ARMS AND ARMOUR OF THE GREEKS

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INTRODUCTION

ARMS AND ARMOUR have formed the subject of many large and scholarly books, but these have in the main been restricted to the Middle Ages, being inspired by the great collection of medieval armour in the museums and great houses of Europe, and by the sense of national heritage associated with them. The purpose of the present work is rather different. For one thing, the state of the evidence for Greek arms and armour is so fragmentary, and its meaning at times so ambiguous, that no book has, to my knowledge, been attempted on the whole of this subject before. In repairing this omission, the first duty is perhaps to the student of classical history and literature; I hope that this work will at least make clear to him what a thing of shreds and patches our knowledge of this field still is. In particular, the imbalance which will be detected here in the treatment of the various periods of Greek history is largely a result of the uneven quality of our evidence; a reading of Chapter V, for instance, will show that it is little more than an attempt to synthesize the views that other writers have based on a bare framework of ancient sources.

A more general and widespread interest could perhaps be served if the subject could be set against its historical background. It may be wondered whether arms and armour have a place in history at all; especially in Greek history, where the course of most military events is so ill-documented as to provide a perennial field for controversy. Again, the Greeks were not, in the Classical period at least, a bellicose people; the horrors of war were clearly as much a commonplace to them as its glories, and not only amongst thinking men. Nor was their country particularly rich, either in population or in the raw materials of war. Given these facts, it is remarkable that the Greeks came to excel as often as they did in war. The traditional explanation has been to

attribute this, along with many other aspects of the 'Greek miracle', to the unique national qualities of the people. While this claim has still some truth, the time has long since come to look beyond it. We shall never know quite how Marathon was won, but we can be fairly certain that valour alone would not have won it, nor even perhaps the combination of courage with the somewhat rudimentary tactical skills for which the style of Greek warfare at that time gave scope. The superiority of Greek equipment must have been an important factor here and elsewhere, and at times perhaps a decisive one. There are other influences, in the social and political fields, which are attributable to Greek armour and weapons, as is the case with some more primitive peoples; but it is their influence on military events, some of them outstandingly important, which perhaps gives them most significance.

This claim must not be exaggerated. We cannot attribute many Greek feats of arms to an individual weapon or piece of equipment, in the way in which we often can in more recent history. But underlying the sometimes naïve or confused accounts of battles by ancient authors, especially those concerned with the Persian Wars of the fifth and fourth centuries, is a conviction that the accepted 'inferiority' of the barbarian extended to the sphere of weapons and armour, and that this had much to do with the Greek successes. We shall ask in due course how well-grounded this conviction was.

One of the first tasks, however, must be to examine the different types of evidence available to us in studying a subject of this nature. In a literate society, we might expect written texts to form the prime source of information, but this is not so in Greece, at least until the very latest years of Greek independence. In any case, it is not until well on in our period that Greece becomes anything approaching a fully literate society. Before then, we have to consider the Mycenaean period, from which only the clay tablets and other objects inscribed in the Linear B script survive, and the succeeding Dark Age, in which to all appearances illiteracy was complete. Of the Linear B tablets, it must be said at once that our understanding of them is partial and disputed; but we can stay on firmer ground by con-

centrating our attention on the ideograms, some of them thumbnail sketches of pieces of armour and other objects, which often appear on them.

From the late eighth century BC on, we can begin to draw on genuine literary sources for warfare and arms, although for some three hundred years these remain exclusively poetic. This in itself must impair their value as evidence; the poet, in Dr Johnson's words, 'does not number the streaks of the tulip'. To this general difficulty we must add another special factor: the Homeric poems, the earliest and greatest of these poetical sources, have as their setting a much older period. In no single passage of the *Iliad* or *Odyssey* can we be certain whether the poet is describing, accurately or otherwise, the arms and practices of that earlier period or those of his own day—except by reference to external evidence, principally from archaeology. The poems can thus hardly be used to fill gaps in our archaeological knowledge.

