

## CHAPTER SIX

# BRONZE WEAPONRY AND CULTURAL MOBILITY IN LATE BRONZE AGE SOUTHEAST EUROPE

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THE COLLAPSE OF THE BRONZE AGE PALATIAL CENTRES IN THE Aegean transformed the societies surrounding the palaces and unbalanced the relationship between these areas and those immediately to the north. In Classical tradition, the Dorians invaded Greece in the twilight years of the palaces or soon thereafter, leading to collapse. It is here suggested that, far from being a redundant view of mass migrations, the tales of the Dorians can be instructive for understanding elite manipulation of a sea of shifting identities and allegiances born of transcultural interaction. This involved peoples from particular areas along with those from within the lands of Greece and the Apennine and Balkan Peninsulas. This chapter uses the case of diversity within the forms of Naue II swords and, to a lesser extent, spearheads to explore the regional patterns of the Aegean at this time. It examines different phases of the *chaîne opératoire* to isolate the range of ways in which these bronze artefacts can reveal connectivity. It is proposed that three major regional divisions within Greece are relevant and that considerable disparity among them is evident. Interaction occurs across these multiple scales, influenced by individual choices, but the swords in this chapter are shown to have heterogeneous origins.

### INTRODUCTION

Up until around fifty years ago, it was commonplace in archaeological narratives to find migration and invasion as explanations for culture change. More

specifically, finds of artefacts which were considered to have ‘foreign’ origin to any given area were regularly accounted for by movements of people with things, not things alone or ideas associated with the use of things. In recent years, an increasing interest in interaction studies has focused on the movement of artefacts and ideas, but also of people, throughout and across perceived cultural boundaries (Alberti and Sabatini 2013; Borgna and Càssola Guida 2009; Knappett 2011; Maran and Stockhammer 2012; Molloy, forthcoming; Parkinson and Galaty 2010; Tomas 2010). The interpretative framework of migrations and the mobility of peoples, by many resigned to a disciplinary fossil (Anthony 1997; Chapman and Hamerow 1997), has recently seen the re-emergence of critical advocates who take into account a wide range of sources, methods and theoretical developments (Kristiansen, forthcoming; Molloy 2015). This chapter will focus on aspects of one of the better known migration narratives taken from Greek prehistory – the tales of the invading Dorians or returning Heraclids (O’Brien 2013).

These are known from Classical histories (Herodotus 1.56.3; Thucydides 1.12) and legends, which recount tales of invading groups, en masse or elites only, in the twilight years of the Age of Heroes – the Late Bronze Age to us. More accurately, my investigation does not seek to identify these specific groups and tie them to material culture. Rather, I seek to characterize how military material culture may reflect the mobility of such persons of different cultural, and potentially ethnic, origins within Greece in the thirteenth and twelfth centuries BC (Feuer 2011; Molloy 2015). Following the core of the preceding myths, the people who will be studied are warriors; the archetypal boundary crossers of prehistory (Kristiansen and Larsson 2007) and, as such, quite a specific element within a population. Different variations on the common military traditions of this period are identified in this chapter and are shown to be regional in their character. As such, we can suggest points of transgression of boundaries, as well as mutually endorsed interactions, when looking at the recovery patterns of artefacts.

In order to trace the differences in weapon forms in Greece during the final three centuries of the second millennium BC, I suggest that a *chaîne opératoire* approach which identifies particular aspects of weapons could prove useful to identify diverse modes of interaction and the exchange of objects and ideas. The datasets include metal alloys, crafting traditions, functional properties and the taxonomic features of weaponry. These features are known to have had a broad regional significance across the Balkan (including Greece) and Apennine peninsulas (Bouzek 1985; Harding 1984; Molloy and Doonan, forthcoming; Stavropoulou Gatsi, Jung and Mehofer 2012), although in Greece they existed alongside long-established and often diverse local traditions. It has long been agreed that the tales of the Dorians have little substantive archaeological basis when looking for invasions from beyond the

Aegean or mass internal migration. It is suggested here, however, that the echoes of such myths reflect the social reorganization within the modern territory of Greece, in particular the rebalancing of power between the non-palatial and formerly palatial groups, both spatially and socially. Maran (2011) argued that the memory of the palatial period by early LH IIIC was not only more vague than previously thought, but that recent histories were actively manipulated to fulfil the needs of the then current elites. This involved the development of new political relationships that may have ranged from alliances to the outright deposal of elite groups. It is interesting to reconsider Herodotus's account of the Dorians in this light, fully cognisant that it was written centuries after the alleged invasion and could at best be expected to contain a vague echo.

The Pelasgian race has never yet left its home; the Hellenic has wandered often and far. For in the days of king Deucalion it inhabited the land of Phthia, then the country called Histiaean, under Ossa and Olympus, in the time of Dorus son of Hellen; driven from this Histiaean country by the Cadmeans, it settled about Pindus in the territory called Macedonian; from there again it migrated to Dryopia, and at last came from Dryopia into the Peloponnese, where it took the name of Dorian. (Herodotus 1.56:2–3)

Rather than seeing this in terms of a unidirectional invasion or migration from without, it may be seen as an echo of a *zeitgeist* in which cultural boundaries were fluid and the process of actual or abortive ethnogenesis was under way, as is commonly argued for the Philistines (Yasur-Landau 2010). There is no doubt that narratives of legitimation sprang up and vanished with frequency if certain groups or elements of them (warriors) were reconfiguring territories with cycles of success and failure. Out of that sea of chaos, those groups that remained may have inherited a very chequered 'lineage' to which they laid claim. So the Dorian myth in this light of invaders from within and without mixing in actions from the very local to the regional is perhaps less fanciful than Maspero's famous 'all or nothing migration' take on the Dorians of more than a century ago (Maspero 1896/2010). The myth as told by Herodotus is indeed instructive and might even corroborate recent theoretical positions about the transculturality of Greece at this time.

