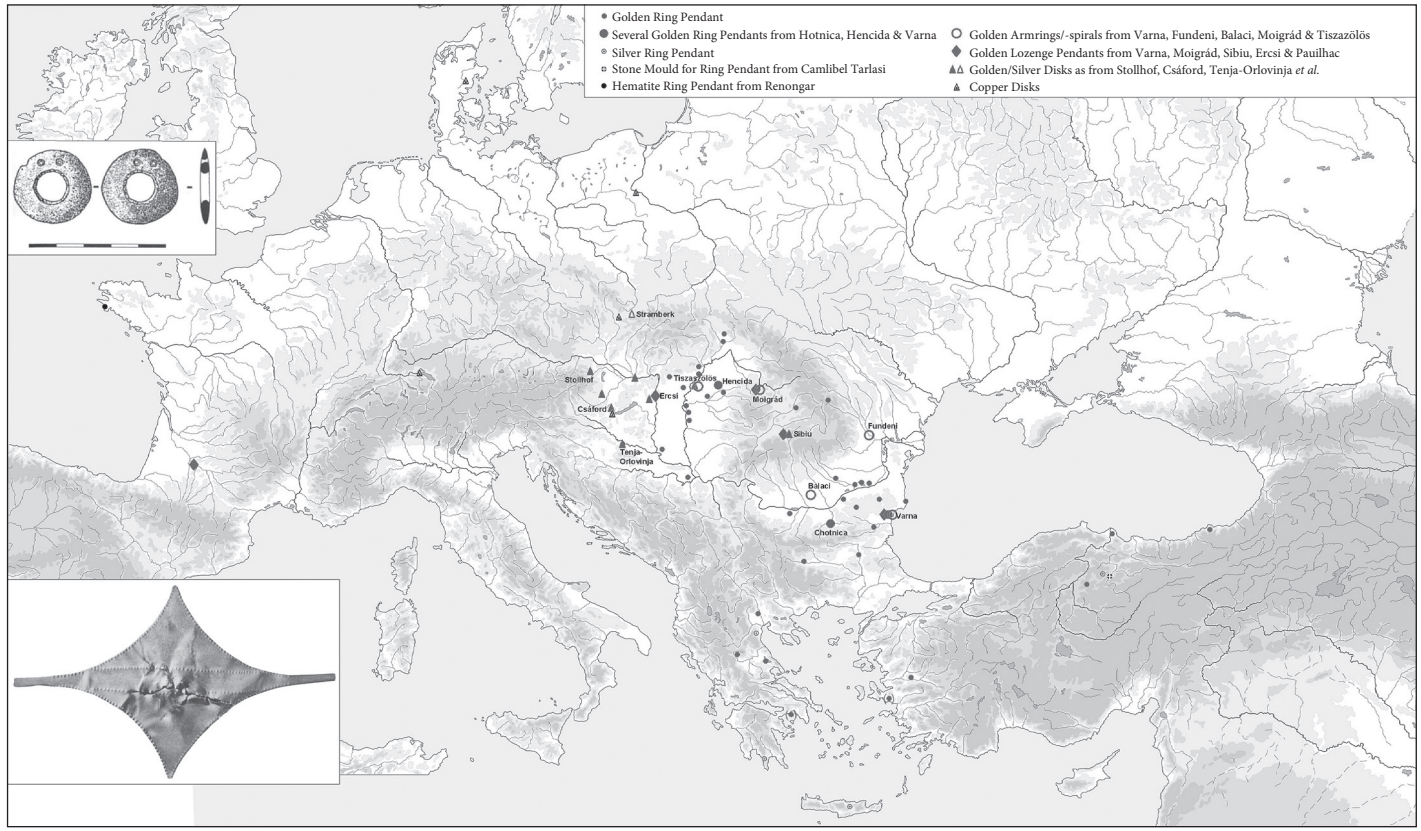

FIG. 35.2. Distribution map of early Copper Age golden bracelets, disks/lozenges, and gold/silver pendants.