With the fifth century comes the rise of Greek prose literature: in particular the histories of the great struggle against the Persians in the first part of that century, and of the internal and external wars of Greece towards and after its end. Such contemporary or near-contemporary accounts have an unparalleled value for posterity, but in their own nature they are unlikely to be very informative about the details of Greek arms and equipment, which were already familiar to their readers. There also survive some Greek military manuals of a practical nature; the best of these, such as Xenophon's *On Horsemanship*, may contain some useful information; but of the most serious and thorough works, like those of Aeneas Tacticus in the fourth century BC and of Hero of Alexandria and Philo of Byzantium in the third, the surviving parts are concerned with siege-warfare and so fall outside the scope of this book.

These then are the limitations of our literary evidence. Curiously enough, some of them also apply to our second main source, the field of artistic representations. In Greek archaeology, this means predominantly vase-paintings. As a source for Greek arms and armour, these perhaps occupy the same position as do

monumental brasses for medieval chivalry. There is valuable illustrative material also to be found in Greek sculpture, particularly relief-sculpture, and on metal relief-work and occasionally gems and coins. But the artists in all these media very often chose their subject-matter from saga and myth; as a rule, this did not prevent them from showing the arms and equipment of their own day but on occasions the context led them, as it sometimes led their contemporaries the poets, to introduce 'heroic property' into their pictures. Sometimes these elements took the form of accurate portrayals of the equipment of bygone days, but more often the portrayals were distorted, and occasionally they were drawn from the field of pure imagination, as was the aegis of Athena. To distinguish such elements from the observed, real-life properties of contemporary warfare is difficult, and is only made possible by the presence of our third main class of evidence: the actual specimens of armour and weapons found by excavation.

Here of course we are on much firmer ground. A sword or a metal helmet is solid and unambiguous evidence in itself, provided that we can recognize and, scarcely less important, approximately date it. This second condition cannot always be satisfied; arms and armour are not often datable in themselves, on internal evidence. We need the help of other materials, chiefly pottery, which are normally associated with them in a grave or deposit; and such associations have not always been observed. The science of excavation is still a comparatively young one, and even since its birth the older practice of mere treasure-hunting has by no means died out. Armour in particular, perhaps in its nature, has more often been the prize of the looter than of the scientific archaeologist; and the result is that a high proportion of the finds in museums and other collections are simply recorded as having been found in a certain site or district, without further details; sometimes even the provenance is unknown. To this unhappy rule there are exceptions and, in the Greek field, one outstanding one: in the German excavations at Olympia an unparalleled collection of arms and armour, much of it in fine condition, has come to light year by year. It is being systematically published, and a representative selection is exhibited in Olympia

Museum. Already in the second century AD people were digging up arms at Olympia (Pausanias V, 20, 8). Other important collections in Greece are in the National Museum and Kerameikos Museum, Athens; and in the museums of Heraklion, Delphi and Argos. The collections outside Greece were mainly formed in earlier days, and so are less well documented. We may mention especially those in the former Staatliche Museen, Berlin and in Karlsruhe; in the Louvre and the Bibliothèque Nationale, Paris; in Naples Museum; in the British Museum, the Ashmolean Museum (Oxford) and the Fitzwilliam Museum (Cambridge); and, on the other side of the Atlantic, those of the Metropolitan Museum, New York and the City Art Museum, St. Louis, although I cannot speak of these at first hand. It goes without saying that virtually all the surviving armour and weapons of ancient times are made of metal or other durable materials. But we should remember that, at many periods, perishable materials like wood and leather were also widely used, so that this limitation on our evidence could easily lead to a distorted picture.

Such are the main classes of evidence at our disposal. Each has its own defects, which the others can do something to redeem. The writer, and especially the poet, cannot be expected to give a fully satisfactory description of a mundane object like a shield or spear, while the artist, especially in the inhibiting medium of vase-painting, may not have the space or the technique to represent it; but in both cases our task will be easier if we have actual examples to compare with their portrayals. Conversely, a piece of equipment in itself may be incomplete, unrecognizable or of uncertain use, and in this case literary or artistic evidence may provide the necessary clue. It is only by combining all the different strands that we can hope to weave a coherent picture of the development of arms and armour in Greece.

