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The Othismos, Myths and Heresies: The Nature of Hoplite Battle

A.K. Goldsworthy

I

What actually happened when two armies of Greek hoplites met on the battlefield in the sixth to fourth centuries BC? How and why did one phalanx prevail over another composed of similarly equipped hoplites? These questions are not new, but they have received considerable attention in the current resurgence of interest in the warfare between the city states of Classical Greece. This trend has produced a great number of highly innovative studies which have added enormously to our understanding of the subject.1 No other period of the military history of the ancient world has yet received comparable attention. Alongside these refreshingly new approaches to Greek warfare has come the almost uniform restatement of an old idea. This concerns the othismos, or 'shoving', the term used sometimes by Greek historians to describe the decisive combat in a battle. I hope to show in this article that the traditional understanding of this term does not fit the ancient evidence for what happened in hoplite battles.2

The orthodox view of the othismos sees the clash between two phalanxes as a gigantic pushing match. The opposing hoplites charged at a run, crashing into the enemy front rank. If one side did not collapse as a result of this clash, then the men in the ranks behind the first pressed their broad shields against the back of the man in front and pushed him...

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2 Reconstructing ancient battles is a very hazardous business; see N. Whatley, ‘On Reconstructing Marathon and Other Ancient Battles’, Journal of Hellenic Studies LXXXIV (1964), pp. 119–39. Whatley suggested that it was better to study how armies fought, rather than attempting to reconstruct the details of a specific battle. This is essentially the method I have attempted to follow in this paper.
They might have 'othismos', military in war. See son: seen in an extract spikes of their ranks behind the first. It to need superfluous, men on it can't damage men doing men of majority and much deep, cally. Packing together ive. A hoplite battle was literally knocked being literally knocked over and trampled. There was little or no actual fighting after the initial, very brief clash of spears. The shoving was decisive. A hoplite battle was literally a struggle of mass against mass. This is the view put forward by V.D. Hanson in what is by far the most detailed and best examination of hoplite warfare yet published.5

No Greek historian explicitly tells us that the othismos involved all ranks packing together in a united push forward to drive the enemy back physically. However, a hoplite phalanx was always deployed with a number of ranks behind the first. It was very rare for a phalanx to be less than eight deep, and much deeper formations were not uncommon. Therefore the majority of hoplites were unable to reach the enemy with their spears. They might have been able to finish off fallen enemies with the butt spikes of their spears, and certainly gave moral support to the front rank men doing the actual fighting, but they cannot have inflicted any significant damage upon the enemy.4 If the othismos was a massed shove, then it would seem to explain the presence of these, otherwise largely superfluous, men on the battlefield. This is the basic argument of the most recent restatement of the traditional view by R.D. Luginbill.5 The need to explain the role of the rear ranks of a phalanx has been a major factor in the development of the idea of massed shoving. This can be seen in an extract from an examination of hoplite battle by J.K. Anderson:

When the front rank on either side met, the men behind them did not stand waiting for their leaders to be killed before taking their places; still less did the front rank men fight for a time and then fall back to the rear to give someone else a turn. The rear ranks closed up, and when we read of one Greek army pushing another back (Thuc. 6. 70. 2; Hdt. 9. 62. 2; Xen. Hell. 2. 4. 35), or unable to bear the weight of another's attack (e.g. Diod. Sic. 18. 17. 4), the words are to be taken literally, not as mere figures of speech, as they would be in an account of a modern battle ...6

Anderson did not believe that the failure of our sources to mention this role of the rear ranks weakened this interpretation:

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4 See J.K. Anderson, 'Hoplite Weapons and Offensive Arms', in Hanson, Hoplites, 15–35, esp. 24, and V.D. Hanson, 'Hoplite Technology in Battle', in Hanson, Hoplites, pp. 63–84, esp. 67–74 on the use of the sauroter or butt-spikes. On the depth of the phalanx, see Pritchett, pp. 134–45.

6 'Othismos', The Greek State at War iv, pp. 51–61.

When, therefore, Xenophon, for instance, makes no express mention of their rear ranks in his account of the struggle at Coronea, I believe it is because he assumed that everyone would understand what they were doing, not because they were disengaged while their leaders struck shield against shield, pushed, fought, killed, and were killed.7

For British scholars there has always been a clear mental parallel between the massed shove of the othismos and a scrum in a game of rugby football. As J. Lazenby noted, none of the earlier sources gives any clear indication how the “shoving” was accomplished, but Thucydides, in saying of the Thebans at Delion, that “they followed up little by little as they shoved”, makes it sound very like the inexorable “heave” of a well drilled pack on the rugby football field. The famous story of a Epameinondas’ cry for “one more pace” at Leuktra (Polyaenus 2.3.2) also sounds like the kind of thing the leader of a rugby “pack” might shout.8

The notion is superficially an attractive one. It is very hard for those of us who have never experienced a battle, let alone hand-to-hand fighting, to imagine what close combat was actually like. Yet everyone knows what a rugby scrum looks like, and many of us have played the game, if only at school. However, any similarity is more apparent than real. The difference in scale is enormous. A pack of forwards in rugby consists of eight men in three ranks, while a hoplite phalanx consisted certainly of hundreds of men, often of thousands, and sometimes of tens of thousands. Rugby forwards are able to ‘bind’ with the men on either side, and grip firmly onto the man ahead. In this way they concert their push forward and support themselves. Hoplites cannot have held onto each other to maintain their balance. A man might have leaned his shield hard against the man in front and have had the shield of the man behind rammed against his own back to provide a precarious balance, but he cannot have gained any physical support from the men on either side. Even if a phalanx battle was a shoving contest, it will have borne little resemblance to a scrimmage, and the mechanics of rugby are of no relevance to its study.

There has been some criticism of the traditional view of the othismos, mostly by scholars who portray a hoplite battle as far more open, and composed of a series of individual duels.9 G.L. Cawkwell argued that the massed, close order shoving occurred only after a period of loose order

8 'The Killing Zone', pp. 87–109, at 97.
duelling.\textsuperscript{10} P. Krentz denied the very existence of a massed shove, and saw battles as hand-to-hand contests between the opposing front ranks, with each man in these ranks having sufficient space to fight.\textsuperscript{11} For these scholars the rear ranks served as replacements for casualties, or might filter forward into the fighting to relieve weary combatants.

These suggestions provoked strong and surprisingly passionate criticism from scholars who emphasized that our sources clearly considered the phalanx to be a close-order formation.\textsuperscript{12} This is the clear inference from such passages as the speech of Brasidas contrasting Illyrian and Greek methods of fighting (Thuc. 4.126). However, it is far less clear just how close together Greek hoplites had to be in order to consider themselves to be in close formation.\textsuperscript{13} This is a question I shall return to later.

The debate, over the question of how open the formation of the hoplite phalanx was, has tended to obscure the valid criticism of the traditional view of the othismos made by the advocates of loose-order duelling. Cawkwell pointed out that, had the rear ranks all been pushing hard with their shields at the men in front, then the opposing front ranks would have been pressed so closely together that they could not have used their weapons, as our sources make clear that they did.\textsuperscript{14} He also noted that there are many references to battles lasting ‘a long time’ or ‘most of the day’. It would have been physically impossible for men either to push or to fight without a rest for much more than a few minutes.\textsuperscript{15}

Krentz has argued that there is no good reason to interpret othismos literally in all cases.\textsuperscript{16} The verb otheo and its compounds, which appear more frequently than the noun in battle descriptions, convey much the same meaning as expressions like ‘pushed back’ or ‘forced back’ in an account of a modern battle. The Greek historians inherited these terms from Homer, who described loose-order combat which definitely did not involve massed shoving, and use them in the context of naval as well as land battles. This does not suggest that the meaning of these terms was always literal, or indeed incompatible with the fairly open order advo-

\textsuperscript{10} Philip of Macedon, pp. 152-53, and ‘Orthodoxy and Hoplites’, pp. 376-8.

