

From Bronze to Iron: The Rise of European Infantry

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*By fierce deeds let him teach himself to fight,
and not stand out of fire (he has a shield)
but get in close, engage, and stab with lance
or sword, and strike his adversary down.*

...

Tyrtaios of Sparta (c. 650 BC)

Introduction

This paper has three general theses (cf. table 4). (1) That a number of human issues and phenomena transcend the recognized patterns of culture. (2) That Europe, towards the close of the second millennium BC, after 1200 BC, experienced a highly important challenge to the dominating aristocratic or elitist norms of society, built up since the Stone Age. And, (3) that the social discourse of the idea of equality found new force, both north and south of the Alps, after about 700 BC and in the middle centuries of the first millennium BC.

The puzzled reader may ask what this has to do with the rise of European infantry. The quick answer is that the footmen in question—similarly equipped with lance and heavy shield (possibly a short sword for close combat) were fighting shoulder to shoulder in small and large ‘regiments’. Importantly, they were mostly full members of society, indeed, its citizens (although the participation of outsiders, certainly allies, should not be ruled out). In this, they differed from later mercenaries or the conscripts of the modern regimental armies, at

Table 4. Chronological/cultural table

BC	GREECE	CENTRAL EUROPE	DENMARK
2000	(Palaces)	Early Bronze Age	Late Neolithic
1500	Palaces	Middle Bronze Age	Early Bronze Age
1200	Collapse	Cremation, grave-goods disappearing	...
1000	Centres*	Late Bronze Age	Late Bronze Age
800	Aristocratic ‘back-lash’
500	City-states	Early Iron Age (the West elitist)	Late Bronze Age/ Early Iron Age

* mostly petty aristocracies, partly egalitarian ideology, emphasis on sanctuaries.

least before the time of Napoleon. The classic example of such an infantryman is the Greek hoplite (named after his large bronze-clad shield, the 'hoplon'), in full panoply from 700 or 650 BC onwards (Hanson 1991). Less well known, and far less discussed, is the both similar and related military development in other parts of Europe. Certainly, the hoplite way of fighting was not exclusively Greek. Everywhere, it enabled men to fight

harder by reducing fear and preventing flight. It also joined kinsmen and non-kinsmen, and the skilled with the less skilled.

Although ripe with guesswork, these theses seem to work both as a general model of the social discourse from the Bronze to the Iron Age, and of the military development of the period. Let us first go north, and into some detail.

Hjortspring

Find, Boat, and Crew

One of the truly famous archaeological finds from the Iron Age in Europe was the huge military sacrifice found in a tiny bog at Hjortspring on the island of Als (off Southeastern Jutland) (Randsborg 1995) (plates 38-39). It contains a magnificent boat or huge canoe with room for some 22 paddlers-cum-warriors, plus the weaponry and other equipment for a small fighting force substantially larger than the crew of the boat. The date of the sacrifice was *c.* 350 BC, the time of Philip II, the father of Alexander.

The Hjortspring find was excavated in a masterly fashion during the early 1920s (minor digging for peat before the excavation means that the find is not complete); the work carried out to preserve the delicate wood was outstanding for its period (Rosenberg 1937). The find has recently been conserved anew and is exhibited beautifully in the Danish National Museum. But perhaps its deeper secrets are only beginning to be revealed.

The boat is of knot-free lime from very tall trees and only weighs about 500kg. Its total length is 19m long in all, with interior measurements of little more than 13 x 2 x 0.75m. It is made of five broad, thin boards and has identical prominent double-prows at both ends, the lower 'beak' by far the most powerful, although this is not visible. At one end there is a small quarter-deck with three ornamented seats, the one for the steersman, while the other two face the crew. A rudder was also found at the other end which would seem to imply the presence of a fourth 'commander' or 'veteran' warrior who indicated the cadence to the two times nine paddlers facing away from the quarter-deck. Up to eighteen long and

narrow paddle-oars (common warriors) and two punt-ing-poles (commanders) were found, corresponding to the suggested crew, but, for obvious reasons, omitting the steersmen.

