

WARFARE: A DEFINING CHARACTERISTIC OF BRONZE AGE EUROPE?

ANTHONY HARDING

INTRODUCTION

In November 1985, a farmer on Fröslunda Manor in the Källand Peninsula on the southern side of Lake Vänern in central Sweden was ploughing a fen area deeper than usual when a large, green disc appeared in his furrow (Hagberg 1988). He initially thought this was a modern lid of some sort, but later realised it was something much more special. It turned out that the object was a bronze shield. In excavation the following year, a further thirteen shields, whole or fragmentary, were recovered (Fig. 1). They had been deposited in wet ground, or shallow water, in what was at the time a bay on the edge of the lake, and their number, variety, disposition and condition (at least some were apparently perfect when deposited) indicate that they were all deposited at one time, and intentionally.

The shields are of the so-called Herzsprung type, named after a site in eastern Germany, and date typologically to the Late Bronze Age. The Fröslunda finds are not unusual, except in so far as their number is concerned; shields have been studied by a series of scholars (Sprockhoff 1930; Hencken 1950; Coles 1962; Gräslund 1967; Thrane 1975; Needham 1979). The Herzsprung and other shield types are distributed across much of Europe: where actual finds do not occur, depictions may do (as, for instance, with stelae in Iberia). Many *in corpore* finds come from wet places, particularly in Ireland and Britain. In the former, the shields may be of leather or wood as well as bronze, and famous examples come from Clonbrin, Co. Longford, Cloonlara, Co. Mayo, and Lough Gur, Co. Limerick. On the European continent, well-known pieces come from Plzeň, from Nackhülle in Halland (Sweden – geographically the closest to Fröslunda), from Ognica (formerly Nipperwiese) near Szczecin, and from the Rhine. There has not been a complete corpus of these shields for some years, but there are at least eighty metal examples in central and northern Europe, with more turning up unexpectedly at intervals (e.g., a new find from South Cadbury, Somerset, discovered in excavation in 1997; Coles et al. 1999).

All this indicates that the deposition of Bronze Age bronze shields was far from rare – and it was not only shields that were deposited: other types of weaponry, particularly swords, also found their way into the ground in large numbers. It was by no means only



Fig. 1. The shields from Fröshunda, Sweden, under excavation. Photo: Lars Hasselberg, by kind permission of Västergötlands Museum.

weapons and armour of which this is true (ornaments of various kinds, for instance, were also deposited very frequently), but they do constitute one of the principal categories of material thus situated. Why? What was the special importance of war-related artefacts in the Bronze Age world?

A second remarkable set of finds was made between 1984 and 1995 on the Middle Bronze Age site of Velim, district of Kolin, in the Czech Republic. A series of large pits, conjoining to form discontinuous ditches, were found to contain numerous human bone deposits (Hrala et al. 1992). Some of the bones were complete and articulated, some scattered or incomplete; groups of skulls were found in certain pits; infants and children were represented, as well as adults, of both sexes, mostly lying in disorder in the pits (Fig. 2). As if this were not strange enough, some of the bones bore cutmarks, usually taken as evidence of butchery, and possibly cannibalism. Velim is not a cemetery, at least not in the normal sense (it belongs mostly to the Tumulus Bronze Age, the burial rites of which are well known). As yet, there is no indication of the total extent of the site and thus of the dead occupants of the ditches, but it must run into hundreds. It seems certain that most if not all of the persons deposited here were killed, and warfare is one of the likelier explanations for this extraordinary congeries of death and destruction.



Fig. 2. Human bone deposits from the ditches at Velim, Czech Republic. Some of the bones bear cutmarks, and were probably the subject of violent deaths. Unusually, the individual in the foreground had a pot placed alongside. Photo: M. Vávra.

This chapter will examine various aspects of the occurrence of warlike material in Bronze Age Europe, and ask the question: did war and warlike behaviour play a particular role in the Bronze Age? If so, what was it? Can one even characterise the Bronze Age by reference to its war-related attributes?

WEAPONS AND WARFARE, 2,500–1,200 BC

No one looking at the artefactual record of the European Copper and Bronze Age can fail to be in any doubt that objects of warlike appearance played a major role in the period. That role is a matter for discussion, but the sheer numbers of artefacts, and their ubiquity, speak eloquently of large-scale production and large-scale deposition.

In the Copper Age, depictions on grave stelae and finds of arrowheads (as well as the remains of an actual bow and a quiverful of arrows with Ötzi, the Ice Man) indicate that the bow and arrow was the main long-distance weapon. Mercer (see chapter 9) has considered the importance of warfare by archers in the British Neolithic, and there is every reason to believe that such war technology was widespread throughout western and central Europe, providing an ancestry for the Copper Age manifestations in the west, most tellingly exemplified by the statue-menhirs or stelae that extend from Italy to Iberia and western France (Arnal 1976).



Fig. 3. Anthropomorphic stela (statue-menhir) from Petit Chasseur, Sion, Switzerland, showing bow slung across the chest and lozenge and triangle designs probably representing patterned textiles. Musée cantonal d'archéologie, Sion. Photo: H. Preistig, courtesy of Musées Cantonaux du Valais.

The depictions on the stelae from Petit Chasseur give a lively impression of the Copper Age warrior in central Europe (Fig. 3).¹ Some of these are abstract in nature, but taken as a whole, the anthropomorphic nature of the figures is not in doubt (Sauter 1976, 76ff. fig., 22; Bocksberger 1978, pl. 18–20). The bow is slung across the chest, and in some cases arrows are also visible, or a dagger is present on the lower trunk. The daggers are markedly triangular with a rounded pommel, and have been considered to be most akin to those found in the Remedello culture of northern Italy, dating to the Copper–Bronze Age transition. In north Italy, for instance in the Lunigiana behind La Spezia or the Alto Adige between Bolzano and Merano, the stelae have daggers at the waist and L-shaped implements (thought to be hafted battle-axes) on the chest, though not bows (Barfield 1971, 65ff.; Ambrosi 1988).