The model presented on the basis of the small dataset of weaponry in this chapter is intended to reflect elements of the development of distinct regional traditions and explain how the objects recovered may have 'travelled'. It might therefore be seen as an exploration of how we can interpret regional patterning in material culture which complements the spirit of the presented myths rather than an attempt to provide a definitive framework to identify specific cultural or ethnic groups in order to substantiate those myths.

## SPECULATING ABOUT THE DORIANS

Mythology can be used to cover all manner of crimes and rewrite local histories to justify the present usurpation of political authority – a picture that may well suit the agenda of the alleged return of supposedly exiled parties. The post-palatial world was a place where the old securities, whatever they may have been, had vanished and the stability of boundaries must equally have been increasingly in flux. Adoption of the tales of mass migrations at the dawn of the discipline of archaeology, particularly the large-scale ‘Dorian conquests’ stretching as far as Egypt (Maspero 1896/2010), may be seen to reflect contemporary nineteenth-century political and social fears or agendas (O’Brien 2013). This exaggeration of the original myths led from an initial enthusiasm to outright rejection of invasion or migration hypotheses in Aegean archaeology. Nevertheless, we know with considerable certainty that in the later thirteenth and earlier twelfth centuries BC, the mobile groups (often called Sea Peoples) were active in the East Mediterranean, sacking towns and cities and even invading Egypt. Wachsmann (2000) demonstrated convincingly that some of the boats of the so-called Sea Peoples in the Medinet Habu reliefs in Egypt, on ceramics in the Aegean and on bronze-work in the Danubian provinces share significant similarities that appear to go beyond coincidence. In the Egyptian sources recounting the attacks of the Sea Peoples, we read of many tribal names (Sandars 1985) from far-flung areas beyond North Africa, the Levant and Anatolia. While we lack knowledge of their precise origins, if we are to believe the propaganda of Ramses III, they were people adept at using open-water or sea craft. We can reasonably speculate that people from the Aegean could have been involved in any such Sea Peoples activities, particularly given their long heritage at dominating the seas, which would have been passed through out of necessity. Proving this may be a different matter, but as a heuristic to consider the material evidence, it can serve a useful purpose. We can also note the service of some of the named Sea Peoples groups (e.g., the Shardana) in records of mercenary and state military activities in Egypt and West Asia Minor (respectively) suggesting that maritime travel for raiding and warfare, which are also presented in the Homeric epics, were not unknown to peoples of this time (Cline 2014; Kelder 2005; Schofield and Parkinson 1994). Any such ‘Aegean’ peoples, however, could have been highly diverse in their origin, given the marked regionalism in those lands during the Late Helladic period (Andreou, Fotiadis and Kotsakis 1996; Feuer 2011; Tartaron 2004). In these circumstances, any of the Sea Peoples<sup>1</sup> activities could have provided a very

<sup>1</sup> I use the term hereafter as one of convenience and would define it very loosely as those groups capable of mounting non-state sponsored raids by sea, who may have been only on occasion confederated or allied. I have not bothered to repeatedly write this as ‘Sea Peoples’ for this reason, and I retain it as a proper noun on the basis that such groups were seen as a form of confederation, at times, by some of their contemporaries.

new forum for interaction amongst the Aegean peoples in ways that were previously not possible during the dominance of palatial elites, where political geographies were increasingly irrelevant. Without the palaces, there was little to differentiate the wealth acquisition methods of most groups in Greece, and, perhaps more to the point, there is little evidence to differentiate their potential military capacities. Thus, while the Sea Peoples are a convenient vehicle to account for a new forum of interaction between groups that previously had far less in common, it need not be the only context in which new forms of conflict and warfare drew together previously less-connected peoples.

With the demise of palaces and their ability to bring together and field armies (whatever the scale), it is easy to see how smaller warrior groups could have gained greater influence. Individuals, whether disenfranchised minor 'nobles' or ambitious mercenary or pirate leaders, also gained more latitude to use force in order to fulfil their objectives when central authorities collapsed; the myths of returning Heraclids or Dorians could thus fit well with the justificatory narratives one may imagine serving the needs of such people. The returning exiles may have displaced local elites by claiming legitimacy through convenient mythologies (Bouzek 1985), and there may also have been an emergent ethnic identity (based on a common dialect) as a cultural means to bind disparate groups. Plenty more combinations without mythological pedigrees could be added to these suggested historical or social processes of territorial consolidation (by cooperation or coercion). We may certainly expect that a cosmological or worldview transformation accompanied the hard evidence of settlement and landscape reorganization that surveys revealed (Dickinson 2006) and that the past as well as the present were being remodelled in this process.