At sea it would have been possible to ram enemy vessels of similar construction amidships with the strong lower beak of the prows, perhaps using the quarter-deck as a fighting-platform.

The warriors would no doubt have drilled a great deal together, and the disciplined lifestyle on board the boat would, for instance, have created further bonds between the paddlers on the same bench. Thus, fighting on land and following the order of seating on the boat, a small phalanx might have been formed by two ranks of nine warriors with the veterans on the wings. The weaponry would indicate, however, that the seniors would have made up a third rank of four. The weapons found were sufficient to equip at least four boats of the size of the preserved vessel, and thus four or more phalanxes with a total front of at least 100m.

Weaponry and Fighting Force

The offensive weaponry found at Hjortspring includes 11 short single-edged iron swords, 8 lances with bayonet-shaped heads, 65 common spears with heads (a very large one is decorated), 65 spears or javelins with heads (31 broad, 34 narrow), 31 javelins with small antler/bone heads (table 5). The defensive weaponry comprises some ten coats of chain-mail, in fact, the earliest in Europe. There are 52/53+? broad wooden shields with a lenticular wooden boss, and 11/12+ narrow ones—the first being the heaviest, but all requiring a strong hand and arm. (There are 67/68 shield-handles, plus ten unfinished

Table 5. Weapons of the Hjortspring sacrifice, distribution according to suggested naval and military function and rank (cf. Randsborg 1995).

	PADDLER/FIGHTER	COMMANDER
Crew/Fighting Unit (total of 22 men/boat)	18 (82%)	4 (18%)
Mail-coats		10+ (?)
Swords		11
Lances, bayonet, iron head		8
Lances, common iron head (total of 65)		
— big decorated variant	1	
— common variant	64	
Javelins, iron head (total of 65)		
— broad variant	30	
— narrow variant	34	
Javelins, antler/bone head	31	
Shields (total of 63/65+)		
— narrow variant		11/12+ (18%)
— broad variant	52/53+ (82%)	
Shield-handles (total of 67/68, plus 10 unfinished spares)		
Fighting dogs		1+

spares.) It is striking that longbows are missing. Obviously, this common and highly useful weapon was not up to contemporary military standards, perhaps because of its association with hunting, and not with the fighting between honourable men, perhaps because it prolonged the period of fighting and increased the number of casualties.

This allows for the reconstruction of a mobile fighting unit of four commanders (mail, narrow shield, sword, lance with bayonet head/lance with large decorated head) and two time nine common warriors (broad shield, one spear, one javelin (half with a broad, half with a narrow head). Half of these warriors would also have had a javelin with a small head of antler/bone (round in cross-section), perhaps for piercing mail. Members of the force were most likely to have been rather young, although the probability that teenagers were included is not great, due to their insufficient physical power and stamina in full paddling and line fighting. The commanders or veterans were probably in their late twenties or thirties. Bones of Rottweiler-type

dogs would indicate the use of fighting hounds, possibly by the commanders.

The composition of the force reveals both uniformity and a specialization of tasks. In particular, the lack of a veteran javelin is noteworthy. The mail, narrow and more manoeuvrable shield, bayonet-lance, and short sword all imply fighting at close quarters in the confusing, but decisive, concluding phase of battle.

This scenario is, of course, hypothetical; for instance, the veterans of the 4+ boats may have formed a special unit, although this would have left the rest of the fighters without senior command. Indeed, a striking structural similarity is seen with the contemporary early Roman legion, including two tiers of common warriors and a third of *Veterani*, without javelin but with mail. The foremost Roman ranks, the light young scout troops, or *Velites*, are missing at Hjortspring, but may be represented by the curious javelins with antler/bone heads. Incidentally, rocks, chipped to equal size probably for use as missiles, were also found in large quantities at Hjortspring. Once more, we are reminded of the miss-

ing longbows which operated at much longer distances, and which were more precise, than javelin, spear, or rock.