CHAPTER I

THE MYCENAEANS

MYCENAEAN ARMS and armour have attracted increasing attention in recent years. Several groups of the contemporary Linear B tablets record military equipment; the Homeric *Iliad* is a later picture, whether accurate or otherwise, of the late Mycenaean world at war; and, generally, the Mycenaeans appear to have been a fairly warlike people. Again, much of the fundamental and direct evidence is only now coming to light; for instance, almost all of the metal armour known from the Mycenaean world has been found or identified since 1950. Besides this, we have numerous weapons, a handful of vase-paintings, a few other representations and the enigmatic evidence of the Linear B tablets. We should bear in mind that much of this evidence may refer to equipment which was perishable and cannot therefore be matched among the extant finds, such as shields of ox-hide and corslets or jerkins of leather or textile material.

Three main phases in the development of Mycenaean armament seem to emerge from this body of evidence. The first belongs largely to the sixteenth century BC, and is mainly represented by the rich finds from the two groups of Shaft-graves excavated at Mycenae itself. The second corresponds very roughly with the second half of the fifteenth and the first half of the fourteenth centuries, and the evidence comes not only from mainland Greece, but from graves in the Dodecanese and the vicinity of the palace of Knossos in Crete, a centre which many believe to have fallen under Mycenaean control at this time; not to mention the many Linear B tablets found in the palace itself. The third phase belongs to the last flowering of Mycenaean power in the Aegean area, extending from the thirteenth century to the early

twelfth, and again includes Linear B tablets, this time dating from around 1200 BC. These phases are separated by intervals, of which our knowledge is even slighter than usual. It would be wrong to demarcate the phases too sharply, but there seem to have been fundamental differences between them in the equipment and practices of warfare. All three phases lie within the Aegean Late Bronze Age, and the offensive weapons are almost exclusively of bronze.

THE SHAFT-GRAVE PERIOD

The period of the Shaft-graves, although the earliest, is well-documented within narrow social and geographical limits.[1] The princes buried at Mycenae were apparently as warlike as they were rich; both the quantity and, in some cases, the quality of the equipment interred with them far exceeded the needs of real life. For instance, in Shaft-grave V, Schliemann, the excavator, estimated that at least ninety swords in all had accompanied the three men buried there. Some of the weapons were so embellished with inlay-work and with attachments of gold, ivory and other materials that they can hardly have been meant for everyday use. There was no real armour in the graves; instead we have frail objects in beaten gold or silver which must stand for real-life equipment in humbler, probably non-metallic materials. The picture is extended by the representations, in which the two favourite subjects are those which were to predominate throughout Mycenaean art, war and the chase; they are our best evidence for the defensive armour of the period.

But it is on the offensive weapons, and especially the swords, that the limelight falls. The invention of the true sword was a fateful step in history; at this date it was still almost a novelty. The long rapier, which was the commonest type in the Shaft-graves, was not Mycenaean in origin, but had been developed by the Minoan bronzesmiths of Crete, as an improvement on the less impressive weapons used by the peoples of the Near East.[2] It is a huge weapon—many of the extant examples exceed three feet in length, without the elaborate hilt-attachments with which they were originally fitted—but this in itself reduced its

practical value. A heavy blow on the edge of the sword, if it did not shatter the slender blade, was likely to snap the even thinner tang, so that hilt and blade parted company. In many cases the swords have been found with their tangs broken in this way, probably during use. Strictly these are thrusting-weapons, and their designed use must have been largely limited to the fencing duels, between single champions, which we see represented on some signet-rings of the period.

Side by side with these giant rapiers in the Shaft-graves there were found, in much smaller quantity, examples of a new and much more serviceable type of sword.[3] This, in contrast, is of only medium length, and seems to have been developed by the Mycenaeans themselves. It shows several advances on the older type of sword, and one of them is crucial—the enlargement of the tang into a genuine hilt, with flanges along each side. In general it was a less clumsy and more versatile weapon than the first type of sword, and its flatter blade may possibly have allowed it to be used for cutting strokes.