IF WE ARE NOT LOOKING FOR A HOME FOR THE DORIANS, THEN  
WHAT ARE WE LOOKING FOR?

The range of material culture that defines the north and west interactions of the Mycenaeans has been looked at in detail by many scholars (Harding 2007), and it is clear that there is no macro-regional pattern beyond the existence of varied networks of exchange, not all of which were commercial. Feuer (2011) recently presented an extensive discussion about ethnic and cultural identity in the Late Mycenaean world and demonstrates that there were asymmetrical differences between the two. The interplay between these identities was responsible for regional variations on the Mycenaean theme; 'being Mycenaean' was by no means as straightforward an affair as it is to be a citizen of a modern nation state (Feuer 2011: 515). Some regional traditions in weapon manufacture and use will be presented in the next section, where it is suggested that they were meaningful on a cultural level – that is, the

recognition and maintenance of intentional local nuances in martial and craft traditions.

The patterning in the archaeological record, such as it is, may relate more to users of weapons than to the trade or exchange of them. This is because weapons were distinctly personal items that reflexively influenced the fighting style required – fighting styles which followed regional martial art traditions. A strictly one-to-one relationship cannot be posited because we do not know if our evidence reflects a person from area A spending time in area B and returning with weapons procured there or a person from area B moving and settling in area A. In either case, however, it is posited that there was a recognition of these areas being distinct yet related because a warrior could move between them and maintain his social role and identity in both environments (i.e., what Kristiansen and Larsson [2007] consider to be warrior institutions). The mobility of craftsmen is a factor which is equally plausible, but, in this case, we also face two or more metal-working traditions that crossed boundaries and transported meaning with them. It is suggested here, however, that it was far more common for warriors to move than craftsmen as the very *raison d'être* for warrior identity was that they crossed boundaries and came into conflict with perceived 'others'. This said, it is the translation of a warrior's needs and traditions into artefactual form that was the province of the craftsman. As such, we will begin by looking at some regional differences in the technological choices made during the manufacture of swords. Spearheads follow a very similar pattern to swords in terms of alloy traditions, but regional preferences in form are far more pronounced: a section on spearheads follows on from the discussion about swords.

#### THE TECHNOLOGICAL CHOICES OF SWORD-SMITHS

The study of the form of objects has become increasingly dominated by typological analyses. These studies seek to identify characteristic aspects of artefacts and to use these to create groups that have craft, spatial and chronological significance. Kristiansen and Larsson (2005; see also Bradley 2005: 145; Molloy 2011) have criticized the development of this approach into a subfield in itself, one increasingly removed from social analysis, whereby the nuts and bolts of making groups have become something of an end unto itself. This is not to deny the worth of groups formed under this premise, which are the backbone of artefact discussion, but criticism may be levelled at the fact that taxonomic analyses of artefacts have been reduced to a group-defining exercise. The groups that are thus formed are bounded and separated from each other on the basis of dominant (yet subjective) aspects of similarity which underplay other less dominant or (to the specific investigator) more superficial features. While this bounded approach makes it far easier to plot distributions on maps or

create developmental sequences, it subordinates the expression of ancient craft traditions to the quantificatory fetish of the modern archaeologist and our predilection for dots on maps as meaningful expressions of cultural connections (Needham 1993). By this I mean that those minor differences that are sacrificed may represent regionally relevant traditions and that they could spatially and chronologically cut across the boundaries of our typological groupings. This is not an indictment of the process of grouping (and subgrouping, and sub-subgrouping), but rather a qualification for the differences that I will discuss presently because they have clear regional significance despite not really having the ability to register in the typological approach.

In this current study, traditions are revealed as being conservative in some particular aspects but looking to the global reality in other ways. In particular, it is demonstrated that there is a distinct difference between the Peloponnesian, Central Greek and South Balkan (Albania, FYRO Macedonia, Bulgaria) tradition in the manufacture and use of Naue II swords. This group of swords will be looked at in particular detail given their regional occurrence across very wide areas. They can briefly be described as parallel-edged weapons with a handle cast as one with the blade and covered with organic hilt plates. They were short swords, with considerable variety, although they typically measured between 55 and 70 centimetres and weighed 400 to 700 grams.

#### ALLOYS AND CRAFT

##### *Alloys*

Some notable patterns emerge in relation to the published data on alloys of Naue II swords from Italy, Hungary, Slovenia, Albania and Greece. For swords, it is first necessary to take this wider regional perspective to gain a large enough dataset, and secondly, to characterize the regional idiosyncrasies of Naue II swords in the Aegean area. It is generally assumed that an alloy of 7–12 per cent is optimal for swords, although we might assume that the higher end of this spectrum may be preferable. The data from different regions show that weapons did indeed fall within this range, but that there was regional variation in preferences and practices. The level of elements such as tin included in alloys may relate to economic, social, technological and aesthetic factors so the regional patterns that emerge from alloy choices have social significance. It can be noted that, in some areas, Naue II swords were not manufactured from the same alloy used for other bronze artefacts. The most striking case is Slovenia where we have the benefit of a thoroughly researched and published dataset of compositional analyses (Trampuž-Orel 1996). The average tin content of artefacts (excluding ingots) is 5.7 per cent, with objects very rarely exceeding 10 per cent, in the 'large hoards of mixed composition' deposited in Horizon II

(Turk 1996), or roughly 1200–1000 BC. Swords fall markedly higher than this, with their average percentage of tin being 8 per cent. The actual alloy range for swords is wide at 4.5–11 per cent, with hoards such as Hočko Pohorje in east Slovenia having a majority (4/7) above the average and Debeli Vrh in West Slovenia having a majority below the average (5/6). Swords farther east in the Carpathian basin follow a very similar pattern to Slovenia with none having more than 11 per cent (Liversage 1994). The few details currently available for Italian swords (Giunlia-Mair, Albanese Procelli and Lo Schiavo 2010; Hook 2007) from Sicily and the Calabria and Lazio regions suggest that the same alloy range was in use because all published examples fall between 7 and 10 per cent tin.