\textsuperscript{11} Krentz, ‘Hoplite Battles’, pp. 51-55, 61 and ‘Continuing the Othismos’, p. 47.


\textsuperscript{13} See Krentz, ‘Hoplite Battles’, pp. 54-5; Cawkwell, ‘Orthodoxy and Hoplites’, pp. 381-5.

\textsuperscript{14} Philip of Macedon, pp. 151-2.

\textsuperscript{15} ‘Orthodoxy and Hoplites’, pp. 376. For a table of references to the duration of battles in Greece and discussion of this, see Pritchett, The Greek State at War, pp. 47-51. Figures given for battles from the third century BC onwards are of little relevance, since armies by this period made use of reserves, a factor that may well have prolonged an engagement beyond the time of a simple hoplite battle. Therefore Plutarch’s claim that Pydna lasted one hour (\textit{Emilius Paulus} 22), or Vegetius’ statement that battles lasted two to three hours (3.9) are not of much use in telling us just how long ‘a long time’ might be. Hoplite battles may have lasted as long as this, but we cannot be sure.

\textsuperscript{16} ‘Hoplite Battles’, pp. 55-9, and ‘Continuing the Othismos’, pp. 47-8.
cated by Krentz.17 Whilst a few passages do imply literal shoving with shields (Thuc. 4. 96. 2; Xen, Cyr. 7. 1 33–4), they do not suggest that the rear ranks were pushing those in front of them forward, but that individuals in the front ranks were using their shields to buffet and try to unbalance individual enemies.18 However, support for the traditional view has continued to be passionate. In a reply to the most recent advocate of the orthodox view, Krentz commented: ‘to the best of my knowledge I have not convinced anyone’.19

Yet, the advocates of massed shoving have failed to demolish these objections to their theory. The proponents of a series of loose-formation duels have also been unable to prove their case. An alternative model for the nature of hoplite battle is required. One of the most pressing needs is to explain the role of the rear ranks and the reason why deep phalanxes were so often successful. I believe that the key to the problem is to explore two factors, both of which have been largely ignored in the past. The first of these is the practical difficulty of moving large numbers of men as a group across even the flattest battlefield. The second factor is even more vital to understanding any type of battle, namely the morale of the participants.20 Too often in the past morale has been relegated to a minor role in hoplite battle. Even Hanson, who gives far greater attention to morale than any previous study, often fails to carry arguments to their logical conclusion.21 This is not a fault unique to those studying Greek warfare, but common to much of military history.22 By re-examining the primary accounts in the context of these factors I hope to present a more convincing picture of hoplite battle, and to demonstrate that these encounters did not involve massed shoving.

Before moving on to discuss these points, it is worth noting that it cannot be argued that close combat was a matter of massed shoving in any other period of military history, including those when armies were

17 ‘Hoplite Battles’, pp. 55–6, n. 26, citing Iliad 8. 295, 336; 12. 420; 13. 148; 16. 44; 654; 17. 274. Also ‘Continuing the Othismos’, p. 48. For the use of the term in naval battles, Krentz cites Thuc. 7. 36. 5, 52. 2, 63. 1; 8. 104. 4–105. 1; Xen. Hell. 4. 3. 12.
18 ‘The Nature of Hoplite Battles’, p. 56.
19 ‘Continuing the Othismos’, p. 45.
21 e.g. after a detailed examination of the hoplite’s pre-battle tension and fear of massed attack (The Western Way of War, pp. 96–151), he still insists that a massed collision of men was a massed collision (pp. 152–9). See below, n. 49. Krentz (‘The Nature of Hoplite Battles’, p. 60) relegated psychological factors to a single paragraph, whilst noting that they were an important consideration. He stressed this importance more in ‘Continuing the Othismos’ (p. 45), but did not develop the idea at length.
22 For the failure of military history to explain what actually happened on the battlefield, see J. Keegan, The Face of Battle (London, Cape, 1976), pp. 20–2, 53–77. Keegan’s book was to have a wider influence on the way in which military history has been written.
equipped solely with edged weapons.\textsuperscript{23} Indeed, when men became closely packed together, it was usually a sign that things had gone badly wrong and resulted in especially high casualties.\textsuperscript{24} In itself this need not mean that Greek battles were not like this, although it should make us more cautious before concluding that they were. Should it be proved that the othismos really was a contest of massed shoving, then this conclusion would gain an importance outside that it possessed in the context of Greek history. It would be necessary to explain how the Greeks were able to fight in this unique way, and why they did so.

II

Why was it normal for a Greek phalanx to deploy at least eight ranks deep? What useful purpose did the ranks behind the first serve? There are two main practical factors which dictate the width and depth of any military formation. The first of these is the need to deploy a unit's weaponry to inflict maximum damage on the enemy. The Greek hoplite was first and foremost a spearman. Swords were carried, but were very much secondary weapons, to be used when the spear had shattered. The hoplite's spear was perhaps eight foot long and was used for thrusting, not throwing.\textsuperscript{25} Therefore a hoplite had to get close to his opponent, to within a couple of yards, in order to wound or kill him. Only the men in the front rank of the phalanx were close enough to the enemy to make full use of their spears. It is possible that hoplites in the second rank were also able to thrust at the enemy over the shoulders of the front rank. In the later Macedonian phalanx the heads of the long pikes carried by the first five ranks projected in front of the formation (\textit{Polybius} 18. 29. 5–6). It is important to note that this did not mean that all five ranks were able to fight simultaneously. The pike heads were separated by intervals of three feet, so that an enemy, who had been able to dodge or cut the head off one, would have had to face the other four in turn. A hoplite spear was far shorter than the Macedonian sarissa, which meant that the spears of the ranks behind the second cannot have projected in front of the phalanx, let alone have reached the enemy.

Only at most the first two ranks of a phalanx can have fought with their spears. If the number of casualties inflicted on the enemy had been the sole determining factor in a hoplite battle, then Greek


\textsuperscript{24} e.g. in the Roman period Caesar, \textit{BG}. 6, 40, 7, 50–51; Tacitus, \textit{Ann.} 12, 58. See also Keegan, \textit{The Face of Battle}, pp. 101–5.

\textsuperscript{25} For the hoplite spear and the secondary importance of the sword, see Anderson, 'Hoplite Weapons', pp. 15–37.
hoplites would have fought in a very wide, shallow formation, allowing the maximum number of men to use their spears. The ideal formation might have been three ranks deep, with two to fight and the third to replace casualties. A victorious hoplite army seems to have suffered around 5 per cent casualties on average. This means that additional ranks behind the third cannot have been there primarily to replace casualties.

Hoplite phalanxes were not very shallow, and thus exceptionally wide, formations. One of the reasons for this was that such a formation would have had great difficulty in moving as a group across the battlefield. This brings us to the second practical factor dictating the shape of a formation: the need to move. It was very rare for a hoplite phalanx not to advance to meet the enemy. The distance it had to move varied from a few hundred yards to a mile or more. An army that remained stationary in a strong defensive position risked the enemy refusing to give battle at a disadvantage. The Spartans did occasionally make a deliberate attempt to outflank the enemy, but very few battles involved complicated manoeuvres. The essential requirement for every phalanx was the ability to advance in a fairly straight line and reach the enemy as a group.