Beliefs

The Hjortspring find should be interpreted along traditional archaeological lines for military bog offerings of the Early Scandinavian Iron Age (before the mid-first millennium AD), as being a gift to the gods upon achieving a major victory over an enemy force. The enemy equipment, full or in parts, was sacrificed in bogs and other wet places. The main reference is to ancient Roman and Greek authors describing and explaining such events. In the case of Hjortspring, there was only room for a single boat, perhaps the leading one, in the tiny bog. More may lie elsewhere or have been used to return the defeated and humiliated warriors to their base (there is no trace of human sacrifice), perhaps to fight another day. In the bog, the boat points due north, in the direction of Hel, the Nordic Land of the Dead.

As to the religious dimension, the Alasian home force, or militia, after having defeated the naval invasion, sacrificed the spoils, probably to the God of War (Tyr). (Two rare, but undated, Tyr place-names are preserved just east of Hjortspring, perhaps even indicating the site of the battlefield.) The ship is the symbol of the Fertility God of Frej, encapsulating the warriors, and enabling man to travel upon all surfaces. In fact, both the earthly powers of fertility and the transient ones of water (Odin?) are present in the bog—ever since the Stone Age the traditional sanctuary of the North.

Other Early Iron Age sacrifices in bogs include human bodies, costly metal vessels, female neckrings etc., fine waggons, common pots (with food), etc., all of which were probably offerings to specific deities.

Barbarian and Mediterranean Military Forces

Traditionally, the Hjortspring find has been considered 'primitive' and 'poor' (Bronze Age-like boat, very little iron, etc.), despite the fact that the mail and several of the short swords (with inward-curving edge) reflect Mediterranean types. Actually, as implied, the find is clearly a small Barbarian edition of the South European armies of the time, made up of units or 'regiments' of similarly equipped shield/spearmen in close mutual

support, using phalanx tactics for decision in pitched battle. Such tactics, as we shall see, were quite different from the dominating middle range and thus more fluid ones of the Bronze Age.

The Hjortspring army was no doubt an amphibious elite force, judging from its small size, magnificent boat and fine weaponry. However, Barbarian armies, thousands in strength, were also known in this period. These were probably made up of militia forces involving a large part of the male population, sometimes even all able men.¹

Interestingly, Barbarian Iron Age migrations may thus have come about for military reasons. The necessity to launch substantial forces to fight against Mediterranean armies would have taken a large part of a male population from home. Logistics would therefore have called for additional support from the women, which probably resulted in the migration of all the men, women, children.

Such an army is a very slow one. Elite forces, by contrast, moving by foot, horse, or ship, were mobile and skilled in the art of surprise attack, as well as in bolstering other forces.

Although cavalry is no part in the Hjortspring fighting force, mail was originally probably a cavalry defensive weapon.² Thus, when fighting at home, the 'commanders' or 'Veterani' might have been mounted. In fact, a local militia force, fighting (and beating) a Hjortspring amphibious force, may have had the benefits of using cavalry for scouting, movement at the flanks, and pursuit (cf. Spence 1993).

The Enemy

The Hjortspring find also contained various other equipment, including bronze dress accessories, various vessels in bronze (?), wood and clay, wooden dishes, spoons, a spindle, a scoop (for the boat), wooden discs with handles (perhaps 'gongs', with sticks), a flute, various tools (for repair of boat and weapons), thin ropes, a cheek-piece, and, not least, a series of fine turned wooden boxes etc. The technology used in the production of the latter was not rivaled in the North for a thousand years. Surprisingly, they seem to imitate contemporary Greek *pyxides*, as made in Athens in the fourth century BC and traded, with other fine-wares, across the

Mediterranean, for instance at the emporium of Spina near the Po estuary and in close proximity to Central Europe.

The southern *pyxides*, wooden and other, found ceramic imitations in the greater Hamburg area, and only there. According to Tacitus (around AD 100), this is the ancient home of the Lombards, 'hemmed in by mighty peoples, they find safety, not in submission, but in the risks of battle' (*Germania*, 40). This therefore seems to be the region of origin of the Hjortspring amphibious force. It would have made its exit at the Elbe, crossing the narrow land-bridge to Jutland at the later Hedeby, and alighted from the Sli inlet just south of the island of Als.