It seems, therefore, that two different forms of fighting are visible. In the Rhône Valley in Switzerland, the warriors were either using bows for long-distance offence directed

towards humans or animals, or daggers for fighting at close quarters; on the other side of the Alps, they were equipped with daggers and battle-axes. A third variant may be present in southern France: the L-shaped implements (battle-axes) are present, as are a group of mysterious 'objects' slung on a strap across the chest, having a triangular shape with a circle at the wide end (Arnal 1976; D'Anna 1977).

But was this really such a contrast? Can we assume that the appearance of these statues really reflects the way dominant or bellicose males (all those with weapons seem to be male – at least they do not have the obviously female characteristics seen on some stelae) dressed and the arms they carried? Not necessarily. The statue-stelae are unusual enough for it to be quite likely that what are represented are exceptional depictions – exceptional people or exceptional events. We cannot even tell whether these are meant to be specific individuals (e.g., in commemoration of the deceased who lay nearby in an associated tomb) or genre scenes. What is certain, however, is that bow and arrow and dagger were carried by particular individuals in the Copper Age of these circum-Alpine regions, and it is likely that the bow and arrow at least was in widespread use for hunting, probably also for human combat. The dagger, by contrast, is likely to have been mainly intended for human fighting rather than hunting, though it is possible that it was used to deliver the *coup de grâce* to wounded animals, and in the absence of other implements identifiable as knives, it could have been used to butcher them.

Daggers continued as one of the most popular weapons of the Bronze Age, and were still in common use in the Early Iron Age. Daggers are found throughout the Aegean Bronze Age, often elaborately decorated, and certainly not intended for use in fighting. We know little about the Aegean warrior until the Late Bronze Age, however, when a suite of other weapons is also found (see below).

The same is probably true for the bow and arrow (Rausing 1967), though usually it is only the arrowhead which survives. While arrowheads are not generally distinctive in type or origin (Mercer 1970), there are exceptions – most notably in the latter stages of the European Bronze Age, when a particular form is present on fortified sites in central Europe (presumably the aftermath of attacks), thought by some scholars to attest the presence of invaders from the steppe zone, 'Thraco-Cimmerians' or Scythians. A one-to-one correspondence is perhaps unlikely, but it is certainly true that there are many indications of conflict in the earlier first millennium BC in this part of the world. In Greece, the bow and arrow (as attested both by depictions and by finds of arrowheads) had existed probably for thousands of years (Buchholz 1962; Avila 1983). Arrowheads are well known from the Shaft Graves of Mycenae and the chamber tombs of Prosymna and elsewhere, in flint and other stones, and are usually hollow-based in form; bronze arrowheads occurred in great numbers in the workshops and storerooms at the Palace of Pylos and elsewhere (Buchholz 1962; Avila 1983, 86ff. Taf. 23ff.; Blegen 1966, 321ff. fig. 316, 1, Room 99, 325f., fig. 317, Room 100: 'more than 501 small barbed arrowheads'). They were also found by Evans in quantity in the Knossos 'armoury' (Evans 1935, 617, 836ff. figs 816, 818; Avila 1983, Nos 597, 7242²). There is also the evidence of the Linear B tablets: those listing items in the 'armoury' at Knossos indicate many arrows or javelins held in store (Chadwick 1973, 361), and also swords or daggers (the Ra series of tablets). A tablet at Pylos (Jn09) listing bronze allocations specifically states that bronze was collected in order to make points for arrows and spears (Chadwick 1973, 357).

The really significant developments in warfare technique, however, came with the creation of quite new weapons during the course of the Bronze Age. The halberd, if it really was utilised in battle, was clearly cumbersome to handle, and because of the angle at which force would be directed to the fastening rivets, weak in attachment, and likely to come adrift. Any Early Bronze Age warrior who relied on it in battle against an enemy with more solidly conceived and executed weaponry would have an untimely end, but it is possible that the 'fighting' involved was purely of a ceremonial or ritual nature, as we will see in other contexts shortly.

Much more significant were two types of weapon that emerged quite early on in the Bronze Age: the spear and the sword. The spear developed out of a dagger-like blade with a long tang that may have been mounted on a long shaft rather than held close to the body. By the developed Early Bronze Age in central Europe (c. 1,800 BC), the socketed form was in production, and with only small differences this was the form that existed throughout the rest of the period (Jacob-Friesen 1967). In the Aegean, the spear started its life around 2,000 BC, but the fully functional socketed form only arrived with the Late Bronze Age (Höckmann 1980a, 1980b; Avila 1983).

From their abundance, spears were obviously important, but in central Europe they were not usually decorated or given the appearance of prestige weapons – unlike the other new invention, the sword. There are many fewer surviving swords than spearheads, but this is probably a good reason for considering them to have been of greater importance. The developmental history of the sword is well known (Cowen 1955; 1966). Early versions of swords were already present in east central Europe in the Early Bronze Age, and during the Middle Bronze Age Tumulus period, the standard 'cut-and-thrust' sword developed. In Greece, the sword was a new arrival at the end of the Middle Bronze Age, probably building on a Near Eastern ancestry (Sandars 1961), whereas the dagger had existed since the Early Bronze Age. At first, long, narrow rapiers were produced, with a small tang for fastening to the hilt; later, flanged hilts were used, though the blade was still tapering and officially a 'rapier'. Finally, in the later centuries of the Greek Bronze Age, the fully functional cut-and-thrust sword appeared in Greece, and the significance of this is examined below.