Aegean swords have a markedly different pattern in their alloy ranges, with a much higher proportion of high-tin alloys, typically in ranges that exceed the maximum values of the other areas mentioned. The average for 'local'-type swords is 11.5 per cent,<sup>2</sup> while Naue II swords from Greece have an average of 10.2 per cent which, allowing for the small datasets, are close enough to suggest broad parity in technologies (Koui et al. 2006; Mangou and Ioannou 1999; 1998). However, the average is slightly misleading for the Naue II swords (but not the local types) because they fall into bi-modal ranges of less than 9.2 per cent (7/16 pieces) and greater than 10.8 per cent (7/16 pieces). The first group matches the Italian and Balkan traditions closely, but, in the second group, virtually all exceed the upper limit of swords in the other areas, with a higher proportion of swords having high-tin alloys in general. Weapons from Albania (Koui et al. 2006) follow a similar pattern, with alloy ranges being 5–8.5 per cent tin and 11.5–12.6 per cent tin, with three cases of each for swords. Analyses of six swords in Crete are available in which the Naue II and Aegean Type Fii sword from Mouliana have 8.2 per cent and 8.3 per cent tin, respectively, whereas the earlier (LH IIIA) Aegean Type D swords are exclusively in the higher alloy range for swords, with 11.2 per cent to 12.2 per cent tin. This suggests that, on Crete at least, there may have been a shift from the higher to the lower range of tin content following the collapse of palatial control, although datasets are admittedly very limited.

Higher tin content (up to around 14 per cent) increases the hardness of a copper alloy. The actual hardness in an artefact is also affected by heat treatment and cold working, both of which affect the disposition of tin in the alloy and the microstructure of the bronze. For our purposes, the general rule is that increased tin facilitates increased hardness. However, all other things being equal, it also makes the metal less ductile/pliable, meaning that it is more susceptible to chipping or breakage. The balance met in the alloy choice and

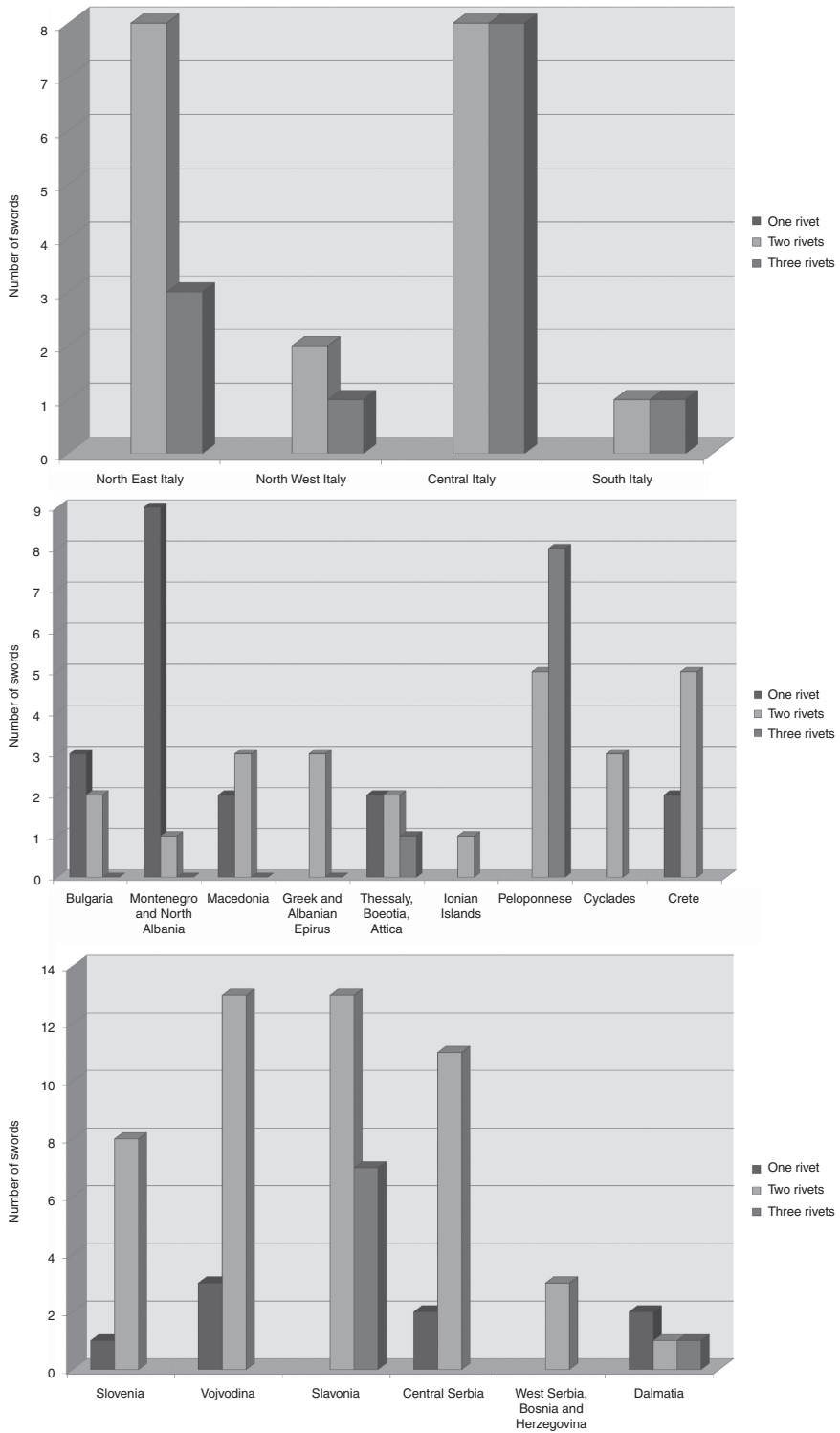
<sup>2</sup> This is based on four pieces. If the anomalously high piece from Hexalophos with more than 14.6 per cent tin is discounted, the tin content ranges from 9.9 to 10.9 per cent, giving an average of around 10.3 per cent.