Possibly, the naval operation, being in need of constant support (unlike Alexander's troops, for instance, who were supplied from the fleet (cf. Engels 1978)), was only a mobile arm of a failed much larger southern 'SeaLand' invasion. The focal objective of the Hjortspring amphibious force during such an operation would have been an attack to the rear of the main enemy forces, perhaps to plunder the island of Als for supplies, perhaps to control it.

Incidentally, the hypothesis of a much larger invasion—no doubt rare in the history of Iron Age Denmark—rather than a mere naval operation, would perhaps explain the rarity of military sacrifices in Iron Age. In the Iron Age, raiding could not have been uncommon, so major sacrifices of weapons and boats may indicate military events beyond the usual.

Hjortspring and After

The fate of the Hjortspring force would lead us to suppose that the tactics necessary to counter phalanxes would possibly have been much the same as those of the attackers, in addition to mobility, and, *sans doute*, attacks on the lines of supply—even denying logistics to the enemy.

Actually, this is a concise description of the successive development—in later Antiquity and the early Middle Ages—of northern Germanic light mobile armies and amphibious elite forces (cf. Adler 1993). Right up until the time of the arrival of the Medieval cavalry and infantry, such armies relied on old-fashioned lance and shield tactics, and thus on phalanx fighting. Many warriors did not even carry a sword and were therefore highly de-

pendent on the protection of their neighbours in battle. The only defensive weapon was a large, though manoeuvrable round shield with a round iron boss; often decorated, it was the pride of the fighter.

The elite army of the military sacrifice at Ejsbøl, Southern Jutland, for instance, from the fourth century AD, is a composite one (Ørsnes 1984; cf. Randsborg 1995). Some 60 swordsmen (including 12-15 commanders, mainly horse [nine]) were supported by a company or two of foot soldiers (120 in all) with only lance, javelin and shield. From the same period, at Nydam (also Southern Jutland) there is a military sacrifice with fine boats, reflecting a mobile force composed of a company of swordsmen (also carrying lance, javelin, and shield), supported by 240 fighters with only lance, javelin, and shield plus a large platoon of bowmen with axes. There was a small cavalry unit attached to this force, though merely commanders.

The rarity of the sword is all the more remarkable because, undoubtedly, the weaponry and other military equipment from the Nordic military sacrifices had a close resemblance to the weaponry of many Roman auxiliary infantrymen and troopers, often of Germanic extraction. A possible reason why swords (which were then rather large, and double-edged) were rare, could be their high cost, but this cannot be the whole answer. A better explanation is that the ancient 'Greek' way of close phalanx fighting lived on in Scandinavia, always outside the Roman Empire.

The second observation, that of the composite nature of the Germanic Late Roman and Migration period forces, takes us both back to Hjortspring and to the contemporary, highly professional, multi-functional, Roman army. Adding the Nordic warship to this picture, we note a society raising elite forces, no doubt organized in 'ships' (and 'harbours'), for offensive warfare. The additional full militia or local army would be composed of common fighting men, possibly even women (though not as official fighters).

Technologically, economically, socially, and in terms of organization, the Nordic warship of the age was a highly formative institution, a fine expression of the aspirations and potential of society, even requiring the warriors to perform the same tedious but egalitarian duty of rowers. A striking parallel is possibly found in

the high degree of similarity in size and lay-out of contemporary farmsteads.³

The first naval barriers in Denmark are from just before the birth of Christ, thus long after the period of Hjortspring (Jørgensen 1997). Others are from the early Migration Period (around AD 400), but most are dated to the period after AD 700, in particular to the eleventh and twelfth centuries AD. The naval barriers, being placed in inlets, usually at the mouth, serve to prevent the inroad of enemy elite amphibious forces, thus forcing the smaller unit to disembark and become prone to attacks from numerically superior local forces. The barriers are clustered in the south of Denmark, which is transected by major waterways and corridors of transport, indeed, international routes. (Also, after AD 1000, these regions have been the most important in the country.)

The collective perspective is exciting. It has important ramifications for our vision of the somewhat later Viking Age warfare, the rise of armed followers of magnates and kings—the heavy infantry and cavalry of the day—and, even, for the military structure of the High Middle Ages in Scandinavia.