How were the weapons used?

In Greece, depictions and *in corpore* finds make it clear that by the middle of the second millennium BC, the weaponry available consisted of the rapier, spear, dagger, and bow and arrow. Warriors also had access to defensive weaponry, notably helmets and shields, and to chariots (Crouwel 1981). A series of Linear B tablets from the 'armoury' at Knossos refers to chariots (without wheels), and others to the wheels themselves (So series); similarly, at Pylos, the Sa tablets list wheels (Chadwick 1973, 361ff.). A related matter, not the subject of discussion here, is the occurrence of fortifications, which are prevalent in certain areas and periods – though not on Crete, at least not in the Palace periods.

Kilian-Dirlmeier's (1993) full consideration of the use of swords has placed the study of Bronze Age warfare in the Aegean on a new and sounder footing. She has tabulated the occurrence of swords in combination with other weapons throughout the Late Bronze Age. In the earliest Mycenaean period, swords were usually accompanied by daggers or

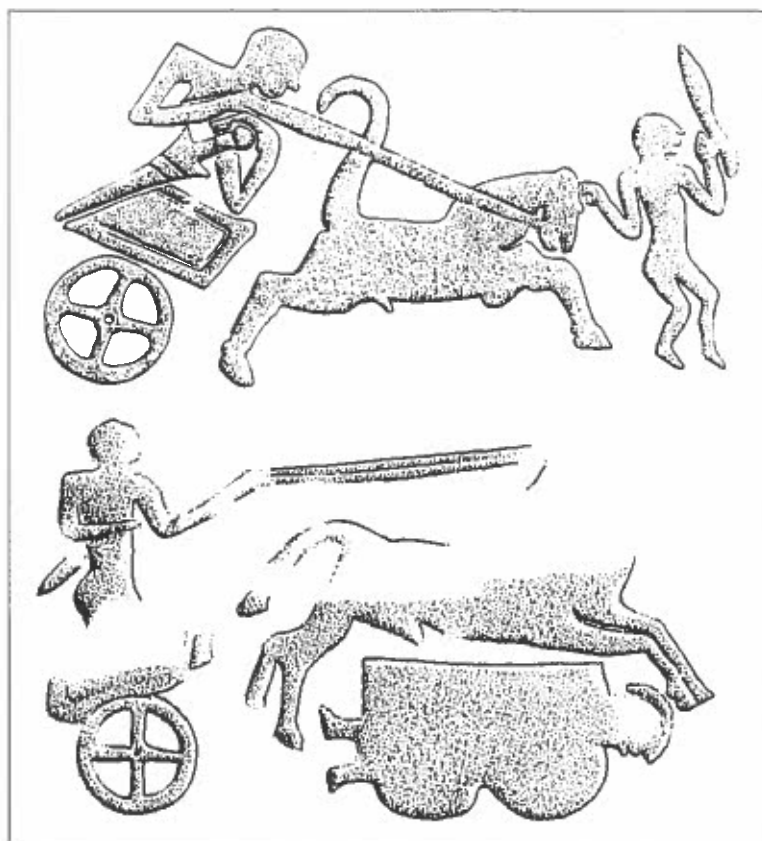


Fig. 4. Grave stelae from Mycenae, found above Shaft Grave V, showing chariots, a swordsman (upper) and a fallen warrior with figure-of-eight shield (lower). Source: Crowneel 1981.

knives, sometimes by spears. By contrast, in the middle to late period, the spear was a much commoner accompaniment. Interestingly, in the early to middle Late Bronze Age on Crete, the sword and spear duo was also common; some of the so-called Warrior Graves at Knossos have a spear but no sword. These occurrences allow the reconstruction of several weapon combinations, which could have reflected either ownership and deposition practice, or warfare technique. If the latter is true, not everyone fought with a sword – a few relied on spear or dagger. However, swords were much the commonest weapon provided and (presumably) used.

Depictions of the Shaft Grave period show warriors in hand-to-hand combat wearing boar's tusk helmets and using swords, spears and shields (full discussion in Kilian-Dirlmeier 1993, 130ff.; Foltiny 1980; Höckmann 1980a). A larger scene on a silver vase from Shaft Grave IV shows a number of fighters, some armed with bows. The grave stelae and daggers of the Shaft Graves depict hunters wielding bows in pursuit of lions and leopards but also engaged in fighting other warriors, both on foot and mounted in chariots (Fig. 4). Shield and spear are shown on other depictions of this period (Höckmann 1980a, 277). A warrior with boar's tusk helmet and spear occurs on a fresco from Pylos, and other depictions from Tiryns and elsewhere confirm the picture,

suggesting that the same method of fighting (and/or hunting) was present in the later (but not the latest) part of the Mycenaean period as in the earlier.

To what extent Homer may be used as a model for understanding Mycenaean warfare is a much-discussed question (Lorimer 1950, ch. 5; most recently, van Wees 1994). Clearly, there are elements of Homeric warfare that correspond well with what we can reconstruct of Late Bronze Age warfare, but the whole question of which parts of Homer were late insertions and which relate to a genuine tradition handed down in bardic memory from ancient times is highly controversial. Most commentators assume that chariots were used to transport the warrior to the scene of battle, where he dismounted and proceeded to engage with one or more opponents (e.g., Crouwel 1981). In spite of some passages implying the massed warfare that resembles what happened in the hoplite age, most encounters described by Homer are man-to-man, which tallies with most of the pictorial evidence. It is certainly hard to imagine that on Greek terrain, the moving chariot could have served as an effective platform for accurate archery, and in spite of assertions to the contrary by Drews (1993), there is no evidence that massed chariot charges took place in Greece at this period.³

In considering the nature of Mycenaean warfare, it is important also to bear in mind the evidence of protective armour. The shield was the most frequently used item of armour, but it was not the only one: helmet, cuirass or corslet, and greaves were used to protect the head, torso and shins respectively. Most of what we know about these objects comes from those examples that were fashioned in sheet bronze and have therefore survived, but it is highly likely that the majority of such items were made in leather. Shields certainly were, and there are even wooden examples known. It is highly significant that experimental reconstructions of metal and leather shields have shown that the latter are very much more effective in real combat than the former (Coles 1962), and as a consequence, that sheet metal armour was much more likely to be intended to be seen than to be used in real combat.