The swords, and especially those of the second type, are reproduced on a smaller scale as daggers; there are also short swords or choppers with one cutting edge, probably for household use.[4] The dagger, too, has always been an implement at least as much for domestic as for warlike use, and it will not figure largely in this book. Its chief importance is in the fact that it often served as a prototype for experiments which, if successful, were later translated into full-length swords. As a practical offensive weapon, it is eclipsed by the spear and the bow.

Spearheads are only found in the Shaft-graves in small numbers. This could mean that the spear was less esteemed as a weapon or, on the contrary, that it was so indispensable that only a bare minimum of one or two per man could be spared for interment. Since the spear is as often shown in contemporary battle-scenes as the sword, and is almost universal in hunting-scenes, we may suspect that the second alternative is nearer to the truth. The biggest spearheads found in the graves are massive weapons, nearly two feet in length, with a leaf-shaped blade and a long

protruding socket into which the wooden shaft fitted. This shaft, to balance the head, must have been of great length; in one representation, the lion-hunt inlaid on a dagger-blade, the spears shown, if they are to scale, must be at least ten feet in over-all length.[5] These great weapons, like the largest swords, were adopted from the Minoans of Crete, There could be no question of throwing a spear of this size, but some much smaller heads, one as little as six inches long, were found in the graves, and these may well have belonged to javelins.[6] In later Mycenaean hunting-scenes and, very rarely, in war, we see men carrying two spears each, which are presumably to be thrown; sometimes the huntsman's quarry is shown pierced by a javelin.[7] *Pl. 2*

If the spear has an ambiguous status, as a weapon both of war and of the chase, the bow has it to a far more marked degree. The Greeks of later days did not think highly of the bow for military use, and scholars have tended to transfer this attitude to an earlier period, and to dismiss the evidence of Mycenaean archery as being exclusively concerned with hunting. This view is probably mistaken. Ancient bows, being of perishable material, have survived only in exceptional circumstances, such as interment in the sealed tombs of Egypt, but in the Shaft-graves many arrowheads of flint and some of obsidian, as well as bronze ones were found.[8] The flint examples in particular are miniature masterpieces, carefully shaped, almost indestructible and with their edges sharpened to a fineness which metal could not then rival. Flint is scarce in Greece and it has been suggested that these arrowheads were imported from Egypt; even for obsidian the Mycenaeans had to go as far as Melos in the Cyclades. All this argues an interest in archery perhaps too intensive to be explained in terms of sport or food-gathering. The common type of bronze arrowhead clearly imitates the flint and obsidian shapes: all three forms were nearly flat, and were used in the same way, being inserted into a slot in the tip of the arrow-shaft. We have only a few glimpses of the bow which was used with these arrows;[9] in Mycenaean representations it is almost always of the plain European type, the 'self' bow made from a single stave of wood. By the next century, as we shall see, there is better evidence

that the Mycenaeans were using this same type of bow and arrowhead for warfare. In one grave occurred examples of the 'arrow-shaft-polisher', a special kind of whetstone probably used for this purpose.[10] It is very common in northern Europe, and its appearance here is one of the first signs of communication between Mycenae and its European hinterland.

The warrior of the Shaft-grave era could thus take the field with a powerful armoury of weapons of attack. For his defensive armour we have far less direct evidence. The very thin breastplates of gold foil found on three of the male bodies in the group of graves excavated by Schliemann, were clearly designed for decorative and perhaps ceremonial use.[11] They need not imply that the dead princes wore metal breastplates in battle in their lifetime, and indeed the parallel case of the silver miniature shield (p. 20) makes this even less likely. A tiny fragment of linen, fourteen layers thick, was found in Shaft-grave V and may be part of a linen corslet. With the gold breastplates one may tentatively compare the rather commoner gold bands, bent into a circle and with an arm projecting downwards, which have usually been identified as a kind of suspender for leggings; but their fragility and precious material again show that they were not for everyday use.[12] In Shaft-grave IV appeared the only metal objects which can plausibly be connected with genuine armour for use in battle: a group of more than forty small bronze discs, perforated for attachment to some sort of backing, for a helmet or other armour.[13]