It is very difficult, even for well-drilled soldiers marching across a flat parade ground, to move in a perfectly straight line for a distance of several hundred yards. Since each man takes his dressing from those on either side, the entire unit will tend to conform to a shift in direction by one individual. The spacings between each man may also fluctuate. In most military parades you will see the soldiers halt to dress ranks at some point. If a formation of well-drilled soldiers attempts to march across country, then the problems of keeping position in the ranks and moving in a uniform direction are magnified enormously. This is true on a dry, flat plain, still more on soft or boggy ground, or any sort of slope. No ‘flat’ plain is perfectly flat, least of all in Greece. There are always minor irregularities in the ground. Some battlefields were also broken by more substantial obstacles such as water courses or walls. As a hoplite advanced, the minor irregularities and uneven-

27 As argued by Frazer, 'The Myth of the Hoplite Scrimmage', pp. 15–16.
28 Hanson, The Western Way of War, pp. 125–51.
29 On the distances between armies, see Pritchett, The Greek State at War II, pp. 157–60.
30 Hanson, The Western Way of War, pp. 156–7.
31 For a discussion of the role of the commander and the extent to which he could manoeuvre the phalanx, see E.L. Wheeler, 'The General as Hoplite', in Hanson, Hoplites, pp. 121–70.
ness of the ground would have caused him to veer to one side or other, or slowed him down in comparison to the rest of the front rank. These slight differences in direction or speed would have become more pronounced as the phalanx moved further. The men nearest to the hoplites who had strayed to one side or slowed down had either to conform to this movement or allow a gap to develop between them and their neighbour. All along the line, men encountered slightly different terrain and so began to move at varying speeds in increasingly diverging directions. Larger obstacles caused even greater confusion. At Deltium in 424 the extreme wings of the rival armies failed to meet, as both sides were impeded by water courses (Thuc. 4. 96). Any sort of slope caused additional problems, as each man sought instinctively to follow the easiest path up. A strong shift in direction to one side or the other was inevitable. The wider a phalanx was, the more obstacles and irregularities it would encounter, and so the quicker it would lose its order and break up, the hoplites being spread thinly in some places and bunching together in others. If it did not halt to sort itself out — and few armies apart from the Spartans had enough of a command structure to make this feasible — the phalanx would cease to be a dense, cohesive mass. A deeper, and therefore narrower, phalanx encountered fewer obstacles and could as a result move faster and further, whilst retaining its order. This is one reason why phalanxes were normally at least eight ranks deep, despite the fact that the ranks behind the second cannot have fought. A deeper, less wide formation was easier to move in, whilst retaining its cohesion. (It is important to note that the difference between a ‘wider’ and ‘narrower’ formation was relative. A ‘narrower’ phalanx was still quite broad, and probably many times wider than it was deep.) It was normal for most armies in the eighteenth and nineteenth centuries to fight in shallow, wide lines, perhaps two or three deep, but all moved and manoeuvred in far narrower, deep columns. This allowed them to move more quickly and retain good order.\(^3\) When, during the retreat of the Ten Thousand, the Greeks were faced by a Colchian force defending a very steep, broken position, Xenophon argued that an advance in one wide phalanx would lose cohesion, as at some points men would find the going much harder than at others. This would have broken the line and caused the men to lose heart. Instead the Ten Thousand advanced in a number of small, deep columns, narrow enough to follow the easiest paths up the slopes without breaking up (Xen. Anab. 4. 8. 9–13, cf. 4. 2. 12, 3. 17; 5. 4. 22), thereby successfully storming the position.

It is significant that the Spartans placed great emphasis on advancing

in an orderly manner and maintaining the integrity of the phalanx.\textsuperscript{34} Thucydides’ famous account of the advancing armies at Mantinea will bear quoting once again:

After this the two armies met, the Argives and their allies advancing with great violence and fury, while the Spartans came on slowly and to the music of many flute-players in their ranks. This custom of theirs has nothing to do with religion; it is designed to make them keep in step and move forward steadily without breaking ranks, as large armies often do when they are just about to join battle (Thucydides, \textit{The Peloponnesian War}, trans. R. Warner; rev. edn, Harmondsworth: Penguin, 1972; henceforward Thuc.; this quotation 5.70).

The unique Spartan military organization, with its large numbers of different ranks of officers, permitted far more control over the progress of the phalanx than was possible in most armies. Xenophon claims that at Nemea the Spartan phalanx halted to perform a sacrifice a mere 200 yards from the enemy (\textit{Hell.} 4.2.20). The Spartans were full-time, professional soldiers who were trained to march in step and keep formation. Thucydides’ account of the Spartan advance suggests that this was something unusual. There is no evidence that the hoplites of other Greek states were drilled to march in step.\textsuperscript{35} It is difficult to see how it could ever have been possible to assemble regularly hundreds or thousands of men to practise marching in formation. Many of the peculiarities of hoplite warfare developed precisely because hoplites were not full-time soldiers available for either a prolonged campaign or lengthy training.\textsuperscript{36} This point cannot be overemphasized. All the difficulties involved in moving a body of trained soldiers in formation across country were greatly magnified with a group of individuals who lacked any collective training. It is all too easy to create a mental picture of a hoplite phalanx in the sixth, fifth or early fourth century, which owes more to the army of Alexander and the Hellenistic drill manuals of several centuries later than it does to the realities of the earlier period. There is no good evidence to suggest that in most states outside Sparta each hoplite was assigned a fixed place in a certain rank and file within the phalanx, or occupied a set distance of frontage.\textsuperscript{37} We have no idea how the phalanx was arranged at the lowest level, but can only assume that family, friends and neighbours took position alongside each other.\textsuperscript{38} It seems to have been one of the general’s tasks to decide on the depth of the phalanx, and presumably

\textsuperscript{34} See Lazenby, ‘The Killing Zone’, pp. 90–91.
\textsuperscript{35} The evidence over whether hoplites practised individual weapons’ skills is inconclusive. For contrasting views, see Cawkwell, ‘Orthodoxy and Hoplites’, p. 378; Anderson, \textit{Military Theory}, pp. 84–93, and ‘Hoplites and Heresies’, p. 152; Holladay, ‘Hoplites and Heresies’, p. 95.
\textsuperscript{36} Hanson, \textit{The Western Way of War}, pp. 27–39.
\textsuperscript{37} Lazenby, ‘The Killing Zone’, p. 89.
\textsuperscript{38} See Hanson, \textit{The Western Way of War}, pp. 121–5 for the evidence for this.
to ensure that the men did actually form up in this way. Our sources simply do not tell us just how much organization of the phalanx occurred at this point immediately before the battle.

Even if the phalanx did begin a battle in something resembling clear ranks and files, this order will have begun to disappear as soon as the advance started. The collective singing of the Paian may have been intended to help the phalanx keep together, but men unable to march in step cannot have maintained ordered ranks. When the phalanx came closer to the enemy, it was normal for all but the Spartans to break into a double or run. At this point all traces of the formation will have vanished. The further a phalanx charged at a run, the more the stronger and faster runners will have pulled away from the weaker and slower. The varying weight of equipment carried by each individual and, even more, the wide variety of ages amongst the hoplites in most phalanxes added to this loosening of ranks. At this stage in a battle the hoplites of a phalanx cannot have been that closely packed. The precise distance that a phalanx advanced at the run is seldom mentioned by our sources. At Coronea, the Thebans broke into a run when the opposing armies were 200 yards apart. One contingent in the Spartan line, the remnants of the Ten Thousand, began to run when the distance had narrowed to 100 yards, and routed the enemy in front of them. The phalanx facing the other Spartan units collapsed into rout before the Spartans had begun to charge, which suggests that the latter were waiting for the enemy to come even closer before they began to run (Xen. Hell. 4. 3.17).