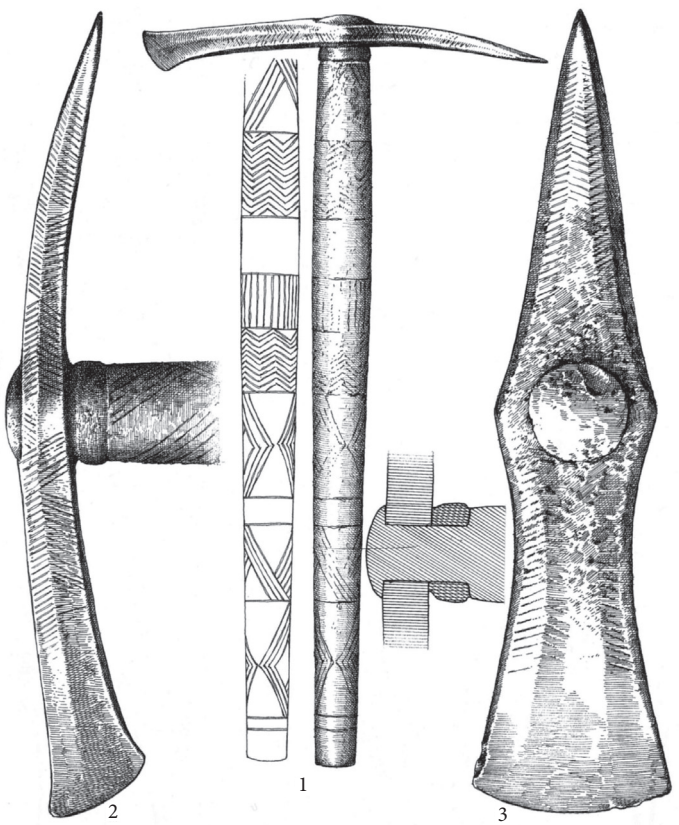

FIG. 35.3. Copper axe from Osijek, Croatia (after Jovanović 1979).

(Stojić and Jocić 2006, 257, Fig. 41). Lavishly equipped graves have also come to light, if only in limited numbers. Apart from the enigmatic Fundeni, there is now Giurgiulesti in Moldova (Govedarica 2004) and some other sites in the Ukraine (Rassamakin 2004) which belong to the Ochre Graves of the Suvorovo-Novodanilovka group (Anthony 2007, 249–258). As argued for Varna (Lichardus 1991b; Lichardus and Lichardus-Itten 2003), it was perhaps the north-eastern connection to the steppes which brought the idea of lavish grave furniture (Fig. 35.4), and the display of wealth, prestige, power, and social position in the grave, to the early Copper Age sedentary farming communities of south-eastern Europe.

A key theme is the relationship between graves, hoards, and single deposits (Lichardus-Itten 1991, 757–758), especially since the same metal categories, like the copper axes, golden lozenges, plates, and pendants, came from all three. Indeed, the so-called 'cenotaphs' from Varna and other cemeteries in the west-Pontic region are effectively hoards in a funerary context (see Chapman 2000). It must be mentioned that there is an independent structural similarity with other regions and periods: valuable object deposition in graves and hoards is known from the Nordic and Atlantic Bronze Age, Urnfield central Europe, and the Carpathian basin in the late Bronze Age, indicating