For instance, the division of the forces into small elite ones, the later *lids* (or armed followers of the magnates), and larger militias goes a long way to explain, even nullify, the confusion over the notably rather small Viking Age and Medieval armies on the attack and the large size of the militia force, called the *leding*, but in Latin, confusingly, the *expeditio*. The operational existence of the militia has even been brought in doubt (cf. Lund 1996).

After this *excursus*, let us turn back to the temporal and spatial horizons of Hjortspring.

Society

Northern Europe

Apart from Hjortspring, Southern Scandinavia and Northern Germany are almost completely devoid of military finds in the earliest Iron Age (cf. Randsborg 1995; also for the non-referenced items below). No weapons are found in the graves (all cremations), the villages and hamlets are unfortified, and, as mentioned, made up of smaller farmsteads of roughly similar size, no boundary walls are seen, no naval barriers, etc., etc. Still, a highly developed military organization existed in a society belittling military prowess (as well as social stratification). Clearly, the social discourse was a very different one from that of the Bronze Age, especially the Early Bronze Age (second millennium BC).

In the Early Bronze Age, weapons were common in both graves and sacrificial hoards of valuables, including a few cultic items like the Sun Chariot and the Skallerup Waggon, forerunners of the many specifically cultic objects of the following periods. In the Early Bronze Age graves, usually in prominent burial mounds, differences in personal equipment, including exotic bronze and gold, reflected the display and competition among the elites. The settlement was then scattered and made up of large farmsteads, some with wide structures up to fifty metres long. Competition (and social mobility) also

showed in the weaponry, dominated by various combinations of fine sword, dagger, axe, fighting lance with powerful bronze head, and, bow-and-arrow. There were, however, almost no defensive weapons, except for thick fighting skull-caps and coats, both of wool; even shields are missing, or very rare, at any rate small, round, and light. The stress was on appearance and beauty, down to the finely ornamented weaponry, the elegant dress, and a beardless face.

Towards the close of the Early Bronze Age cremation gradually became the all dominant rite. This did not affect the amount of grave goods. After c. 1200 BC, however, the aristocratic use of mounds and burial goods as a means of display and competition quickly disappeared. Instead, rich sacrifices of female bronze jewellery, some weapons (including separate finds of bronze shields and rare helmets), huge cult axes, bronze vessels, gold cups, gold rings, lur trumpets, etc. dominated. This led to the sequence of Early Iron Age sacrifices—equally divided into separate categories—among which was Hjortspring.

Thus, in the Late Bronze Age (around and after 1000 BC) sanctuaries and sacrifices had taken over from graves as the prime medium of investment of metal artefacts, and no doubt served as important social foci. In spite of the aristocratic attempts, connected with Western Cen-

tral Europe, to restore the old order, the demonstration of social inequality was suppressed, in particular after c. 8-700 BC, where even the sacrifices themselves became simpler. At the beginning of the Iron Age (500 BC) settlement was dense, with complete field-systems, where the individual farms were small, but all families were in control of cattle and other means of production.

Towards the close of the Late Bronze Age, indeed already around 8-700 BC, both the fine long-sword of bronze and the lance with a large head of bronze had disappeared. Such fine weapons were eventually supplanted by a cheaper lance or spear with an iron head. As to defensive weapons, the shield was at first round and large, and looked much the same across Europe from Late Bronze Age Denmark to Iron Age Greece. It was made of decorated sheet-bronze (or leather). In the earliest Nordic Iron Age, however, the shield became oval or square, much heavier, and usually made of wood. This change in shield, along with the introduction of the simple lance with an iron head, evidently reflect new tactics of fighting, in formation and at close quarters.

In conclusion, the new weaponry and tactics appear in the aftermath of the decline of aristocratic Bronze Age values and weaponry, and led, some centuries later, to the Hjortspring phalanx of the fourth century BC.