the subsequent mechanical and heat treatment therefore work between the trade-off of hardness versus toughness, whereby the former affects the penetration power of the edge when cutting while the latter affects the durability of the object. When cutting with a sword, the opponent is obviously seeking to avoid being cut (!), so there is less predictability in the mechanical forces a blade edge will be subjected to (e.g., hitting flesh or bone, another blade edge, a shield, armour, the ground) than one would face with an axe being used to strike an obviously static target such as a tree. The choice of hardness versus toughness is therefore a cultural one, and so the balance of tin in the alloy relates not only to the intrinsic value or availability of tin, but to cutting-edge design preferences. We may also consider that local traditions in the design of the cutting edge on swords were tied in with more general perceptions of cutting-edge preference that included sickles and axes, for example, so that modern functionalist views of optimizing cutting-edge efficacy may have been viewed quite differently by Bronze Age users. Of course, we must also consider that the availability of tin was a factor shaping traditions of alloy because it is possible that supplies were variable. Even so, we may assume that compromises in tin use for weapons would be less marked than in tools because their mechanical performance related quite literally to life-and-death situations. Differences and similarities in tin content between areas may thus be viewed as a reflection on cultural and craft choices as well as simple economic concerns.

### *Rivet Holes*

We can also observe that the number and location of rivet holes could relate to craft choices, revealing regional patterns of production techniques (Fig. 6.1). Superficially, such a minor aspect may be considered incidental, but we should consider this as being tied specifically into local workshop and regional traditions. Such practical matters may be transferred as an apprentice learns from the master, although they do not necessarily have any cultural meaning and may not even have been recognized as relevant to the past sword-smith. For us, however, regionally relevant traditions emerge by simply plotting the number of rivet holes in the shoulders of Naue II swords. Three rivet holes in each shoulder is a predominantly Italian tradition for the most part, although examples with two rivet holes are also numerous there. Looking to the Aegean, the only area to mirror this tradition is Achaea, an area that we know from other evidence had some links with South Italy (various in Borgna and Cassola Guida 2009; Eder and Jung 2005). Moving north, it is notable that a preference for single rivet holes in the shoulders is quite striking in a band stretching from Albania to Bulgaria, although the use of two rivet holes also occurs. Moving to the Balkans, the small dataset from Montenegro



6.1: Number of rivet holes in each shoulder of Naue II swords showing intra- and inter-regional variation. *Top*: Central and West Balkan peninsula; *Middle*: South Balkan peninsula; *Bottom*: Peninsular Italy.

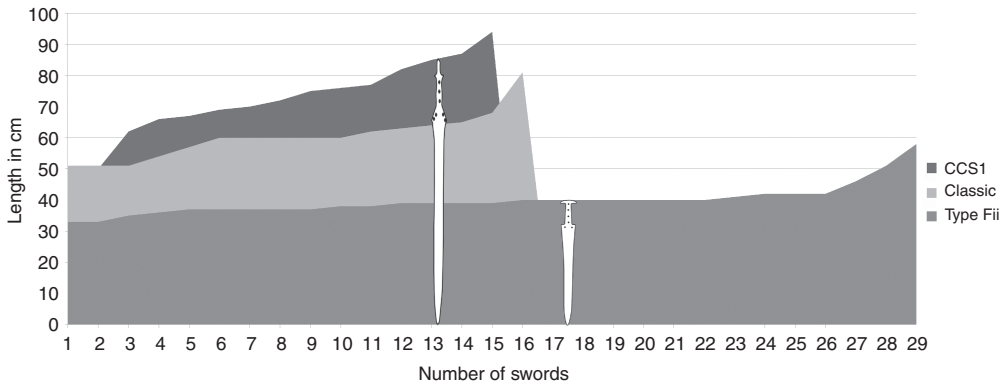
has two swords with one and two rivet holes, respectively. Dalmatia reveals a mix of one, two and three rivets, presumably a result of its geographic location. In Slavonia, Croatia, the east-west Sava River provided a path to the Dinaric Alps and from there to the Adriatic. We can observe that the proportion of two or three rivet holes in the shoulders here is closer to the Italian tradition than it is to the lands to the east in the Central Balkans and the Carpathian Basin. Indeed, the relative proportion of three to two rivet holes is lower in the north-east of Italy (ca. 1:2) than the south (ca. 1:1), the former being the same as Slavonia (ca. 1:2). Moving to modern Slovenia, Serbia and Bosnia Herzegovina, the tradition of two rivet holes is dominant, though occasional examples of one and three rivet holes exist. Moving full circle south to central northern Greece, the few known examples suggest greater parity with their northern than southern neighbours, with only one example of a three-rivet hole sword known.