There were not only physical factors affecting the behaviour of the phalanx at this stage of a battle, but also psychological ones. The most famous of these is explained by Thucydides:

It is true of all armies that, when they are moving into action, the right wing tends to get unduly extended and each side overlaps the enemy’s left with its own right. This is because fear makes every man want to do his best to find protection for his unarmed side in the shield of the man next to him on the right, thinking that the more closely the shields are locked together, the safer he will be. The fault comes originally from the man on the extreme right of the front line, who is always trying to keep his own unarmed side away from the enemy, and fear spreads to the others who follow his example. (Thuc. 5. 71).

Drifting to the right must have been made even more attractive to the men on the extreme right of a phalanx when it offered the opportunity of avoiding contact with the enemy altogether. This general veering towards the right occurred along with the tendency of individuals, discussed already, to diverge from a straight advance. It will have been more marked when the phalanx was advancing at a walk. It would have been

very difficult for a running man to gain much shelter from his neighbour’s shield, since the front rank must have become very ragged.

Thucydides explained the tendency of phalanxes to drift to the right as the result of each man’s fear of being wounded. In this case, the hoplite’s fear of personal injury overcame his interest in the success of the army, and left the men on the extreme left of the army exposed. Hanson has described brilliantly the nervous state of the rival phalanxes in the period before, and in this first stage, of a hoplite battle. As soon as an army began to advance the tension can only have increased, each hoplite wishing to get the whole thing over with. This, rather than any practical benefit, explains the tendency of armies to run 100–200 yards to meet the enemy. A much shorter run would have sufficed to grant maximum impetus to a spear thrust. A long run caused the phalanx to break up. It was also very tiring for men dressed in the weight of the hoplite panoply under the heat of the Greek sun. The loosening of the formation carried the greatest potential risk, especially to phalanxes formed only a few ranks deep. As the hoplites spread out, each individual was granted far more freedom of movement than when he was enclosed in closely packed ranks. The likely result of this was explained clearly by Raimondo Monteuccoli, a seventeenth-century military theorist.

When a troop is formed as a hedgerow (i.e. in a single line) even though the brave soldiers, who are normally in the minority, proceed resolutely into the fray, the others, who are normally in the majority, remain behind. And so, over a distance of 200 paces, one sees this long rank thin out and dissolve. Great breaks occur in it, which miraculously encourages the enemy.

When men became scattered, all but a minority would fail to press the attack. The idea was a familiar one to the Greeks. Thucydides gave a speech to Brasidas in which the Spartan expressed contempt for the Illyrian method of fighting.

As they fight in no sort of order, they have no sense of shame about giving up a position under pressure. To run forwards and to run backwards are equally honourable in their eyes, and so their courage can never really be tested, since, when every man is fighting on his own, there is always a good excuse for everyone saving his own skin.

(Thuc. 4. 126)

In a close-packed phalanx a man had less opportunity to slip away. If he did so, his lack of courage was known to everyone and his shame accompanied him back to his community. When men were scattered it was much easier to slip away. Movement and disorder in the ranks were

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43 See T. Barker, The Military Intellectual and Battle (Albany, NY, State Univ. of New York Press, 1975), p. 92. The passage is actually dealing with cavalry, so that the distance quoted for the break-up of the formation may not be appropriate for infantry.
44 See Ardant du Picq, Combat, pp. 3–4, 6–12.
clear signs that a phalanx was on the verge of collapse (Thuc. 5. 10). It has often been pointed out that scattered hoplites were highly vulnerable to attacks by cavalry and light troops, neither of which could seriously threaten a phalanx in open country.45

Xenophon argued that the bravest men should be placed at the front and rear of a phalanx, so that the remaining hoplites in the middle could be ‘led by the former and pushed by the latter’ (Mem. 3. 1. 8). This has often been taken as clear evidence that a battle was decided by massed shoving, the rear ranks packing down behind those in front.46 Yet Xenophon does not imply that the front rank of bold men needed to be, or was, pushed by all the men behind. Rather, the rear rank of reliable men, by their physical presence, prevented the men in the middle from fleeing and forced them to continue to advance, whilst those in front set an example and led them on. One point that does deserve far more emphasis is his assumption that the less confident men would be in a clear majority in any phalanx and the boldest hoplites a minority. The reluctant majority needed to be both led and driven into battle.

According to Polybius, the men in the rear ranks of a Macedonian phalanx ‘by the sheer pressure of their bodily weight in the charge add to its force’ (Polybius 18. 30. 4). This comment concerns expressly ranks 6–16, not 2–5, whose pikes projected in front of the formation as we have seen earlier. A similar role is given to the rear ranks of the Hellenistic phalanx by the writers of military manuals (Asclepiodotus 5.2; Arrian Tac. 12. 10; Aelian Tac. 14. 6). Macedonian pikemen did not carry the broad, concave hoplite shield which, it has been argued, was so suited to pushing the man in front.47 None of these authors implies that the main force of a charge was the physical thrust of its combined ranks. The role of the rear ranks was to support the men who fought the enemy, and also to prevent them from running away. In Hellenistic armies the men at the head and rear of a file were chosen from the most reliable, and received higher pay (Asclepiodotus 3. 2–5). In the Roman imperial army the optiones were positioned behind the line, ready to use their long hastile staffs to drive back to their places any man attempting to flee.48 In most eighteenth- and nineteenth-century European armies a row of sergeants and NCOs was stationed at the back of a unit to prevent men from running away or hanging back. They were often armed with halberds or pikes, weapons of negligible use in the warfare of the period.

46 Lazenby, 'The Killing Zone', p. 97; Hanson, The Western Way of War, p. 172. A similar idea is expressed in Iliad 4. 297–300, where Nestor forms some unreliable troops with chariots in front of them and reliable infantry to their rear to force them to fight. The resultant fighting seems to be in loose order. See also H. van Wees, 'Leaders of Men? Military Organization in the Iliad', Classical Quarterly XXXVI (1986), pp. 285–303, esp. 291–2, 297, where it is suggested that contingents were directed into battle in 'columns', deep formations which dissolve as soon as the fighting starts.
47 See Hanson, Hoplites, pp. 63–84, and The Western Way of War, pp. 65–71.
which were used to push reluctant soldiers onwards.\textsuperscript{40} Battles in this period were most certainly not massed shaving matches. In his account of the fictional battle of Thymbara, Xenophon has the Persians not only place reliable men at the front and back of each formation but also station a separate row of courageous men behind the entire army. These were ordered either to force deserting men to return to the fighting or to kill them (Xen. \textit{Cyr.} 3. 3. 41-2; 6. 3. 27). Herodotus’ description of the rear ranks of the Persian infantry at Thermopylae, having to be whipped into advancing into contact with the Greeks, reflects Greek contempt for cowardly barbarians (\textit{Hdt.} 7. 223). It was also an acknowledgement of the great fear of close combat, something understood by the Greeks. It was a source of pride that they had no need to employ such extreme measures themselves.

A deeper formation made it harder for the hoplites in the front and middle of a phalanx to flee. Unless the rear ranks, who were further away from the threat posed by the enemy phalanx, themselves turned to flee the rest of the formation could not escape. It is notable that less confident troops were often deployed in deeper formations. In 415 the Syracusans formed a phalanx 16 deep against the more experienced Athenians, who deployed in the more usual eight deep (\textit{Thuc.} 6. 67). At Nemea the Athenians and their allies, confronted by the might and reputation of the Spartans, formed a phalanx 16 deep, apart from the Thebans, who deployed even deeper (Xen. \textit{Hell.} 4. 2. 18). The Spartans never seem to have used formations deeper than 8–12 ranks unless the dimensions of the battlefield forced them to.\textsuperscript{50} Spartan discipline and high morale helped their hoplites to hold their position in the phalanx despite the stress of battle.