Central Europe

Much the same development is seen in Central Europe as in the North, including richly equipped late second millennium BC burials. Therefore, only selected features are highlighted here. One of these is the resurgence of aristocratic values (and sword-dominated weaponry) in the first quarter of the first millennium BC in the 'Celtic' west. In the second quarter of the first millennium BC (the local Early Iron Age) this milieu found itself at the extreme end of commercial Greek interests, which supplied the local aristocracy with the means—however short-lived and probably poorly understood, apart from their splendour—to triumph. Thus, a Colonial Western Greek bastioned city-wall in mud-brick (which no doubt suffered from the heavy rains of Central Europe) was built in the sixth century BC at the Heuneburg hill-fort and princely centre, Southwestern Germany. Here, as elsewhere in the region, for instance, Near Eastern furniture with ivory fittings was imported and Archaic

Greek monumental sculpture imitated (Kimmig 1983). Indeed, a link, based on economic interests, is clearly seen between Central Europe, the Etruscans, Magna Graecia—in several respects the shamelessly rich 'America' of Hellenism—and, even the Near East.

In western Central Europe the long-sword disappeared with the advent of the strong Mediterranean impact of the sixth century BC. It was supplanted by (twin) spear and dagger, no doubt a reflection of Greek phalanx and similar fighting.

In eastern Central Europe links were forged with Northern Italy (Stary 1982). Here twin spear (and axe) dominated fighting, again, on the Mediterranean model from about 600 BC on, with swords disappearing even earlier. Further north, in Central Poland (en route to Scandinavia), pictures on the cremation urns of the same period tell the same story (La Baume 1963). The dominant weaponry was (usually) two spears and the new oval pan-European shield—the Hjortspring one—which usually is called Celtic. (In fact, it is Italian in origin; only the Greeks still carried round shields during the middle centuries of the first millennium BC).

Central Poland had many traits in common with Northern Europe, although it also adopted Steppe features. The cultural phenotype was 'bleak' (poorly equipped cremations, rather few sacrificial hoards, but very many settlements with small house structures). There was little stress on social stratification; rather, a strong egalitarian ethos is felt.

Also from Central Poland is the impressive (and extremely well preserved) Biskupin fortified township from around 700 BC, which displays features strangely and strikingly similar to, for instance, the lay-out of Greek colonies in Southern Italy (Niesiołowska-Wędzka 1989; cf. Hoepfner & Schwandner 1994). The said features comprise parallel streets at equal intervals along which there are house structures of the same size and lay-out, and built on to each other. Only the street along the inner-side of the enceinte of Biskupin connects the parallel streets. Planned Greek cities are known from between the late eighth and the early third century BC, with Naxos and Syracuse on Sicily being the earliest, and novel Krane on Kephallénia, Greece, possibly the last (Randsborg, forthcoming).

Thus, Biskupin, along with a few other similar com-

plexes of the same region, may themselves be colonies (perhaps from Central Europe proper), adopting the structure of contemporary colonial Greek settlements, although built in wood, not in stone, and considerably smaller. At any rate, in Eastern Europe, from Poland to the Mediterranean, the contemporary egalitarian discourse was very much felt, by contrast to the then largely aristocratic west.

Common to both regions were the many fortified settlements of the early first millennium BC—be they princely or not—as well as the (mainly later) experiments with spear-shield warfare. Such centres would, along with the local sanctuaries, have served as foci of society in much the same way as the city centre and the central sanctuaries and temples in the small Greek polis of the age. The Europe of the early to mid-first millennium BC was made up of communities, not countries.

Southern Europe

In Aegean Greece, after 2000 BC (if not before), aristocratic life focused on a series of larger and smaller palaces and other centres, foci of administration, communication, even long-distance trade, production, distribution, and cult (Dickinson 1994). In the 'palatial' period, for instance at Mycenae, princely tombs held a weaponry dominated by sword and dagger, lance playing only a secondary role.

Infantrymen occasionally occur in Bronze Age imagery too, lined up behind huge shields (seemingly of hide). They may wear a boar-tusk or other helmet, carry a very long lance, and, a long sword or a dagger. In battle and hunting scenes alike they are interspaced—in almost Near Eastern fashion—by lance- and bowmen without shields. Such foot-soldiers lacked mobility, however, and did not fight in phalanxes.