Most of the earliest examples of body armour in Europe appear at the start of the Urnfield period (Br D, thirteenth century BC), though in Greece armour was in use in the LH IIIA period (the Dendra corslet), the fourteenth century (Snodgrass 1971), and a radiocarbon date on a wooden shield form now indicates that shields were produced in Ireland as early as the Early Bronze Age (Hedges et al. 1991, 128f.). Unlike the thin sheet armour that occurs in continental Europe, the Dendra panoply is made of quite thick metal, and would have been relatively effective at keeping blows from sword and spear off the body. But it would have been extremely heavy and hot to wear, and if its bearer tripped or fell, he would have needed help to get up again. The Linear B tablets show that cuirasses like this were a standard part of the armoury, and in spite of some objections, it seems inescapable that this was how Mycenaean warriors operated, in the middle period at least. This contrasts with the commonly presented view of the 'Urnfield warrior', with light bronze shield, helmet, corslet and greaves (Fig. 5). In truth, this bronze-clad warrior was only ever around in the late part of the Bronze Age, and then only for display. Earlier, he was protected by leather, and one must hope that one day such a panoply will turn up, perhaps preserved in a peat bog.

This brings us to the question of how weapons were used. In the case of spears, debate centres on whether they were held or thrown – a question that has vexed scholars for decades. In the Aegean, there is some pictorial evidence to show that both modes were used, and if Homer is relevant to the debate, the throwing of spears was the standard mode



Fig. 5. The 'Urnfield warrior', an idealised reconstruction by J.M. Coles showing bronze helmet, corslet, shield, sword and greaves.

of engagement in the *Iliad*. In European contexts, two quite distinct sizes of spearhead became known – one large and the other small – though there are also most intermediate sizes in between. Although either could have been used in either way, it is most likely that small spearheads were intended for light javelins that could be thrown over a distance of several tens of metres, and large ones for heavy spears that were held firm by a warrior or group of warriors under close-quarters attack, or thrust at the opponent. Indeed, Klavs Randsborg (1995, and Chapter 12 this volume) maintains that hoards or collective finds of spears in the Nordic Early Bronze Age are to be interpreted as the weaponry of warrior collectives. Perhaps such spear-owners acted and fought in collaboration – if not as a hoplite (very unlikely), at least as a co-ordinated group, with some throwing their spears and then taking cover behind the others, who advanced holding theirs. At the moment of

encounter, the lancers (as we may call them) could then have emerged to use cutting or thrusting weapons (daggers, rapiers, swords) in hand-to-hand combat.

Daggers and rapiers can only have been used for thrusting, to penetrate deep into the body of an opponent – though only creating a narrow wound. It is quite possible that a rapier thrust could penetrate the body and yet cause no fatal or even debilitating wound (in the short term). A rapier wound would need to be deep and on target, which is to say accurate (or lucky) enough to penetrate a vital organ or artery. Swords, with their broader and heavier blades – especially those with leaf-shaped (splaying) blades – could be used to deliver cutting or slashing as well as thrusting blows. In this way, a swordsman could use a much greater variety of skills in combat, and in the event of landing a blow, could cause significant injury even through glancing blows, which would cause lacerations and bleeding, and potential damage to muscle and tendons. Danger spots might include the neck, the back of the knee, the groin, or the inner thigh, all of them dangerous because of the tendon damage, pain and bleeding that might ensue. On the other hand, the long blade and sharp point of the rapier would mean that a moment of inattention could allow an opponent to land a dangerous thrust on the face or other vulnerable body part.

In view of the above, it is confusing to find that depictions from the Aegean, which can only be referring to weapons with a narrow, tapering blade (i.e., rapiers), frequently show warriors with their sword arm raised above the head, delivering blows that certainly appear to be bringing the sword down on their opponent's head or trunk (Fig. 6). I believe that in spite of what we would regard as the 'logical' way of using swords (as presented by experts in the art: Gordon 1953), Mycenaean fighters used their weapons in a variety of ways. Many of their finest swords and daggers can hardly have been intended for use at all, so elaborately are they decorated. There is undoubtedly a display element to what comes from the rich graves of Mycenae or Dendra or the tholoi of the Pylos area. I also believe that the effectiveness of Bronze Age cut-and-thrust swords has been exaggerated. I have not experimented with striking an object, let alone a living body, with such a sword, but I have waved a few around, and find it hard to believe that a slashing blow landing on a clothed body would have done more than produce bruising. Even freshly sharpened, it is hard to see how they could have produced more than superficial cuts where the skin was protected. Thrusting blows, delivered in a moment of inattention during a fencing duel, are much more likely to have been effective.