### *Blade Design*

A more obvious regional divide in sword forms can be identified on the basis of the cross-sections of Naue II swords. Swords in Albania, Macedonia, Aitolokarnania, Thessaly and Attica do not have the elliptical cross-section typical to the Balkans and Italy. Instead, they have a midrib flanked by two small ridges that are clearly a stylization of the midribs of earlier Type Di swords common throughout the Aegean (Fig. 6.2). This feature cuts across typological groups and is here characterized by its ‘faux-midrib’, which will be used as an identifying phrase for the convenience of discussing swords with this feature. The midrib is not the only defining feature of this variety of Naue II sword because, with very few exceptions, they are longer than the typical, or classic, Naue II swords (Fig. 6.3). These latter varieties are most frequently around 60 centimetres in length or less (87.5 per cent of published examples are <65 cm), whereas the faux-midrib examples typically exceed 70 centimetres in length (80 per cent of published examples are >65 cm). A smaller subgroup occurs consisting of two Albanian faux-midrib pieces measuring 44 centimetres and 50 centimetres, which is closer to the size range of Aegean-type swords or Cretan Naue II swords of LH IIIC. Crete has produced one



6.2: Classic (*top*) and faux-midrib Naue II swords, from Siteia and Graditsa, respectively.

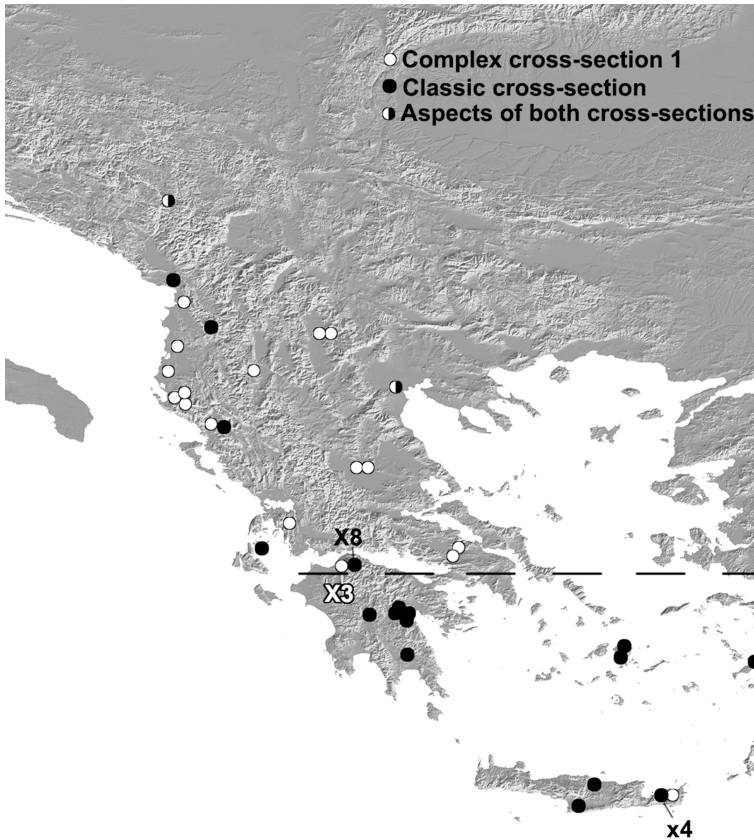


6.3: Length of Naue II classic and faux-midrib and Type Fii swords from Greece, FYRO Macedonia and Albania.

example (in contrast to six or seven classic pieces), and the Peloponnese (excluding Achaia) produced none (Fig. 6.4). Achaia represents an interface area where three out of the eleven swords available to the author were of this form. In the rest of modern mainland Greece, Albania and FYRO Macedonia, the faux-midrib variety dominates in all areas. A notable exception is in Epirus, where the only known Naue II sword is of sub-Mycenaean date (Douzougli and Papadopoulos 2011).

### *Use-Wear*

Use-wear analysis by the author on seven Type Fii swords from Epirus in Greece revealed that in all cases there were significant signs of use, primarily resharping. This frequency of use has not been observed on the swords deposited in any other area of Greece. It could be argued that this is simply a result of bronze and/or bronze-smiths being harder to come by, meaning that weapons were kept in circulation longer than in other areas. This point of view, however, is problematic because it reduces the objects to their economic value. The interment of well-worn swords in graves can equally be seen as the use of objects that have identifiable biographies in their own rights (whether being the personal belongings of the deceased or not). The use of pristine swords in other areas may be due to their perceived value as 'new' and untarnished objects (physically and perhaps morally). While it has to be noted that blade edges in all areas were not consistently preserved (they can be preferentially corroded due to their thinness), the neighbouring areas of the Ionian Islands and Macedonia, for example, showed notably less evidence of use-wear on swords where edges were preserved. Thus use-wear analysis may reveal aspects of different social value systems related to the biography of weapons which varied according to region.