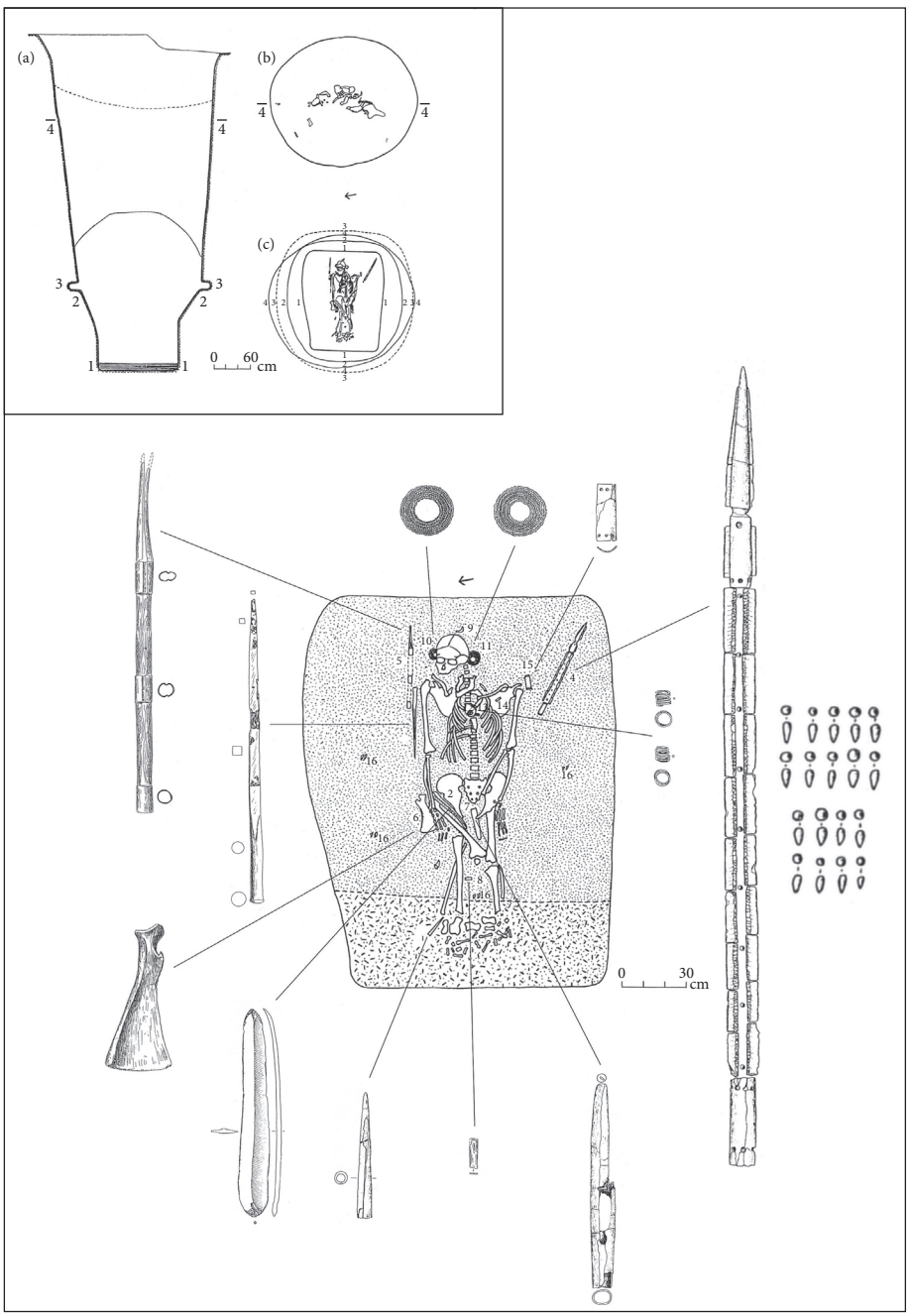

FIG. 35.4. Giurgiulesti, Moldova, grave 4: plans, section, and funerary equipment (after Govedarica 2004).

a deep-seated correlation between burial and hoarding which is cross-cultural and supra-regional. One can infer that the Varna cemetery and its contemporary hoards are just one among many similar patterns in later European prehistory.

While metal objects had a fluctuating value, it was essential that the rarity of the material and the skills needed to produce it were not available readily. Through limiting people's ability to access and produce metals themselves, and the events during which it was produced and used, and by controlling the amount available by conspicuously removing some of it from circulation, elites were able to maintain the management of it. It was crucial that metal retained its performative quality, such as the significance of its use in funerary customs, for social power and control to be maintained. The graves and hoards therefore demonstrate sharp inequality over wide parts of Europe in the fifth and early fourth millennia BC which can be best explained in terms of social stratification. Evidence from fifth millennium BC settlements can be added for many parts of south-eastern Europe, with new functional ideas on tell sites and their surrounding outer settlements and perhaps satellite flat sites opening up new perspectives (e.g. Pietrele: Hansen et al. 2007), with proven inequalities within settlements in the form of house sizes (e.g. Durankulak: Todorova 2002), two-storey houses (Nikolov 2004), and evidence for pottery inventories of larger houses differing from their neighbours in both quality and quantity (e.g. Drama: Lichardus et al. 2003).

This pattern of robust social institutions and enhanced complexity, of lineages and powerful individuals, of networks and bonds, remains persistent in time and space, albeit fluctuating in intensity. Social and economic peaks, such as at Varna and the human groups and individuals behind the described hoards, or the 'mega-villages' of the middle and late Tripolye in the Ukraine (Kruts et al. 2001; Kohl 2007), exist for centuries and then vanish. However, we also see depressions in that picture, such as with the aforementioned geographical shift in metallurgical activity from east to west. Another example are the centuries during the middle Copper Age when institutions, networks, and international exchange are partly interrupted, and a system of symbols and values other than metals and exotic objects finds its expression. Lavish graves and hoards disappear, but there can be no doubt that social complexity continues on some level, even if archaeologically it is more difficult to understand. The tide turns again in the late Copper Age, at least regionally, when princely graves like Velika and Mala Gruda, or Podgoritsa-Tološi, all in Montenegro, and strongly hierarchic settlements like Vučedol in Serbia, appear in the first quarter of the third millennium BC (Harrison and Heyd 2007), foreshadowing Bronze Age consistency. The European Copper Age was not a stable world, and this system of inherent instability is one of its characteristics, beside the megaliths, recurrent steppe infiltrations, and the ideologies, to name but the more prominent.

As for the societal impact of early metallurgy, there can be no doubt that any exploitation of ores, particularly in the early copper mines of Aibunar and Medni Rid (Burgas) in Bulgaria, and Rudna Glava and Majdanpek in Serbia, along with ore preparations, the reduction process, and then casting, occurs at a scale in excess of the self-sufficient hamlet or village. It requires the division of labour, specialization, and the year-round availability

of skilled individuals. The marketing and exchange of finished products beyond the local scale demands even more specialists, likely absent from their kin for long periods, and creates new or enhanced networks and communication routes. The restricted availability of metals, their resultant social prestige, and cumulative value as a contributor to and indicator of wealth, would all have created and enhanced their significance.

While this is true, closed statements about the role of metals solely creating a vertical social stratification are now recognized as outmoded and simplistic, and what can be seen is horizontal differentiation as well. The origin of metal production and use is not the only trigger of a new Copper Age epoch with a differentiated social system, although it is one of the more important dimensions. Margareta Primas's statement about the Bronze Age (1996) can be applied earlier—metals were the grease which kept the Copper Age motor running.

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