In Europe, much speculation has centred on the degree of wear swords have, and the indications this provides of how much and how often they were used in battle. It is certainly striking that many sword blades are nicked or battered (Bridgford 1997), and Kristiansen (1984) maintains that the degree of resharpening or edge-grinding (as shown by the steepness of the edges) indicates the degree of wear and usage. This hypothesis assumes that swordfights were conducted in the manner beloved of Shakespearean actors – essentially for fencing, with the sword used as much to parry blows as to land them on the opponent. There is a big difference between fencing weapons and Bronze Age swords, however, the most significant being the difference in length. Unlike fencing foils, European Bronze Age swords are typically 50–80 cm long, which means that the warriors were very close to each other (Minoan and Mycenaean rapiers were typically 1 m or more long). Their balance is also frequently less than ideal – a factor compounded by their rather short grips. The degree of wear (use) is also related to the type of sword. Most notably, solid-hilted swords (*Vollgriffschwerter*) are more

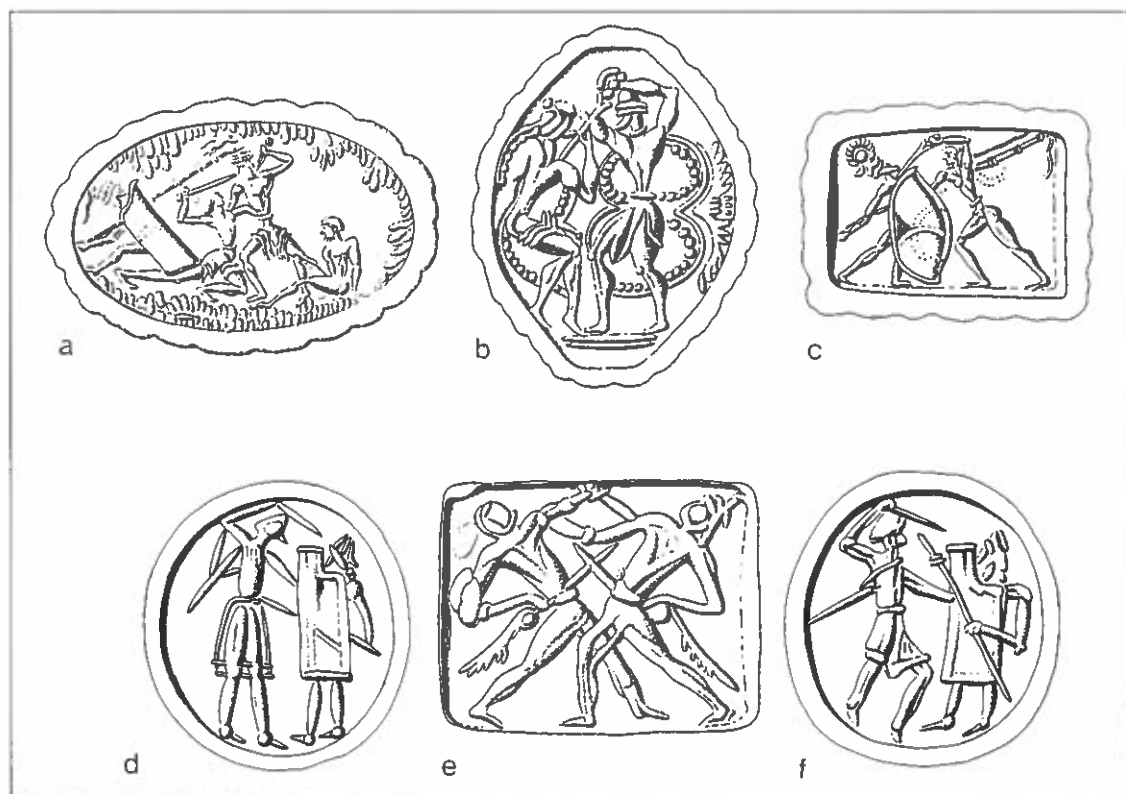


Fig. 6. Depictions of combat involving swords and shields from Minoan and Mycenaean rings, gems and seals. a: Mycenae, Shaft Grave IV; b–c: Mycenae, Shaft Grave III; d, f: Unprovenanced, Crete; e: Pylos, Gouvalari tholos grave 1. Source: Kilian-Dirlmeier 1993 (after *Corpus der minoischen und mykenischen Siegel*).

commonly in pristine condition than other types, suggesting that their function was not necessarily for real fighting, but rather for ceremonial fights or display (Figs 7–8).

The Bronze Age sword provides an ideal subject for study, since detailed catalogues have been published covering large parts of Europe. In eight geographical zones, covering all or part of ten countries, 3,390 organic-hilted and 1,547 metal-hilted swords have been recovered – a total of 4,937.⁴ In some areas, the density of finds was extremely high: in Ireland, for instance, there are 624 swords in the published catalogue (Eogan 1965), amounting to 7.61 swords per 1,000 square kilometres. Though that may not at first sight seem a particularly high density, over 600 swords in a country the size of Ireland, all emanating from the 500–600 years of the Late Bronze Age, is truly remarkable. Ireland is also the place where shields are most abundantly known. What exactly was going on there, and was it different from anywhere else?