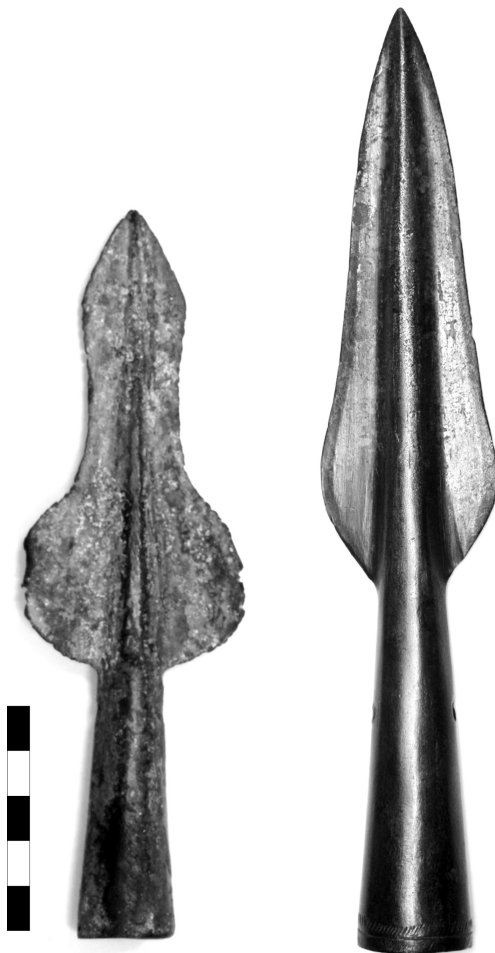
6.4: Distribution of classic and faux-midrib Naue II swords.

#### SPEARHEADS

The final artefact group discussed in this chapter is spearheads. The Aegean tradition of spearheads had been diverse; following from a series of shoe-slotted spearheads in the Middle Bronze Age, the Late Bronze Age tradition consisted of a socket and a blade that was typically greater than 10 centimetres. The earlier varieties frequently had longer blades, although the average length of blade (and the spearhead as a whole) was reduced over time, meaning that, in the period discussed in this chapter, spearheads were typically 20–30 centimetres in length with the blades constituting roughly half of the length. In the Aegean tradition, the sockets were cast as a sheet and hammered closed to form a cone. The tradition of casting sockets whole using a core plug in a bi-valve mould has often been considered as introduced from a generic ‘north’ (i.e., the Balkans or Italy).

The spearheads from the Uluburun shipwreck (Pulak 1988) are not fully published, but available images suggest that they are of a broadly Italian-Balkan form. Publications that separate the Italian and Balkan series are currently rare

(but see Mozsolics 1967), and many of the same forms occur on both sides of the Adriatic. Thus, for example, it is hard to tell where the leaf-shaped spearhead from Kephallonia (Avila 1983 cat. no. 134 [Museum Inventory no. 915]) originates, as it would find good parallels in Italy (Salzani 1994), Croatia (Vinski-Gasparini 1973) or Serbia (personal observation). The flame- or violin-shaped spearheads that are common in the Balkans and Italy are known through occasional (probable) imports in North Greece (Fig. 6.5). These may have been the inspiration for the development of a very distinctive style of spearhead (Avila Type G/Snodgrass Type B; although he mistakenly calls it 'lanceolate' in form) in the area of Epirus and Albania (Snodgrass 1964). These typically had a faceted socket and a distinctive violin-shaped blade. They occur in other contexts, notably in Thessaly and Achaea, but there is little doubt that they are



6.5: Albano-Epirote violin-form spearhead and Balkan flame-shaped spearhead, from 'Thebes', Greece and Bingula Divoš, Serbia, respectively.

a regional tradition on the basis of the find spots of the majority in the former two regions and their relative percentage in relation to other types in all areas, whereby they dominate the repertoire in Epirus. Snodgrass had argued for their origin in the Danubian area, but it is clear that most of the Greek examples are of a distinct regional tradition that was at best inspired by imports.

Many spearheads are uncritically ascribed to a generic 'northern' form based on features such as the solid cast socket. With evidence for a distinct Albano-Epirote tradition in manufacturing spearheads of this technology, and the Ulburun shipwreck giving unequivocal evidence that this general form dates to at least as early as 1300 BC, such generic treatment is problematic. Most of the types found in Greece are likely to be local products, and, as with swords, exact matches cannot easily be found in the areas they are supposed to originate from. It is nonetheless clear that the idea and the technology ultimately derive from Italy and/or the Balkans, but how these entered Greece is a different and more complex issue.