For the helmet, however, we have much better evidence in a different material. A number of Mycenaean representations, some of them quite detailed, show helmets composed of several horizontal bands of small, roughly crescent-shaped objects packed closely together, those of each band facing alternate ways. At the end of the last century, the German scholar Wolfgang Reichel saw that these curved pieces were meant to represent thin plates specially cut from the tusks of a wild boar, such as had been found in some quantity on Mycenaean sites.[14] These plates were attached to a cap of some softer material, now perished; the helmet, though laborious to make, would have been stout

enough. It must also have been a mark of hunting prowess: some thirty or forty boars would have to be killed to furnish a set of tusks for each helmet. But the most remarkable thing about this helmet is that an example is accurately described in Book X of the Homeric *Iliad*, which reached its final form at least eight hundred years after the Shaft-grave era:

> 'And on his head he placed a helmet made of hide; on the inside it was stoutly made with many taut thongs; outside, the white tusks of a boar with gleaming teeth, closely arrayed, facing alternate ways, were well and cleverly set; in between a cap of felt was fitted' (lines 261-5).

Since Reichel explained this passage, the boars' tusk helmet has been found to have a pedigree reaching back into the Middle Bronze Age in Greece. It is a distinctively European type, being rare in Minoan Crete, and it is worth noting that there was a tradition for the use of boars' tusks for body-protection in other parts of Europe. *Pl. 8*

The most remarkable item in the panoply of the Shaft-grave warrior was his shield. There are two types of shield represented on the monuments of this period, and both are very large—four feet or more in height, if the scale of the representations can be trusted.[15] They can only have been made of ox-hide, and indeed are sometimes shown dappled in black and white, but there are also occasional hints of metal reinforcement. The commoner of the two varieties is in the shape of a rough figure-of-eight when seen from the back or front; in profile it is seen to be of strongly convex form, with a 'waist', slightly pinched in, rather less than half way down. This explains its construction, which must have been from a hide cut to roughly oval shape and then braced on a long, slightly curved vertical stave; a short cross-piece, also convex, drew the sides slightly inwards at the point where it reached them. Sometimes the lateral curve was so pronounced that a large vertical fold was formed down the middle. Less common and slightly smaller is the plain 'tower' shield, which had straight rims at the sides but an upward curve

in the top edge and, again, a strong lateral convexity which shows in profile views. Both shields formed a kind of mobile embrasure, which gave some protection to the warrior's sides as well as his front. But they must have been extremely unwieldy; there is no sign that they had handles, and they seem to have been held and manoeuvred solely by means of a strap which passed over the left shoulder, behind the neck and under the right arm-pit. When desired, they could simply be thrown over the left shoulder and left to hang down the back. To the many pictures of these shields we may now add a large silver model of the 'figure-of-eight' type, found in Shaft-grave IV but only recognized and reconstructed eighty years later.[16] Here again, as with the boars' tusk helmet, it is remarkable that body-shields of this size are occasionally mentioned or implied in the *Iliad*; in particular, the shield 'like a tower' which Ajax regularly uses is surely to be identified with this second type of body-shield. So, too, when Hector's shield, slung over his back, bumps against his neck and ankles as he runs along (VI, 118), and when Periphetes of Mycenae trips over backwards on the rim of his shield (XV, 645), we may detect survivals of this type. The body-shield, at least that of figure-of-eight shape, occurs very early in Minoan Crete and was probably acquired at a later date by the Mycenaeans from that source. *Pl. 2*