This question cannot realistically be separated from the wider one of bronze deposition in general. Much ink has been spilt in recent years to try to determine the reasons why people in the Bronze Age left so much bronze in the ground. This is not the place to review these interpretations in detail; suffice it to say that there has been a marked shift from a tendency to consider bronze hoards as industrial or commercial in nature, to considering

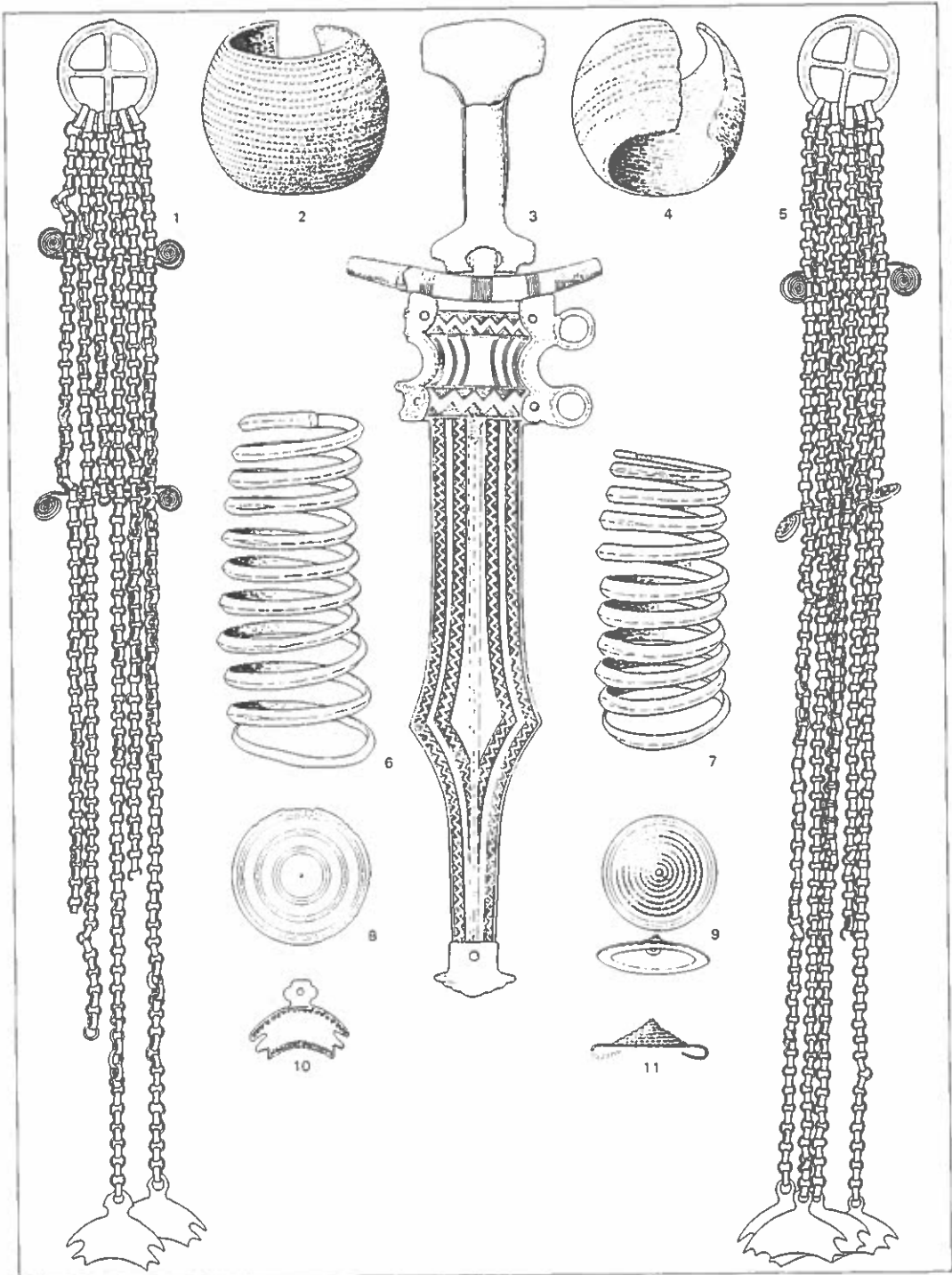


Fig. 7. Parade weaponry from the Late Bronze Age Balkans: the solid-bitted sword with scabbard (3), arm-guards (6-7), bracelets (wrist-guards?) (2, 4) and elaborate chain pendants (1, 5) from Veliki Mošunj, Vitez, Bosnia. Not shown is a large decorated bronze disc that might have formed the centre of a shield. Source: Harding 1995 (after Trubelka).

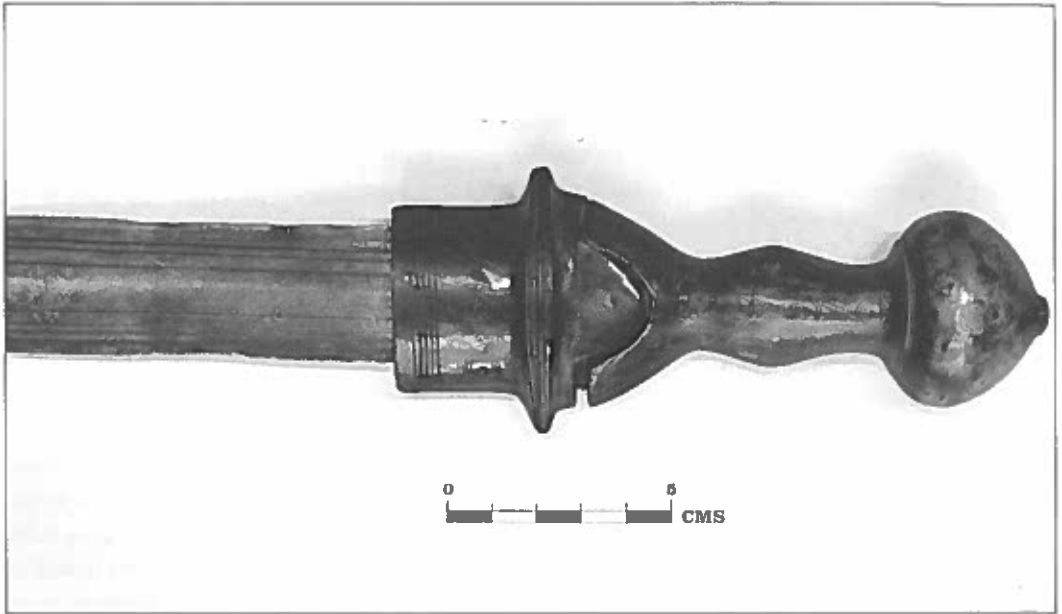


Fig. 8. Solid-bilted sword from Kuden Vakuf, Bosnia, showing integral hilt and pommel and the bronze scabbard mouth (the rest of the scabbard would have been of leather or wood). Naturhistorisches Museum, Vienna. Photo: author.