Even a deep phalanx must have begun to break up as soon as it began to charge. It would have been impossible for the men to run and stay so closely packed together that they were forced to collide with the enemy like a gigantic battering ram.\textsuperscript{51} Running hoplites became scattered, but the presence of large numbers of men following behind made it harder for the less confident to escape. Only the Spartans possessed the discipline to restrain their hoplites from charging until they were very close. The slow, steady Spartan advance was all the more intimidating because most of their opponents were incapable of copying it. In the first stage of Coronea, the Allied army began charging when the armies were 200 yards apart. The mercenaries and other troops fighting for the Spartans charged half that distance and routed almost all their opponents easily. Only the Thebans (perhaps in an especially deep

\textsuperscript{40} Keegan, \textit{The Face of Battle}, p. 185.
\textsuperscript{50} See Krentz, ‘Hoplite Battles’, p. 59; Pritchett, \textit{The Greek State at War} I, pp. 134–43.
\textsuperscript{51} \textit{Contra Lugimbill, ‘Othismos’}, p. 57. Xenophon compared the charge of the Thebans at Mantinea to the ram of a trireme, but there is no need to interpret this as a description of an actual trireme (\textit{Hell.} 7. 5. 23). For a discussion of this passage, see J. Buckler, ‘Epameinondas and the Embolon’, \textit{Phoenix} XXXIX (1985), pp. 134–43, at 135–6, 142–3.
formation?) broke through (Xen. *Hell. 4. 3. 17*). The further a phalanx charged, the looser and more ragged its formation became and the less able it was to stand up to an attack. At Cunaxa the Ten Thousand began an orderly advance, singing the *Paian*, when the armies were still 600–800 yards apart. Suddenly, one part of the phalanx began to run, apparently without anyone ordering it to do so. This section surged ahead and the rest started to run to keep up. The *Paian* was replaced by less united yelling of the war-cry. After the Persians had broken before the Greeks came within bow-shot, the Ten Thousand continued to advance, the hoplites calling out to each other not to run too fast, but to keep together (Xen. *Anab. 1. 8*). This attack was not a highly ordered affair. The instinctive urge of hoplites was to break into a run and get the battle over with. This was difficult to check, even though it posed a threat to the vital integrity of the phalanx.

The running charge of the Athenian army at Marathon achieved legendary status (*Hdt. 6. 112*). The precise distance the charge covered is less important than the deliberate decision to advance at a run.\(^{52}\) This served the practical purpose of minimizing the number of arrows the Persians were able to fire at the chargers, a tactic later employed by the Romans (Plutarch, *Lucilius* 28). It did mean that the Athenian phalanx lost its order, the individual hoplites becoming scattered. On the flanks the Athenians were formed up deeply, but in the centre their line was thin. When the armies met, the flanks drove back the Persians, but in the centre the Greeks broke and were pursued by the enemy (*Hdt. 6. 115–16*). In a shallow formation, especially one whose order had become looser in a charge, it was easy for the majority of less confident men to escape. Xenophon argued that a shallow phalanx ran a great risk of being broken (*Xen. Anab. 4. 8. 11*). The rear ranks in a deep formation made it harder for the rest of the phalanx to escape. They also looked intimidating to the enemy.

### III

It was common for a phalanx, or part of a phalanx, to break and rout before the two sides came into contact. If this did not happen, then the two phalanxes met. This was not a collision of mass against mass. Once the hoplites began to run, the phalanx started to break up. The further an army charged the looser its order became. The hoplites would have bunched together in some places and been more loosely scattered in others. At this stage there will have been little or no remnant of neat ranks and files, the phalanx having become more like a crowd than an army. Krentz suggested that hoplites might have needed

as much as 6 ft of frontage to fight properly. The loss of cohesion during the advance and charge may have created such large intervals in some parts of the phalanx, but it was probably more common for hoplites to bunch together, especially once the two sides had met. Throughout history the close physical presence of his comrades seems to have been one of the strongest factors in helping a man to cope with the stress of battle. Even on the modern battlefield there is a marked tendency for soldiers under fire to bunch together, despite the fact that this makes them a better target. Luginbill's assertion that 'soldiers take encouragement from those who can render them direct assistance' is incorrect. Perhaps it would have been better to say that they take comfort from those whom they think can render them assistance. At an instinctive level, most men take comfort and assurance from being near to other men, regardless of whether or not this offers any practical benefit. The feeling of security as part of a close group was a major advantage of the phalanx, as it has been of all close formations. How close to each other did hoplites have to be to feel reassured by their physical presence and the shared protection of their shields? Or, for that matter, how far apart did they stand at the commencement of a battle, before the advance and charge had caused them to scatter and bunch?

There is no precise information concerning the space normally occupied by each hoplite in this period. Later Hellenistic manuals described three different orders, in which the men occupied a frontage of 6 ft, 3 ft (pyknosis), and 1.5 ft (synaspismos) respectively (Asclepiodotus, 4. 1–3; Arrian, Tac. 11; Aelian, Tac. 11). The synaspismos, or 'locked shields', was a defensive formation, only possible for a stationary phalanx, and perhaps only feasible for pikemen rather than spearmen. The pyknosis was the standard attack formation (Asclepiodotus 4.3).

55 Krentz, 'Hoplite Battles', pp. 54–5. I assume that the figure of 6 m. in Krentz 'Continuing the Othismos', p. 47, is a misprint. Thucydides' (5.71.1) description of the desire of hoplites to protect their exposed right side by edging closer to their neighbour’s shield might seem clear evidence for the narrower frontage. However, as Krentz (‘Hoplite Battles’, pp. 52–5) points out, it is very hard to estimate just how close together hoplites had to be to feel secure.

54 See S.L.A. Marshall, Men Against Fire (New York, Peter Smith, 1947), p. 42. In general, see W. Trotter, The Instincts of the Herd in Peace and War (London, Unwin, 1947). The instinct to bunch together seems to be common to all types of troops attempting to enter close combat as a group. It is possible to find examples in primitive warfare of warriors who keep in open order to avoid missiles. In these cases only a fraction of the army comes close to the enemy at any one time.

55 Holmes, Firing Line, p. 159. This phenomenon is observable even in the infinitely less stressful environment of training exercises.

56 'Othismos', p. 59.

57 Delbrück carried out practical tests in an attempt to demonstrate that Macedonian pikemen could have moved and fought in a formation allowing only 18 in. per man. He found that a spacing of just less than 2 ft was the minimum. See H. Delbrück, History of the Art of War i: Warfare in Antiquity, trans. W.J. Renfroe (Nebraska, Univ. of Nebraska Press, 1975), pp. 404–8. Infantry in the eighteenth and nineteenth centuries were usually allocated a frontage of 22 in. Such tightly packed formations were impossible without a high standard of drill.
6 ft spacing was described as ‘natural’ and so had no special name. This was not a combat formation, but was the order adopted for a marching column and might be used to deploy an army on the battlefield.\textsuperscript{58} A somewhat looser formation than that of the drill-square or battlefield was, and is, far more comfortable to march in over any great distance.\textsuperscript{59} It is difficult to know how appropriate these descriptions of the pike phalanx were for the hoplite period, but at least they suggest a likely upper and lower limit for the normal frontage allotted to hoplites, within the range of 6–3 ft. I suspect that hoplites began a battle about 3 ft apart, which would have given them a feeling of security from the close proximity of their comrades, whilst still allowing a spearman room to fight. During the advance and charge the formation inevitably broke up, creating much wider gaps at some points. There are several reasons why a frontage of nearer 6 ft at the start of a battle seems less likely. First, this would have doubled the frontage of the entire phalanx, making manoeuvre far more difficult. The second point is related to this. During the advance and charge the hoplites would have scattered even more, creating a very open formation. This would have made it much easier for the less confident men to drift to the back of a phalanx, away from the fighting.\textsuperscript{60} Finally, it is important to remember that the larger hoplite armies did not form a single, immensely wide phalanx, but several smaller ones advancing side by side. Our sources describe battles in which allied contingents were clearly distinct, often being formed in different depths, and having widely varying fortunes during a battle.\textsuperscript{61} For the separate parts of an army to have remained clearly distinct, there must have been small intervals between the different sections of the line. Without these gaps it would have been difficult to prevent contingents from colliding as they veered away from a perfectly straight route during the advance and charge. If an army began a battle in loose order, and became even