The aristocratic Aegean Bronze Age society went through several stages, but collapsed definitively around 1200 BC, leaving only minor 'European' styled leadership, incidentally with a weaponry, for instance long-swords, similar to that of Central and Northern Europe. In fact, the earliest full two-piece breastplates, made famous by the Greek hoplite and the modern dragoon alike, is a Central European invention of the 13th century BC, probably a bronze version of a leather cuirass. A fine vase of the 12th century BC (the famous so-called 'War-

rior Vase', from Mycenae) shows marching ranks of helmeted and perhaps armoured (leather?) warriors equipped only with spear and a light 'Thracian' shield. This is both very different from the images of infantrymen of the palatial period, and is a very early representation of what was to come.

Similar mobile infantrymen, but with sword and a somewhat larger round shield, are seen in contemporary Near Eastern imagery, for instance fighting Egyptians from both land and sea. It is an interesting perspective that each of these massed and similarly equipped warriors, to judge by the weaponry, might have been an aristocrat in a Central or Northern European context.

In the Aegean Iron Age grave goods were few, and fewer still after *c.* 700 BC, with particularly few weapons (Osborne 1996). Almost exclusively in the Barbarian far north of Greece, including Macedonia, do burial customs allow a view of the weaponry. Early graves from Macedonia (the royal centre of Vergina), with parallels in other parts of the Mediterranean and in Central Europe around 1000 BC, hold about the same number of lances and swords, but only in two cases were the two weapons deposited in the same grave (Rhomipoulou & Kilian-Dirlmeier 1989). Possibly, a symbolic distinction between senior and junior warriors was made at burial, one spear being omitted in all cases (along with the shield).

At Vitsa in Epiros, from *c.* 850 BC on, the light infantryman of the 'Warrior Vase', with lance (and a supposed shield) as the dominant weapon, is found in a cemetery holding 108 lances, nearly half in pairs, versus only 19 swords (Vokotopoulou 1986). In fact, it is possible, hypothetically, to reconstruct the force at Vitsa along the lines of Hjortspring.

Perhaps in this we see a pattern of general significance with aristocrats (or others), in the centuries after 1200 BC, leading uniformly equipped spear- and shieldsmen into battle, thus preceding the classic heavy Hoplite phalanx by several hundred years.

By contrast to the Aegean, in other parts of Southern Europe elite burials and other such manifestations were not infrequent during the early first millennium BC. From Spain come stelae with pictures of aristocrats and their shield, possible helmet, sword, lance, bow and arrow, chariot, mirror (or sun-symbol), etc. (Almagro

1966). From Sardinia come figurines of warriors with helmet, greaves, and perhaps pectoral, carrying shield, sword, and bow and arrow, or, long war-club, and dagger (but no lance) (Stary 1991).

In Central Italy elite graves were rather common. Here we can see that the sword was being replaced by the dagger after 700 BC, then the dagger by the axe for close fighting, while the lance became ever more important (as did helmet and body armour) (Stary 1979). In Etruria after c. 650 BC the defensive weaponry was often in Greek style. Nevertheless, the Etruscans, like other Italians and Europeans, never fully traded mobility for protection. In fact, the light Greek Peltast would have been more of a model of fighting than the prestigious heavy Hoplite, with his very costly defensive weaponry (Best 1969).

Greek vase-painting from the post-palatial and, especially, the earliest Iron Age is almost completely devoid of images. In the later Geometric period, images re-appear with, among other things, key events in the lives of the elite. Sword and bow-and-arrow dominate the weaponry depicted between c. 850 and 700 BC, with the lance being shown only in a quarter of the images (van Wees 1994). This may, however, not be a full representation of the actual weaponry of the time, nor of all contemporary warfare, but rather represents the weaponry of the elites. For instance, half the scenes show fighting at sea (Ahlberg 1971), and chariots are common.