The kings of Mycenae had the use of one other war arm, new to Europe and potentially of great importance, the chariot. Some of the tombstones which stood over the Shaft-graves are carved in low relief, and three of them show a warrior—presumably the dead man—riding in a chariot. This vehicle, like the bow and spear, could be used for hunting as well as warfare, and is many times portrayed in scenes of the chase. But the appearance of chariots in Greece for either purpose is always puzzling; the terrain is usually too rough to allow them to operate except on a made track, which would severely inhibit their use. They probably served purposes of prestige as much as anything, and we need not accept too literally the scenes on these gravestones, which are normally taken to represent the warrior running down his enemies.[17] *Pl. 1*

THE PALACE PERIOD

The developments in Mycenaean armour during the following centuries were no doubt very gradual, but we can nevertheless identify a distinct second phase, datable between the rough limits of 1450 and 1350 BC. It partly coincides with the production of the huge painted jars which form the 'Palace Style' of pottery, and we may perhaps refer to this as the Palace period. The evidence is now much more broadly based. Although we still depend largely on tombs, we are no longer confined to those of a single royal dynasty. The graves now belong to what seems to be a class of warrior aristocrats, serving the royal palaces; they are extended geographically over several areas of the Greek mainland and islands. To the end of this period belong many (probably almost all) of the baked clay tablets excavated in and near the palace at Knossos by Sir Arthur Evans; they include over two hundred texts and fragments which, as their accompanying ideograms alone would show, refer to armour and weapons. The date suggested by the most recent authorities for the fall of the palace is in the region of 1375–1350 BC.[18] Warrior graves, Palace Style pottery and Linear B tablets are all among the features which distinguish Knossos from most other Cretan sites in the period just before its fall, and which have led most scholars to the opinion that Knossos had become a dependency of the Mycenaean mainland. The innovations which distinguish this Palace period from the era of the Shaft-graves are, in our field, mostly in the form of improvements and modifications of existing arms. But there is one important and fundamental change—the mastery of the production of plate armour by Mycenaean bronzesmiths. Now, probably for the first time in European history, begin to appear bronze body-armour and, perhaps a little later, bronze helmets: a result, perhaps, of the fusion of Minoan skills with Mycenaean military ambitions.

In weapons, many of the changes simply arise from the weaknesses of the Shaft-grave prototypes. Thus the earliest swords, for all their great size and imposing appearance, had structural weaknesses, mainly in the hilting. The two new types now developed, the 'horned' and the 'cruciform' sword, were both

designed to cure this.[19] The horned sword takes its name from the long, slim hilt with its two horn-like projections of bronze, forming the handguard. Possibly these swords could be used for a cutting stroke; certainly they were admired and imitated by foreign peoples extending from Palestine to the Danube. The cruciform sword is a more modest cousin of the horned type, and is even commoner. It too has a 'one-piece' construction, with flanges on the hilt, but its hand-guard projections are rounded and at right angles to the blade, giving the sword its name; it is generally shorter than the horned sword. It seems to have developed from an older dagger of Minoan origin, which had shoulders of much the same shape, and may thus have been a Cretan type—one of the last in the field of warfare that the Mycenaeans adopted. To judge from the graves, a single sword was now sometimes considered enough for each warrior; the only common combination is one long (usually horned) and one short sword; these are likely to have been used for different kinds of combat rather than simultaneously, one in each hand, in the manner of later sword-play. *Pls. 3, 4*

At this point the first relevant group of Linear B tablets, the twenty-two 'Sword'· tablets found in the domestic wing of the palace at Knossos, should be mentioned. The ideograms on these tablets are sometimes schematic, sometimes quite life-like in appearance. It would be speculative to identify the former type with a particular class of weapon, or even to say that they stand for a distinct class; but the more representational ideograms show unmistakably the lateral bulges of the cruciform type in use at this time. A further question is whether these tablets do not record daggers rather than swords; there are plenty of cruciform daggers, as well as swords among the actual finds, most of the ideograms *look* more like daggers; and the group of signs regularly found beside them has been read by the decipherers as a form of the Greek word *phasgana*, which may originally have been used strictly for stabbing weapons or daggers.[20]

Side by side with the horned and cruciform swords in the warrior graves are found examples of the new type of large spearhead, a fearsome weapon.[21] It largely dispenses with the