\[\textsuperscript{58}\text{Polybius refers to 6 ft distance between two file leaders as the normal interval for marching any distance (12. 19. 7).}\]

\[\textsuperscript{59}\text{Before the reintroduction of cadenced marching (where each man advanced with left foot and then right in unison) in the first half of the eighteenth century, most European armies allowed far more space for each man than was the case later. In part this was due to the complicated systems of firing by ranks, requiring men to move from the front to the rear of the formation after firing. See Nosworthy, The Anatomy of Victory, esp. pp. 186–8.}\]

\[\textsuperscript{60}\text{There are eyewitness descriptions from the early eighteenth century of lines of infantry which had begun the battle 3–6 ranks deep becoming ‘40–80 men deep’ or even ‘100 deep’ as men drifted away from the firing line, leaving only the boldest to maintain the fight; see Nosworthy, The Anatomy of Victory, p. 118. I have not come across similar descriptions from the battles of succeeding decades, when infantry formed in much closer formation. This may suggest that more closely packed ranks were better at preventing the less confident men from refusing combat.}\]

\[\textsuperscript{61}\text{At Nemea, the Athenians and their allies formed up 16 deep, apart from the Thebans, who were deeper (Xen. Hell. 4. 2. 18). In the battle the different sections of the line appear as clearly distinct sections, which meet with varying fortunes (4. 2. 13–23). The description of Coronea presents a similar picture (4. 3. 15–20).}\]
more scattered during the advance, it is hard to see how the distinction between separate contingents could have been maintained.62

I believe that a better case can be made for hoplites occupying a frontage of around 3 ft than 6 ft. However, the evidence is not strong enough to allow a final conclusion. The ideas expressed in this article concerning the nature of hoplite combat need little modification to accommodate a 6 ft frontage.

The looser order of the charging phalanx would have permitted a hoplite to flinch at the last minute and not to run at full speed into his opponent. Our sources do not tell us whether they did so or not. The encounter between two opposing front ranks, even scattered and ragged ones, of heavily armed and armoured men would have involved a great noise, even if they were not moving much faster than a brisk walk. References in our sources to the great noise when battle was joined cannot be used to prove that the two phalanxes literally crashed together.63

Once the phalanxes had come together, the hoplites on each side attempted to fight their way into the enemy formation, whilst preventing the other side from breaking into their own. This type of fighting is very well described by Hanson.64 Hanson and others have argued that this stage of the fighting was very brief, and that if no quick breakthrough was achieved the rear ranks pressed hard against the man in front and the shoving match began.65 He suggested that as part of the charge the rear ranks ran up to smash into the men in front. Since he also argues that the front rank used their spears to deliver an underarm thrust at this stage, this would have meant that the second rank was impaled on the butt-spikes of the leading mens' spears.66 Even if the rear ranks did not run into the backs of the men in front, but slowly began to push forward, the advocates of this view consider that the hand-to-hand fighting between the front ranks was very brief. The vast majority of the average of 5 per cent casualties suffered by the victorious army in a hoplite battle must have occurred at this stage, rather than during the othismos or the pursuit of a collapsed and fleeing phalanx. This would have meant that around 40 per cent of the hoplites in the front rank of an eight-deep phalanx, and 80 per cent of those of one-sixteen deep, were killed or seriously wounded in a brief flurry of fighting.

62 The Iliad gives the impression of armies of men spread as loosely as this, or more loosely. It is notable that there is very little trace of higher organization apparent once the fighting begins. Most of the action involves heroes leading small contingents of retainers. See van Wees, 'Leaders of men?', pp. 285–303, and 'The Homeric Way of War: The Iliad and the Hoplite Phalanx', Greece and Rome XLI (1–2) (1994), pp. 1–18, 131–55. The picture presented by our sources for hoplite warfare appears markedly different from this.
63 Hanson, The Western Way of War, pp. 152–9.
66 Hanson, The Western Way of War, pp. 162–5.
If the othismos did involve the rear ranks physically shoving the men in front, then no actual hand-to-hand fighting between the front ranks can have occurred during it. These men would have been forced up against each other by the pressure of the men behind, probably unable to move their arms, and certainly unable to use a spear or sword. Luginbill suggested that, by pressing with his shield against the shoulder of the man in front rather than his back and each hoplite using his legs to brace himself against the force pushing him, the front rank could have both fought and carried the thrust of the whole phalanx against the enemy. This does not appear feasible. If men were braced against the push from behind, how much of this force would have been transferred through their bodies to the enemy? Unless the two front ranks were pressed together, the combined weight of the shoving cannot have been strong enough to push a phalanx back or over. Most of the advocates of the shoving match see the othismos as a clearly distinct phase which followed the initial burst of fighting. I intend to show that the ancient sources will not support this view. Whatever the othismos was, it occurred at the same time as hand-to-hand fighting, which would have been impossible if it was a huge scrummage.

A fragment of Tyrtaeus has been seen as a clear indication that the front ranks of rival phalanxes were pressed firmly against each other. ‘Set foot against foot; strain shield against shield; crest upon crest; helmet upon helmet; breast to breast close with your man and fight him, grasping your sword’s hilt or long spear shaft’ (Tyrtaeus, Frag. 8. 31–4). This passage may refer to a soldier being very close to his comrades on either side in the line, rather like the similar passages describing a densely packed ‘phalanx’ in Homer (Iliad 13. 150–3, 16. 215–17). If, as seems more likely, it refers instead to a man closing with an enemy soldier, it is clear that the poet expected him to have enough room to fight with spear or sword. Avoiding close combat altogether seems to have been an option for the warriors addressed in these poems. Emphasis on his proximity to the enemy might simply have been intended to emphasize the courage of a man willing to risk injury in hand-to-hand combat, rather than fighting from a safer distance.

At Thermopylae, Herodotus tells us that there was a fierce ‘shoving’ over the body of Leonidas. The Persians were forced back four times before the Greeks were able to drag the body away (Hdt. 7. 225). Earlier in the passage we are told that the Spartans were now fighting with swords because most of their spears were broken (Hdt. 7. 224). At Plataea, ‘the battle waxed fierce by the temple of Demeter itself, and continued for a long time until they came to pushing back the barbarians, who were laying hold upon the Greek spears and breaking them off’. The Persians’ equipment was inferior to that of Greeks, and

68 See n. 47.
they also attacked in an uncoordinated manner, charging out ‘singly and in tens or groups great and small’ (Hdt. 9. 62). This is not a description of a massed shoving match. Would the battle have been described as so fierce if it had been a shoving contest between a massed phalanx and a mixture of individuals and small groups? Surely the Persians would have been easily pushed back or knocked over had this been the case. Even if the Perdians carried shields by this stage of the battle, these were not suited to a pushing match.70

At Delium, the Athenian and Boeotian centre met in stubborn fighting and ‘pushing of shields’ (Thuc. 4. 96. 2). The Athenians broke through on the right, but on the left the 25-deep Theban phalanx was more successful and pushed the Athenians back ‘step by step’ (Thuc. 4. 96. 4). Another supposedly classic account of the traditional view of the othismos is Xenophon’s description of the second phase of the fighting at Coronea: ‘Setting shields against shields they shoved, fought, killed and were killed’ (Hell. 4. 3. 19). However, any literal reading of the passage must acknowledge that Xenophon depicts the othismos as occurring simultaneously with hand-to-hand fighting, the giving and receiving of blows with weapons. A similar picture emerges in his description of the fictional battle of Thymbara. He has earlier noted that the long Egyptian shields were useful for pushing, but that the Egyptians’ deep phalanx of 100 ranks prevented most men from contributing to the battle because they could not reach the enemy with their weapons (Cyr. 6. 3. 21; 7. 1. 33). These statements would be in direct contradiction if the orthodox view of the othismos is correct. During the battle the Egyptians: ‘locking their shields together . . . advanced and shoved. And because the Persians had to hold out their little shields clutched in their hands, they were unable to hold the line, but were forced back foot by foot, giving and taking blows’ (Cyr. 7. 1. 33–4).