them votive – intentionally placed in the ground, and abandoned for ever. Weapons are far from being the most common artefact group to be treated like this, but there are plenty of cases where they were lost to living Bronze Age people, either by being hoarded in the ground or by being thrown into rivers. A well-known example is the group of swords (and other objects) from the Porta Bohemica at Velké Žernoseky in northern Bohemia (Plesl 1961, 155, pl. 54); there are also examples from the Danube in Hungary and elsewhere (Mozsolics 1975). In Britain, many finds come from the Thames and the wet ground of the Fenlands (Burgess & Colquhoun 1988). In other words, there are plenty of finds to show that weapons were treated in comparable ways to other artefact classes. In addition, there are relatively few cases where swords were placed in graves. An exception is the Seddin area of eastern Germany, where a hierarchy of graves has been suggested (Wüstemann 1974, 1978). Here, a topmost layer of graves (and therefore, presumably, people in society) were equipped with swords, spears and other rich goods, the ‘King’s Grave’ at Seddin itself being the prime example, but with other rich groups placed in a territorial pattern across the landscape. As well as these ‘sword graves’, there were spear graves, harness graves and so on, and at the bottom of the pile, the great mass of poorly differentiated and poorly provided for graves that constituted the norm in Urnfield cemeteries. In the west, weapons in graves were exceptional, and there is certainly no comparison with the situation in the central European Urnfield world.

How does this relate to the bearing of arms in combat? If much, or some, of this deposition was concerned with votive and not utilitarian acts, does the number of weapons have

anything to do with the bearing of arms in battle? Yes and no. On the one hand, there is little to suggest that the depositions themselves were directly connected with warlike acts. While the few graves with swords are plausibly those of the warriors who bore them, and a few instances might be interpreted as losses, in general, deposition in wet places, or in hoards, or involving intentionally bent weapons, cannot have anything directly to do with a context of fighting. On the other hand, the clear indication that swords were used, were constantly changing, and achieved celebrity status by the end of the Bronze Age, with extra length and decoration becoming the order of the day, shows that swords were no mere cipher to be deposited in the ground, but a vital and regular part of the Bronze Age arsenal. It is not clear that many people actually owned a sword, but sheer numbers suggest that plenty of people used them over the years. In any case, there may have been a number of prohibitions on burying swords with dead warriors, ranging from sheer pragmatism (the desire to retain them for further use) to beliefs involving magical powers (Notung, Excalibur), in which burial of a sword with a warrior would be profane or otherwise undesirable.

WARFARE AFTER 1,200 BC

Around 1,200 BC a new set of arms and armour came into use in the Aegean area (Milošević 1955; Harding 1984, ch. 6; Sandars 1985, 91ff.). Most visible was the arrival in Greece of the flange-hilted sword of European type ('Naue II' sword), with a broad, sometimes leaf-shaped blade that was suited to both cutting and thrusting blows in combat. Flange-hilted daggers ('Peschiera daggers'), flame-shaped spearheads and certain items of defensive armour also came into use. These changes have often been considered part of a general shift, not only in warfare practices, but also, potentially, in populations, with northern influences, or at any rate forms that started life in central Europe, becoming widespread in the south. According to Drews:

the catastrophe [the decline of the major East Mediterranean cities around 1,200 BC] can most easily be explained . . . as a result of a radical innovation in warfare, which suddenly gave to 'barbarians' the military advantage over the long established and civilized kingdoms of the eastern Mediterranean. (Drews 1993, 97)

Specifically, the innovation was the invention of a new form of infantry warfare which was capable of resisting chariot attacks, and the means the infantry adopted was the javelin and the long sword:

Until shortly before 1200 BC . . . it had never occurred to anyone that infantrymen with such weapons could outmatch chariots. Once that lesson had been learned, power suddenly shifted from the Great Kingdoms to motley collections of infantry warriors. These warriors hailed from barbarous, mountainous, or otherwise less desirable lands, some next door to the kingdoms and some far away. (Drews 1993, 97)

In other words, these newly rising warriors were those of the continental European Bronze Age, perhaps the Balkans.

The changes in the armoury of warriors in the Late Bronze Age, long known and long debated, are undoubtedly of significance, but can they really be assigned the role of destroyer of great civilisations? Two questions are crucial in determining the likelihood of the Drews scenario: was it indeed the case that warfare in Greece prior to the twelfth century was conducted solely (or mainly) by archers riding in chariots, and do the changes in weaponry really indicate to us a major shift in that practice, with spear and sword-wielding infantry replacing chariot-riding archers?

The first question has already been answered in the negative. Chariots were important, but not supreme; there is, for instance, abundant pictorial evidence for foot soldiers, using the two shield forms that are also depicted, the boars' tusk helmet, and the many swords and spears that belong to the period before 1,200 BC. There is also plenty of evidence that chariots were used for other purposes than fighting (Crouwel 1981).