We can note the spearhead mould from Kastanas (Hochstetter 1987) in Macedonia of LH IIIC date which was used to produce solid-cast spearheads along with another example which was recently identified at Tiryns (Rahmstorf 2008). This manufacturing tradition was certainly represented in Macedonia, Albania-Epirus and the Peloponnese by LH IIIC, and no doubt in other areas as well. A spearhead from Agrilia in Thessaly, identified as Balkan in form by Harding (1984), is made from a bronze far more typical of the Aegean region according to its trace elements (Molloy and Doonan, forthcoming). We could suggest that Balkan smiths were working in the Aegean area in some cases, but in general it seems as though these technological traditions were being adapted in parts of the Aegean, in particular the Albano-Epirote area (possibly incorporating the Ionian Islands). Two lanceolate spearheads with solid-cast sockets from Mycenae (Avila 1983) are particularly interesting because they find few if any parallels in Italy and/or the Balkans, but are a form more common in continental Europe. However, with reference to equifinality, we can mention that the blades have similarities to Avila Type VII–VIII, and the sockets have rings (imitation or actual) of the Aegean split-socket tradition.

Aegean-type spearheads, such as Avila's Types IV, VII and C with the characteristic split socket, also occur widely, suggesting that manufacturing and use traditions were commonly practiced. In Bulgaria,<sup>3</sup> many swords of Aegean form developed exaggerated features to mark a distinct regional tradition, but the spearheads were more consistent with the types and technology of spearheads from Greece (Leshtakov 2011). In general, it is clear that there were

<sup>3</sup> Modern national borders are provided for clarity of discussion, although they are not, of course, considered to have been historically meaningful.



at least four major traditions of spearhead manufacture in Greece in LH III B–C: the last of the local Aegean tradition; the Albano-Epirote forms, actual imports from Italy/the Balkans; and local products based on experience or knowledge of that latter group (notably in Crete). Unfortunately, spearheads do not group as easily as swords, neither in the descriptive nor typological sense, and so they have been continually studied with markedly varying results each time in the determination of groups or categories (Avila 1983; Cassola Guida 1992; Höckmann 1980; Snodgrass 1964). Here, it is concluded that some regional traditions can certainly be determined, and that geography plays a role in this, but that some general forms were universally used irrespective of region, with a notable divide between the north and south of the Gulf of Corinth and distinct traditions in Crete.

#### CONCLUSION

The case study of sword no. 1049 from Pazhok, Elbasan, in the Archaeological Museum, Tirana (Koui et al. 2006) can usefully lead into the concluding remarks. It has the characteristic faux-midrib cross-section, though at about 66 centimetres in length, it is on the border between this group and those with classic cross-sections. Its single rivet-hole in each shoulder mark it out as characteristic of a trait found from Albania across to Bulgaria, though its 12.6 per cent tin alloy is very much in the Albano-Greek workshop tradition. The terminal end is damaged so we do not know if a pommelspur was ever present. The trace elements are quite atypical for metals in circulation in Greece but find good parallels in other Albanian weapons. Allowing for analytic biases, these still stand out as being metallurgically distinct. In this case, we could argue that we have a local metal (whether from ore or recycling pools) being used following a local superficial craft tradition (rivet layout), but using an alloy type common only to Greece and Albania with a blade with a cross-section derived from the Greek tradition. This combination is unlikely to arise incidentally, but relates to varying interpretations of encounters between the craftsman and warrior who made and used this weapon and those operating in neighbouring regions. The mixed-up heritage of this sword, along with most others, may therefore not reflect a concoction of random variables, but choices based on the confluence of traditions and lived experiences, as well as on the ongoing craftsman-warrior dialectic.

We may consider warfare and raiding to be a mode of connectivity that widely maintained an international weapon package. This was in use in areas that had vacillating political relationships in an increasingly impoverished trading environment. Mobility of people throughout LH IIIC, whether they were traders or raiders, was evidently part of the rhythm of societies that maintained a global military tradition with local variants. Such mobile persons may have always been anchored in their homelands, returning there with their possessions that were



key to both international and local power dynamics. These may well be Kristiansen and Larson's (2007) 'warriors on the move', where wealth may have been measured as much in terms of the places visited, people met and stories told as it was in the paltry wealth trickling around the postpalatial world.

The specific regional patterns in alloy, rivet and midrib features of swords represents different, only sometimes overlapping, aspects of technological choice that relate to both the craftsmen producing weapons and the warriors who used them. In each case, these are relatively minor variations on a common theme, but that they constitute different patterns suggests that the agencies behind them moved along different pathways. While it may be foolhardy to allocate particular weapon traditions to particular ethnic or cultural groups, it is equally problematic to consider their diversity as devoid of cultural meaning. It is noteworthy therefore that the faux-midrib type sword occurs in only one instance (Mouliana, Crete) in the lands that were later associated with the Dorian dialect – the Peloponnese and Crete – whereas it is the dominant form in all other areas of Greece (perhaps ironically where the Dorians of myth were said to come from within this same timeframe). Those same Dorian invaders were said to have pushed the Achaeans out of their homelands and into the historical area of Achaea, and this was the only place in the Peloponnese where faux-midrib forms are found. These may be coincidences of recovery patterns, but, at the same time, they are indicative of potentially meaningful differences in tradition which often lie below the resolution of typological approaches alone or the general artefact assemblages which are more reflective of communities (e.g., pottery) than individuals (e.g., swords). We therefore need not consider the Dorians to represent a directional migration, but we can find them useful as a symbol of mobility and cultural diversity in the reconsolidating postpalatial world of the Aegean Bronze Age.

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