The Persians were forced back slowly, like the Athenians at Delium, but while they were retreating they were still able to fight with their swords and were being wounded by the Egyptians’ spears. Later in the battle Cyrus was thrown from his horse, and there followed a struggle reminiscent of the fight for possession of the corpse of Leonidas at Thermopylae. The Persians ‘at once cried out and leaping forward they fought, shoved and were shoved, gave and received blows’ (Cyr. 7. 1. 38). Once again the shoving and fighting with weapons were simultaneous.

The ancient evidence cannot support the view that the othismos consisted of the rear ranks packing down behind those in front and literally pushing the enemy into defeat. This would have prevented the opposing front ranks from fighting, but it is quite clear that during the othismos they did so. Rather, the ‘shoving of shields’ involved indi-

70 Some at least of the Persians had erected their shields as a fence (Hdt. 9. 61), a barrier the Spartans had taken and knocked down (9. 62).
individual men in the front rank striking opponents with their shields, seeking to unbalance them or knock them over, so that they could be more easily killed with spear or sword. The ‘shoving of shields’ was a part of hand-to-hand combat, not an alternative to it. It was a method requiring great aggression, a way of barging into an enemy phalanx in an effort to begin its collapse. It was also a dangerous method, as the attacking hoplite risked losing his own balance. The ranks behind the first were not involved in this. There were no separate phases of fighting and shoving. The only way to break a phalanx was for hoplites to fight their way into it.

Hoplite battles were sometimes over before the two sides met, or after only a brief mêlée. Alternatively a battle could go on for a long time. Thucydides claimed that ‘the Spartans will fight for a long time, stubbornly holding their ground until the moment they have put the enemy to flight’ (Thuc. 5. 73. 4). There are frequent references to a long hard struggle in which neither side gained an advantage. Sometimes the fortunes of each side could fluctuate dramatically before a result was reached. At the battle of Solygia,

First the Corinthians attacked the Athenian right wing, which had just landed in front of the Chersonese, then they joined battle with the rest of the army. It was hard hand-to-hand fighting throughout. The right wing of the Athenians with the Carystians, who were placed at the extreme end of the line, stood up to the Corinthians and, though with difficulty, pushed them back. The Corinthians then retired to a stone wall on the rising ground behind them, hurled down the stones on the Athenians, and, after singing the paean, charged them again. The Athenians met the attack, and once again the fighting was hand-to-hand. Now another Corinthian company came up to reinforce their left wing and beat back the Athenian right, driving it down into the sea; and then once again the Athenians and Carystians drove them back from the ships. Meanwhile the rest of the forces on both sides were fighting stubbornly, ... So for a long time both sides stood firm and yielded no ground ... and finally the Corinthians were routed, and retreated to the hill, and stayed still without making any attempt to come down again. (Thuc. 4. 43/4)

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71 See Krentz, ‘Hoplite Battles’, p. 56, and ‘Continuing the Othismos’, pp. 48–9. In the latter he discusses Plutarch’s claim that the Thebans used wrestling moves to push and overturn their opponents at Leuctra (Mor. 639 f). He points out that this suggests individual, not massed, shoving; however, specific wrestling techniques were surely impractical for men carrying shields and spears. It might be that the strength, agility and balance possessed by experienced wrestlers gave them an advantage in hand-to-hand combat, rather than the use of specific ploys or techniques.


73 For the duration of battles, see Pritchett, The Greek State at War iv, pp. 46–51.
Hand-to-hand combat must have been both physically and emotionally exhausting, especially in heavy equipment under the heat of the summer sun. A man cannot have fought without a break for more than a few minutes, certainly not for more than a quarter of an hour. Solygia certainly lasted longer than this, and it is difficult to believe that ‘a long time’ could be no more than a quarter of an hour.

If, after a few minutes fighting, neither side had fought its way into and broken the enemy phalanx, did the two sides draw apart? At Solygia the Corinthians retreated to the stone wall without being followed by the Athenians. The retreat of the Athenians and Carystians back to the ships and their successful counterattack seem unlikely to have involved both sides moving back and forth whilst still in close contact and actually fighting. Might the front rank of one phalanx, exhausted by fighting and unable to break into the enemy formation, have taken a pace or two back and the other side not have felt confident enough to follow up, tired as they must also have been? A distance of only a few yards would have prevented either side from reaching the enemy with their spears, and hoplites did not carry missile weapons. From this short distance apart the two sides could have drawn breath, whilst still trying to intimidate or even out shout the other side. It would also have been possible for one side to withdraw a greater distance before either side was willing or able to renew the struggle, as seems to have happened at Solygia. The appearance of a phalanx and the extent to which it shuffled back would have reflected the current level of confidence of the hoplites opposing it. This may be hard to picture, but it is clear that lulls of this sort were a feature of later battles.

It must have required a great effort on the part of a weary hoplite to advance after a lull and renew the struggle. The longer a battle went on, and the more pauses in the fighting that took place, the harder this would have become. The lulls may well have lasted much longer than the bursts of fighting. Both sides were nervous, teetering on the brink of collapse. The appearance of determination or confidence became as important factors as actual fighting power. It might have often been necessary for a few brave men to lead the way and advance to renew the fight with the enemy, in the hope that the rest of the front rank would join them. The aim would have been to persuade the whole phalanx to move forward together, the front rank advancing side by side and shield by shield to renew the fight. The enemy phalanx needed to advance in a similar way to meet the fresh attack, or at least maintain a cohesive front, if it was not to be beaten. It is easy to see how the mental association of stubborn fighting with ‘pushing of shields’ or ‘locked shields’ developed. If a few hoplites advanced alone and the rest of the phalanx did not follow, they would be cut down, like the small groups of Persians

who charged alone at Plataea. A concerted, group effort was needed, and was an important part of a general’s role to encourage this. It is in this context, the need to persuade the phalanx to make one last effort to move forward and show the confidence that would beat the enemy, that we should see Epaminondas’ cry for ‘one pace more’ at Leuctra (Polyaenus 2.3.2). Xenophon makes it clear that there was prolonged fighting, some of it going the Spartans’ way, before the Thebans broke through in this battle. The Spartans were able to carry off the mortally wounded Cleombrotus, presumably during a lull in the fighting (Hell. 6.4.13–14). Success in a hoplite battle, especially in a long, hard fight, relied ultimately on the courage and aggression of individual hoplites. This needed to be nurtured and encouraged. If enough were willing to keep on attacking as the battle wore on and exhaustion set in, then the enemy would crack in the end. The importance of individual aggression is emphasized in Tyrtaeus’ exhortation for men to fight at the front and get close to the enemy (Frag. 11.4, 11–12), and in the comment of the fabled Spartan mother than the short sword became effective if a man was willing to add a pace to it (Plutarch, Mor. 217E; cf. 241F). The willingness to get close and strike the enemy with the shield was another indication of aggression. The occurrence of lulls in the fighting will also help to explain some of the anecdotes concerning Greek commanders, moving along the line and exhorting their men during a battle.