The answer to the second question is more difficult to elucidate. The Naue II sword was certainly better balanced and more versatile than the Mycenaean rapier. It is very striking, however, that only two main forms of the several dozen that were developed within Europe ever penetrated to Greece: the common form (Nenzingen/Reutlingen), and that with a pommel tang (Stätzling, Allerona in Italy) (Schauer 1971; Bianco Peroni 1970). We see none of the variety found in the Balkans and Central Europe, and none (or no convincing cases) of the highly important *Vollgriffschwerter* that characterized many of the European industries. In Cyprus and the Levant, local variations on the theme were created – a good indication that the weapons were produced locally. Elsewhere, Greek smiths produced only this limited repertoire of Naue II forms (though admittedly, they quickly moved on to producing them in iron, where a further rapid development of the type is seen: Kilian-Dirlmeier 1993).

This must mean that if 'European' warfare techniques were introduced to Greece, it was only some of them, or some aspects of them, that were introduced. Why, if Drews is correct that the effects were so far-reaching, was this the case? It is clear both from experimentation and from pure practicality that much of what we see in the archaeological record is remote from the utility of the objects concerned. Deposition in graves, and deposition in wet places, took the form of a structured selection of the repertoire of bronzes available at a given moment in time. The provision of swords, in combination with other objects, relates to the marking of the burial or deposition as a significant moment in the social life of the community. Rock art panels in Scandinavia show many instances of figures, very obviously male, wearing or wielding swords, and taking part in what appear to be dances or ceremonial fights. Swords represented the tangible evidence of prowess in combat, regardless of whether any particular sword belonged to any particular buried individual. Artefacts had a 'social life', they reflected the social conditions from which they emanated. In this sense they indicate that warfare can be considered defining for the Bronze Age.

All we know of early Mycenaean Greece would suggest that this was true there as well as in Central Europe. The many depictions of combat and hunting show that these were important events in the life of individuals, and in view of the special way certain people were buried, of communities too. What changed in the decades around 1,200 BC was, on the face of it, a purely technical thing, in that sword blades became stronger and their attachment to the hilt more secure, and spears were thrown more than previously. On the other hand, the change was reflected also in the way metalwork was treated. In

Continental Europe, very large quantities of metal were consigned to the ground in circumstances which must frequently have prevented its recovery – in other words, it was intentionally thrown away. That practice was rare in Greece, though some have argued for its existence (Matthäus & Schumacher-Matthäus 1986). Metal forms that originated in Europe were therefore treated in ‘Greek’ ways, and in the process underwent a subtle change of meaning. It is not necessary to suppose that Naue II swords indicate northern mercenaries or northern smiths, though admittedly, the form did not arise by chance in Greece: it was ‘brought’ there by human action. Swords in Greece remained what they had been before – the physical means of warrior supremacy – even if they were used in combat somewhat differently. Swords in Europe possessed and continued to acquire a symbolic aspect that is absent in Greece.

In just the same way, the shields from Fröslunda, and the slaughtered bodies from Velim, with which we started, reflect a set of processes and conditions that led to their deposition. To the extent that the shields are material objects, created with a particular technology that was characteristic of the period from which they emanate, they are mere arrangements of atoms of time past; but through the way in which their material being was structured and organised, from the moment of their creation to that of their deposition, they are much more. They reflect the society that placed them in the ground, their form and function referring to a set of social conflicts that had to be resolved, their placement referring to one of the ways in which that resolution was to be achieved: not necessarily by use in battle, but by symbolic deposition in wet ground. Warfare – or to be more accurate, warlike objects – was just one of a number of defining characteristics of the Bronze Age, and to assume that weapons equate with warfare in a modern sense is misleading. Weapons and the real or imagined combat they reflect were just one of the ways in which life was structured, society was reproduced, and individuals learnt and expressed their place within that life and that society. For the unfortunates of Velim, the lesson may have been a hard one, and their ability to express themselves on those fateful days limited, but both they and the weapons (? weapon-tools, ? tool-weapons) that killed them were part of what it was to be a Bronze Age person on the Elbe in the middle of the second millennium BC. Whether or not their fate is a defining characteristic of the Bronze Age, for them personally, the lethal blows that killed them were definitive enough. Small sign of warriors here. Clearly, there were many aspects to the making, bearing and using of weapons in Bronze Age Europe, and warrior societies, while important at particular areas and times, were not ubiquitous. Fröslunda and Velim are perhaps two sides of the same coin: the (? symbolic) remains of the warrior elite in fighting mode, and the squalid deaths of those who were unlucky enough to have to face unarmed the weaponry that the Fröslunda shields notionally guarded against. For both, warlike behaviour and its consequences were definitive.

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NOTES

1. Comparable finds came from Saint Martin de Corléans (Aosta): A. Cardarelli in Guidi & Piperno (1992); Mezzena (1988).

2. The many other arrowheads found in this spot are curiously not listed in that work.
3. Drews opposes the views of, among others, Terence Powell and Trevor Watkins, who saw the role of chariots in Mediterranean warfare as more or less incidental to the main business, which was conducted by infantry. He describes how opposing lines of advancing chariots would have had to have 'slowed as they closed and then somehow slipped around or through each other . . . After the surviving teams had made their way past each other, the archers may have faced the rear of their vehicles and fired once or twice at their opponents as they receded. Then the two forces, if they were still cohesive, must have wheeled around and begun their second charge, this time from the opposite direction' (Drews 1993, 128). As fuel to this fire, Drews believes that the Dendra cuirass could not have been worn by an infantryman, in view of its weight, but by someone who would be mostly stationary – a chariot warrior (Drews 1993, 175). So, according to this view, for most of the second millennium BC, chariots bearing archers were the main means of carrying out attacks in battle.
4. The actual number must be considerably higher than that: some of these catalogues go back many years, and no attempt has been made here to add in recent finds. It is believed that these figures are adequate to give an order of magnitude idea of the situation.

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