In the early seventh century BC, by contrast, lances make up almost all the weapons shown in Greek vase-painting (close to 90%). Interestingly, also the Iliad

(composed in or shortly after 700 BC) has the lance as the, by far, most often quoted weapon (more than 80% of all weapons mentioned are lances). Indeed, the first pictures of Hoplite fighting (in full panoply), including the famous 'Chigi vase' made in Corinth around 650 BC, are also of this period.

There are practically no representations in Greek art of siege warfare, which anyway did not play a large role in Greece during the Archaic and Classical periods (almost all the city walls are of the period between (450)/400 and c. 200 BC (Randsborg, forthcoming)). Incidentally, clear offensive superiority was not reached in this siege-warfare until about 300 BC. By contrast, contemporary Near Eastern warfare, in a region dominated by fortified cities, very much consisted of sieges, with only a few major pitched battles given. Also in this respect, early European infantry warfare, with battles between phalanxes in the open landscape, was quite unique. On the battle-field a measure of mobility is always a prerogative. Sieges, by contrast, require stamina—and logistics.

In conclusion, shield/lance-dominated infantry fighting came about in Greece in the post-palatial Iron Age. The hoplite tactic was parallel to the development of the highly competitive *poleis*. Links between the egalitarian ideology of the polis (whatever its particular constitution) and the organization of the citizen phalanx have already been discussed (van Wees, this volume). Other important links are with a strong economy allowing for substantial investments in military equipment.

Conclusions

The history of Europe during the late second and the first millennium BC can be viewed as variations over a few central themes of the social discourse of the period. On a structural level, much the same phenomena were at work in Denmark as in Greece in any one major period.

However, common cultural history, in particular archaeology, tend to mask this fact with their focus on the strong desires at self-expression and thus on visual cultural differences between regions, underlined by the fact that production and distribution were mainly local.

The societies of European Antiquity certainly saw

disparate levels of production, organization, and intellectual accomplishment, especially during the centuries around the birth of Christ, and along the north-south axis. Upon first inspection, we find societies culturally positioned in a geographical pattern, even hierarchy. Often the robust centre-periphery perspective, inspired by an economic view of the world, is applied by scholars. In contrast to this is the historical 'stage by stage' model, stressing social discourse and communication across boundaries, indeed, common bonds.

In the present case, the rise and fall of aristocracies,

and the changing elitist and egalitarian ideology, comply with the stage-discourse model. The same is the case of the rise, during the early first millennium BC of a Europe made up of small 'communes', aristocratic or otherwise ruled, of well-defined societies, centres, and important sanctuaries.

The changing patterns of warfare were seemingly the results of (1) a general shift towards lance-shield fighting (with rather cheap weapons), at work already before c. 700 BC, probably already in the twelfth century BC. Furthermore, of (2) the tactics connected with 'regimental' or phalanx fighting in the open field. And, (3) the particular Greek elaboration of the once exclusively aristocratic heavy defensive weapons of metal. These factors had a tremendous impact on European warfare, in the Mediterranean as well as elsewhere.

Whichever way we are connecting the elements, the rise of lance-shield fighting—thus, of European infan-

try—was seemingly linked with the decline of aristocratic norms and life-styles at the end of the Mediterranean Bronze Age. The phalanx is concomitant with the rise of poorer but focused and highly competitive societies, in Greece as well as elsewhere in Europe.

The new weaponry and, in particular, the new tactics might well have meant more blood shedded, but they also allowed for a high measure of decision in battle. The latter is a prerogative both for superior and for inferior, but still well-organized armies. It is also a necessity in military expansion, as in the case of the Romans. As has been noted, the European way of decisive warfare developed in exactly this way, fought by infantry and 'regimental' armies (Hanson 1991). Decisiveness lives on till this very day, even though technology and education have changed the concept of war dramatically.

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Notes

- 1 Caesar, for instance, tells of a Barbarian 'army' of 92,000, or almost 25% of the tribal population of the Helvetians and their allies, as counted by the Romans in terms of males fit for fighting (Caesar, *BG* 1.29). This number is, of course, extreme.
- 2 Slightly earlier Scandinavian rock-carvings, as well as Polish decorations on pots, show horsemen with spear and shield.
- 3 E.g., Rindel 1999 (data).