Battles could be long-drawn-out, the long pauses being punctuated by brief flurries of fierce fighting. Casualties of 5 per cent to the victorious phalanx as a whole become more credible in this context than in a single deadly encounter before the shoving began. The losses must still have been concentrated in the first, and to a lesser extent the second, rank. (The overall loss of 5 per cent suggests that comparatively few men from the ranks behind these needed to step into the front rank to replace casualties and so become exposed to wounding themselves.) A loss of the equivalent of 40 per cent of the first rank becomes all the more dreadful when it is remembered that this consisted of the best and bravest men in the phalanx. They often included an army’s leaders. The comments attributed by Herodotus to Mardonius concerning battles

76. The expression pronukhoi may refer either to men who fought in the front rank or to men who fought more boldly. The term is clearly laudatory, occurring at least 6 times on funerary memorials. See Pritchett, The Greek State at War I, pp. 85–9. Either interpretation of the term would seem to imply that individual skill, courage and aggression were important for hoplites.

77. It was possible for an individual hoplite to display conspicuous courage, as the awards of aristeia show; see Pritchett, The Greek State at War II, pp. 276–90. The Spartans refused to award this to Aristodemus at Plataea, because he had rushed far ahead of the line to fight (Hdt. 9.71.3). Herodotus himself did not agree with this judgement, but it is clear that a hoplite was still able to distinguish himself fighting as part of a phalanx. This would not seem possible if the phalanx had consisted of massed shoving.


between the Greeks were clearly intended as exaggerations, but the emphasis placed on the heavy losses suffered by the victors may reflect the quality of these casualties as much as their quantity (Hdt. 7.9.2).

What was the role of the rear ranks in these clashes, if they did not push? There is no evidence to suggest that men from the rear ranks filtered forward to replace the tired men in the fighting line, and it is difficult to see how this might have been achieved, except, perhaps, during a lull.80 A losing side normally suffered on average 14 per cent casualties, nearly three times the losses of the victor.81 Many of these occurred when the phalanx collapsed, the hoplites began to flee and the pursuing enemy could aim blows at their backs.82 Fear of this collapse and the great danger which it brought must have played on the mind of every hoplite. Men in the rear ranks can have had little idea of what was happening, even if they did not have their hearing and vision seriously restricted by a Corinthian helmet.83 They could not know whether a collapse at another point in the phalanx was imminent. If they were slow in realizing that their own phalanx had broken, they were more likely to be amongst those caught by the pursuing and vengeful enemy. Phalanxes spent a battle on the verge of panic, moving nearer to it as the battle progressed and they failed to win, or at least to continue advancing. The men in the rear ranks had to cope passively with the stress of this fear. Although they were not in direct physical danger until the phalanx was broken, battle was still a great ordeal for the rear ranks. In some respects it may have been worse for them than the men in the lead, who were occupied facing the more tangible threats of combat.84

The rear ranks did not act as a reserve for the fighters in front in any real sense, but they did provide vital support. As long as they remained in their places it was difficult for the men in the front rank to flee. The deeper a phalanx was, the more remote the danger must have seemed to the men at the back of a phalanx and the easier it was for them to cope with the stress of battle. As long as these men at the very back held their position, then the rest of the phalanx had to stay. Once again we see the importance of Xenophon’s stress on placing reliable men at the rear of the formation as well as at the front. The deeper a phalanx was, the narrower it was, and so the easier it was to find sufficient brave men to hold the rest in their place. Deeper formations possessed great ‘stamina’ or staying power in a prolonged struggle. A shallower formation was more likely to break first, all other factors being equal.

80 This process would have been more feasible if hoplites were in fact spaced as much as 6 ft apart. However, we most remember that movement in a phalanx was a sign of unsteady troops on the verge of collapse (Thuc. 5.10). It is also probable that the men in the rear ranks were the less confident soldiers and so reluctant to fight. Surely the boldest would have positioned themselves in the front of the phalanx from the start of a battle.
82 Hanson, The Western Way of War, pp. 178–83.
84 Ardant du Picq, Combat, p. 71.
IV

I have attempted to show that there is absolutely no foundation for the traditional view that hoplite battles were gigantic pushing matches. There were other reasons why Greek phalanxes had to be formed in depth. A shallow phalanx was of necessity a very wide one unless it was composed of only a few men. Such a formation would have had difficulty advancing in a battle without losing its order. When it charged the men would have spread out, allowing the less confident majority of hoplites to refuse combat. An enemy charge would have easily broken such a phalanx, because these men were able to flee. A deeper, narrower phalanx allowed undrilled hoplites to advance and still retain a degree of cohesion in their formation. The rear ranks gave more force to the charge because they prevented the less confident men from fleeing, even when the formation began to spread out as the men ran towards the enemy. When the fighting began, the ranks behind the second held the men in front in their places. The longer a phalanx could stay on the field and not break into panic, the greater its chance of victory.

The ranks behind the second in a phalanx did not fight and they did not push. Their role in a battle was essentially passive, but it was vital. Without their physical presence the front ranks would have been unable in the first place to close with the enemy and then to go on fighting for long enough to persuade the opposing phalanx to flee. It was the deep formation of the phalanx that, as much as anything else, allowed hoplites to fight in a different way from the heroes of Homer. The success of the phalanx depended on both the active role of the men fighting in the front and second rank, and the more passive participation of the ranks behind. The rear ranks, simply by staying where they were, prevented the escape of the men in front and gave the phalanx staying power. Merely forcing the front rank to stay in position did not ensure the defeat of the enemy. The hoplites in the front rank needed the bravery and aggression to keep on attacking the enemy until he finally broke. The 

'othismos' seems to have been a term to describe this type of stubborn, determined fighting. The phalanx was a massed formation deriving strength from the behaviour of all its members, but it was not a solid, human battering-ram in which individuals were of no importance. The way to understand the phalanx, and the battlefield tactics of any other period, is to study the collective and individual morale of the men composing it.

In conclusion, it is worth considering the merits of one of the deepest formations recorded in our sources, the 50-rank Theban phalanx at Leuctra (Xen. Hell. 6. 4. 12). A phalanx of this depth had thus a relatively narrow frontage. This meant that it could advance far more quickly, whilst retaining its order, than a shallower, wider formation. It may be that later accounts of Epaminondas' echeloned advance at Leuctra described not a deliberate ploy, but the inevitably faster
advance of the deep Theban phalanx compared to the rest of the army.\textsuperscript{85} The large number of men in the phalanx looked intimidating, even if the vast majority of them could not fight. The relatively narrow front of the column meant that this massive attack was directed at only a small section of the Spartan line. It would have required considerable courage for the Spartans in this part of the line to stand their ground and not try to shuffle to one side and let others do the fighting. At Amphipolis, Brasidas charged straight out of the city gate with 150 men which they expected force Theban was For 87\textsuperscript{86} Especially deep formations do not seem to have been used with any regularity by armies other than the Thebans. The Theban use of very deep formations only brought decisive success at Delium, Leuctra and Mantineia. At Nemea and Coronea it produced only local advantage. There was a grave danger that a very deep, and therefore narrow, phalanx might be outflanked, even if it did achieve a quick breakthrough. This danger grew in the fourth century as armies became more organized and more manoeuvrable, and began to employ effective cavalry.

\textsuperscript{85} For a recent discussion of Leuctra, see V.D. Hanson, ‘Epameinondas, the Battle of Leuktra (371 BC) and the Revolution in Greek Battle Tactics’, \textit{Classical Antiquity} VII (2) (1988), pp. 190–207.

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